

ventive medicine which we can recommend is the Peruvian bark, which may either be chewed or infused in brandy or wine, &c. Some recommend smoking tobacco as very beneficial in marshy countries, both for the prevention of this and intermitting fevers.

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### CHAPTER XXIII. OF THE SMALL-POX.

THIS disease is so general that very few escape it at one time of life or another. It is the most contagious malady in these parts, and has for many years proved the scourge of Europe.

The small-pox generally appear towards the spring. They are very frequent in summer, less so in autumn, and least of all in winter. Children are most liable to this disease; and those whose food is unwholesome, who want proper exercise, and abound with gross humors, run the greatest hazard from it.

The disease is distinguished into the distinct and confluent kind; the latter of which is always attended with danger. There are likewise other distinctions of the small-pox; as the crystalline, the bloody, &c.

CAUSES.—The small-pox are commonly caught by infection. Since the disease was first brought into Europe, the infection has never been wholly extinguished; nor have any proper methods, so far as we know, ever been taken for that purpose; so that now it has become in a manner constitutional. Children who have overheated themselves by running, wrestling, &c., or adults after a debauch, are very apt to be seized with the small-pox.

SYMPTOMS.—This disease is so generally known, that a minute description of it is unnecessary. Children commonly look a little dull, seem listless and drowsy, for a few days before the more violent symptoms of the small-pox appear. They are likewise more inclined to drink than usual, have little appetite for solid food, complain of weariness, and upon

taking exercise are apt to sweat. These are succeeded by slight fits of cold and heat in turns, which, as the time of the eruption approaches, become more violent, and are accompanied with pains of the head and loins, vomiting, &c. The pulse is quick, with a great heat of the skin, and restlessness. When the patient drops asleep he wakes in a kind of horror, with a sudden start, which is a very common symptom of the approaching eruption; as are also convulsion fits in very young children.

About the third or fourth day from the time of sickening, the small-pox generally begin to appear; sometimes, indeed, they appear sooner, but that is no favorable symptom. At first they very nearly resemble flea-bites, and are soonest discovered on the face, arms, and breast.

The most favorable symptoms are a slow eruption, and an abatement of the fever as soon as the pustules appear. In a mild distinct kind of small-pox the pustules seldom appear before the fourth day from the time of sickening, and they generally keep coming out gradually for several days after. Pustules which are distinct, with a florid red basis, and which fill with thick purulent matter, first of a whitish and afterwards of a yellowish color, are the best.

A livid brown color of the pustules is an unfavorable symptom; as also when they are small and flat, with black specks in the middle. Pustules which contain a thin watery ichor are very bad. A great number of pox on the face is always attended with danger. It is likewise a very bad sign when they are confluent, or run into one another.

It is a most unfavorable symptom when petechiæ, or purple, brown and black spots, are interspersed among the pustules. These are signs of a putrid dissolution of the blood, and show the danger to be very great. Bloody stools or urine, with a swelled belly, are bad symptoms, as also a continual strangury. When the urine is very pale, and there is a violent throbbing of the arteries of the neck, it portends a delirium or convulsion fits. When the face does not swell, or falls before the pox come to maturity, it is very unfavorable. If the face begins to fall about the eleventh or twelfth day, and at the same time the hands and feet begin to swell, the patient generally does well; but when these do not succeed each other, there is reason to apprehend danger. When the tongue is covered with a brown crust, it is an unfavorable symptom. Cold shivering fits coming on at the height of the disease are like-

wise unfavorable. Grinding the teeth, when it proceeds from an affection of the nervous system, is a bad sign; but sometimes is occasioned by worms, or a disordered stomach.

REGIMEN.—When the first symptoms of the small-pox appear, people are ready to be alarmed, and often fly to the use of medicine, to the great danger of the patient's life. I have known children, to appease the anxiety of their parents, bled, blistered and purged, during the fever which preceded the eruption of the small-pox, to such a degree that nature was not only disturbed in her operation, but rendered unable to support the pustules after they were out; so that the patient, exhausted by mere evacuations, sunk under the disease.

When convulsions appear, they give a dreadful alarm. Immediately some nostrum is applied, as if this were a primary disease; whereas it is only a symptom, and far from being an unfavorable one, of the approaching eruption. As the fits generally go off before the actual appearance of the small-pox, it is attributed to the medicine, which by this means acquires a reputation without any merit.

All that is, generally speaking, necessary during the eruptive fever, is to keep the patient cool and easy, allowing him to drink freely of some weak diluting liquors; as balm tea, barley water, clear whey, gruels, &c. He should not be confined to bed; but should sit up as much as he is able, and should have his feet and legs frequently bathed in lukewarm water. His food ought to be very light; and he should be as little disturbed with company as possible.

Much mischief is done at this period by confining the patient too soon to his bed, and plying him with warm cordials or sudorific medicines. Every thing that heats and inflames the blood increases the fever, and pushes out the pustules prematurely. This has numberless ill effects. It not only increases the number of pustules, but likewise tends to make them run into one another; and when they have been pushed out with too great violence they generally fall in before they come to maturity.

The good women, as soon as they see the small-pox begin to appear, commonly ply their tender charge with cordials, saffron and marigold teas, wine, punch, and even brandy itself. All these are given with a view, as they term it, to throw out the eruption from the heart. This, like most other popular mistakes, is the abuse of a very just observation, *that when there is a moisture on the skin the pox rise better, and the pa-*

*tient is easier, than when it continues dry and parched.* But that is no reason for forcing the patient into a sweat. Sweating never relieves unless where it comes spontaneously, or is the effect of drinking weak diluting liquors.

Children are often so peevish that they will not lie abed without a nurse constantly by them. Indulging them in this, we have reason to believe, has many bad effects both upon the nurse and child. Even the natural heat of the nurse cannot fail to augment the fever of the child; but if she too proves feverish, which is often the case, the danger must be increased.\*

Laying several children who have the small-pox in the same bed has many ill consequences. They ought, if possible, never to be in the same chamber, as the perspiration, the heat, the smell, &c., all tend to augment the fever, and heighten the disease. It is common among the poor to see two or three children lying in the same bed, with such a load of pustules that even their skins stick together. One can hardly view a scene of this kind without being sickened by the sight. But how must the effluvia affect the poor patients, many of whom perish by this usage.

A very dirty custom prevails amongst the lower class of people, of allowing children in the small-pox to keep on the same linen during the whole period of that loathsome disease. This is done lest they should catch cold, but it has many ill consequences. The linen becomes hard by the moisture which it absorbs, and frets the tender skin. It likewise occasions a bad smell, which is very pernicious both to the patient and those about him; besides, the filth and sordes which adhere to the linen, being re-absorbed, or taken up again into the body, greatly augment the disease.

A patient should not be suffered to be dirty in an internal disease, far less in the small-pox. Cutaneous disorders are often occasioned by nastiness alone, and are always increased by it. Were the patient's linen to be changed every day, it would greatly refresh him. Care indeed is to be taken that

\* I have known a nurse, who had had the small-pox before, so infected by lying constantly abed with a child in a bad kind of small-pox, that she had not only a great number of pustules, which broke out all over her body, but afterwards a malignant fever, which terminated in a number of imposthumes or boils, and from which she narrowly escaped with her life. We mention this to put others on their guard against the danger of this virulent infection.

the linen be thoroughly dry. It ought likewise to be warmed, and put on when the patient is most cool.

So strong is the vulgar prejudice in this country, notwithstanding all that has been said against the hot regimen in the small-pox, that numbers still fall a sacrifice to that error. I have seen poor women travelling in the depth of winter, and carrying their children along with them in the small-pox, and have frequently observed others begging by the wayside, with infants in their arms, covered with the pustules; yet I could never learn that one of these children died by this treatment. We would not however propose this as an example worthy of imitation; we only mention it to show that the danger of exposing children to the open air in this disease is not so great as people are apt to imagine.

Strong prejudices however, when got over, often produce the opposite extremes. We would therefore advise people, when they avoid one error, not to run into another. Some celebrated inoculators order their patients to walk about all the time they are under the disease, as if they ailed nothing. We should think it advisable to keep them within doors, at least during the eruption, as very cold air is apt to check the perspiration, and to prevent the pox from rising or filling with matter. I do not remember ever to have seen large well-filled pustules where the patient was too much exposed to the external air. In winter the air of this country is abundantly cool within doors, and in summer a patient may be kept more uniformly cool in the house than he can be out of it. For these and other reasons, we should think it right to confine the patient to the house while the eruption is out, but never to allow the heat of his chamber to be so great as to increase the fever, or occasion a difficulty of breathing, &c.

The food in this disease ought to be very light, and of a cooling nature, as panado, or bread boiled with equal quantities of milk and water, good apples roasted or boiled with milk, and sweetened with a little sugar, or such like.

The drink may be equal parts of milk and water, clear sweet whey, barley water, or thin gruel, &c. After the pox are full, buttermilk, being of an opening and cleansing nature, is a very proper drink.

MEDICINE.—This disease is generally divided into four different periods, viz. the fever which precedes the eruption, the eruption itself, the suppuration, or maturation of the pustules, and the secondary fever.

It has already been observed, that little more is necessary during the primary fever than to keep the patient cool and quiet, allowing him to drink diluting liquors, and bathing his feet frequently in warm water. Though this be generally the safest course that can be taken with infants, yet adults of a strong constitution and plethoric habit sometimes require bleeding. When a full pulse, a dry skin, and other symptoms of an inflammation, render this operation necessary, it ought to be performed; but unless these symptoms are urgent, it is safer to let it alone. If the belly be bound, emollient clysters may be thrown in.

If there be a great nausea or inclination to vomit, weak camomile tea or lukewarm water may be drank, in order to clean the stomach. At the beginning of a fever, nature generally attempts a discharge, either upwards or downwards, which, if promoted by gentle means, would tend greatly to abate the violence of the disease.

Though every method is to be taken during the primary fever, by a cool regimen, &c., to prevent too great an eruption; yet, after the pustules have made their appearance, our business is to promote the suppuration, by diluting drink, light food, and, if nature seems to flag, by generous cordials. When a low creeping pulse, faintishness, and great loss of strength, render cordials necessary, we would recommend good wine, which may be made into negas, with an equal quantity of water, and sharpened with the juice of orange, the jelly of currants, or the like. Wine whey sharpened as above is likewise a proper drink in this case. Great care however must be taken not to overheat the patient by any of these things. This, instead of promoting, would retard the eruption.

Sometimes the rising of the small-pox is prevented by the violence of the fever; in this case the cool regimen is strictly to be observed. The patient's chamber must not only be kept cool, but he ought likewise frequently to be taken out of bed, and to be lightly covered with clothes while in it.

Excessive restlessness often prevents the rising and filling of the small-pox. When that happens, gentle opiates are necessary. These however ought always to be administered with a sparing hand. To an infant, a tea-spoonful of the syrup of poppies may be given every five or six hours, till it has the desired effect. An adult will require a table-spoonful in order to answer the same purpose.

If the patient be troubled with a strangury, or suppression of urine, which often happens in the small-pox, he should be frequently taken out of bed, and, if he be able, should walk across the room with his feet bare. When he cannot do this, he may be frequently set on his knees in bed, and should endeavor to pass his urine as often as he can. When these do not succeed, a tea-spoonful of the sweet spirits of nitre may be occasionally mixed with his drink. Nothing more certainly relieves the patient, or is more beneficial in the small-pox, than a plentiful discharge of urine.

If the mouth be foul, and the tongue dry and chapped, it ought to be frequently washed, and the throat gargled with water and honey, sharpened with a little vinegar or currant jelly.

During the rising of the small-pox, it frequently happens that the patient is eight or ten days without a stool. This not only tends to heat and inflame the blood, but the fæces, by lodging so long in the body, become acrid and even putrid, from whence bad consequences must ensue. It will therefore be proper, when the belly is bound, to throw in an emollient clyster every second or third day, through the whole course of the disease. This will greatly cool and relieve the patient.

When petechiæ, or purple, black, or livid spots, appear among the small-pox, the Peruvian bark must immediately be administered in as large doses as the patient's stomach can bear. For a child, two drams of the bark in powder may be mixed in three ounces of common water, one ounce of simple cinnamon water, and two ounces of the syrup of orange or lemon. This may be sharpened with the spirits of vitriol, and a table-spoonful of it given every hour. If it be given to an adult in the same form, he may take at least three or four spoonfuls every hour. This medicine ought not to be trifled with, but must be administered as frequently as the stomach can bear it, in which case it will often produce very happy effects. I have frequently seen the petechiæ disappear, and the small-pox, which had a very threatening aspect, rise and fill with laudable matter, by the use of the bark and acids.

The patient's drink ought likewise in this case to be generous, as wine or strong negas acidulated with spirits of vitriol, vinegar, the juice of lemon, jelly of currants, or such like.

His food must consist of apples roasted or boiled, preserved cherries, plums, and other fruits of an acid nature.

The bark and acids are not only necessary when the petechiæ or putrid symptoms appear, but likewise in the lymphatic or crystalline small-pox, where the matter is thin, and not duly prepared. The Peruvian bark seems to possess a singular power of assisting nature in preparing laudable pus, or what is called good matter; consequently it must be beneficial, both in this and other diseases, where the crisis depends on a suppuration. I have often observed where the small-pox were flat, and the matter contained in them quite clear and transparent, and where at first they had the appearance of running into one another, that the use of a few drams of the Peruvian bark, acidulated as above, changed the color and consistence of the matter, and produced the most happy effects.

When the eruption subsides suddenly, or, as the good women term it, when the small-pox *strike in*, before they have arrived at maturity, the danger is very great. This is often the effect of a hot regimen, or medicines which, at the beginning, push out the matter before it has been properly prepared. When this happens, blistering plasters must be immediately applied to the wrists and ankles, and the patient's spirits supported with cordials.

Sometimes bleeding has a surprising effect in raising the pustules after they have subsided; but it requires skill to know when this is proper, or to what length the patient can bear it. Sharp cataplasms however may be applied to the feet and hands, as they tend to promote the swelling of these parts, and by that means to draw the humors towards the extremities.

The most dangerous period of this disease is what we call the secondary fever. This generally comes on when the small-pox begin to blacken, or turn on the face, and most of those who die of the small-pox are carried off by this fever.

Nature generally attempts at the turn of the small-pox to relieve the patient by loose stools. Her endeavors this way are by no means to be counteracted, but promoted, and the patient at the same time supported by food and drink of a nourishing and cordial nature.

If at the approach of the secondary fever the pulse be very quick, hard, and strong, the heat intense, and the breathing

laborious, with other symptoms of an inflammation of the breast, the patient must immediately be bled, otherwise a fatal peripneumony will ensue. The quantity of blood to be let must be regulated by the patient's strength, age, and the urgency of the symptoms.

But in the secondary fever, if the patient be faintish, the pustules become suddenly pale, and if there be great coldness of the extremities, blistering plasters must be applied, and the patient must be supported with generous cordials. Wine and even spirits have sometimes been given in such cases with amazing success.

As the secondary fever is in great measure, if not wholly, owing to the absorption of the matter, it would seem highly consonant to reason that the pustules, as soon as they come to maturity, should be opened. This is every day practised in other phlegmons which tend to suppuration; and there seems no reason why it should be less proper here. On the contrary, we have reason to believe that by this means the secondary fever might always be lessened, and often wholly prevented.

The pustules should be opened when they begin to turn of a yellow color. Very little art is necessary for this operation. They may either be opened with a pair of scissors or a needle, and the matter absorbed by a little dry lint. As the pustules are generally first ripe on the face, it will be proper to begin with opening these, and the others in course as they become ripe. The pustules generally fill again a second or even a third time; for which cause the operation must be repeated, or rather continued, so long as there is any considerable appearance of matter in the pustules.

We have reason to believe that this operation, rational as it is, has been neglected from a piece of mistaken tenderness in parents. They believe that it must give great pain to the poor child; and therefore would rather see it die than have it thus tortured. This notion however is entirely without foundation. I have frequently opened the pustules, when the patient did not see me, without his being the least sensible of it. But suppose it were attended with a little pain, that is nothing in comparison to the advantages which arise from it.

Opening the pustules not only prevents the resorption of the matter into the blood, but likewise takes off the tension of the skin, and by that means greatly relieves the patient. It likewise tends to prevent the pitting, which is a matter of

no small importance. Acrid matter, by lodging long in the pustules, cannot fail to corrode the tender skin; by which many a handsome face becomes so deformed as hardly to bear a resemblance to the human figure.\*

It is generally necessary, after the small-pox are gone off, to purge the patient. If however the belly has been open through the whole course of the disease, or if buttermilk and other things of an opening nature have been drank freely after the height of the small-pox, purging becomes less necessary; but it ought never wholly to be neglected.

For very young children, an infusion of senna and prunes, with a little rhubarb, may be sweetened with coarse sugar, and given in small quantities till it operates. Those who are farther advanced must take medicines of a sharper nature. For example, a child of five or six years of age may take eight or ten grains of fine rhubarb in powder over night, and the same quantity of jalap in powder next morning. This may be wrought off with fresh broth or water gruel, and may be repeated three or four times, five or six days intervening betwixt each dose. For children farther advanced, and adults, the dose must be increased in proportion to the age and constitution.

When imposthumes happen after the small-pox, which is not seldom the case, they must be brought to suppuration as soon as possible, by means of ripening poultices; and, when they have been opened, or break of their own accord, the patient must be purged. The Peruvian bark and a milk diet will likewise be useful in this case.

When a cough, a difficulty of breathing, or other symptoms of a consumption, succeed to the small-pox, the patient must be sent to a place where the air is good, and put upon a course of ass's milk, with such exercise as he can bear. For further directions in this case, see the article Consumptions.

#### INOCULATION.

Though no disease, after it is formed, baffles the powers of medicine more than the small-pox, yet more may be done

\* Though this operation can never do harm, yet it is only necessary when the patient has a great load of small-pox, or when the matter which they contain is of so thin and acrid a nature that there is reason to apprehend bad consequences from its being too quickly resorbed, or taken up again into the mass of circulating humors.

beforehand to render this disease favorable than any one we know, as almost all the danger from it may be prevented by inoculation. This salutary invention has been known in Europe above half a century, but, like most other useful discoveries, it has till of late made but slow progress. It must however be acknowledged, to the honor of this country, that inoculation has met with a more favorable reception here than among any of our neighbors. It is still however far from being general, which we have some reason to fear will ever be the case, so long as the practice continues in the hands of the faculty.

No discovery can ever be of general utility while the practice of it is kept in the hands of a few. Had the inoculation of the small-pox been introduced as a fashion, and not as a medical discovery, or had it been practised by the same kind of operators here as it is in those countries from whence we had it, it had long ago been universal. The fears, the jealousies, the prejudices, and the opposite interests of the faculty, are, and ever will be, the most effectual obstacles to the progress of any salutary discovery. Hence it is that the practice of inoculation never became, in any measure, general, even in England, till taken up by men not bred to physic. These have not only rendered the practice more extensive, but likewise more safe, and, by acting under less restraint than the regular practitioners, have taught them that the patient's greatest danger arose, not from the want of care, but from the excess of it.

They know very little of the matter who impute the success of modern inoculators to any superior skill, either in preparing the patient or communicating the disease. Some of them indeed, from a sordid desire of engrossing the whole practice to themselves, pretend to have extraordinary secrets or nostrums for preparing persons for inoculation, which never fail of success. But this is only a pretence calculated to blind the ignorant and inattentive. Common sense and prudence alone are sufficient both in the choice of the subject and management of the operation. Whoever is possessed of these may perform this office for his children whenever he finds it convenient, provided they be in a good state of health.

This sentiment is not the result of theory, but of observation. Though few physicians have had more opportunities of trying inoculation in all its different forms, so little appears

to me to depend on these generally reckoned important circumstances of preparing the body, communicating the infection by this or the other method, &c., that for several years past I have caused the parents or nurses to perform the whole themselves, and have found that method followed with equal success, while it is free from many inconveniences that attend the other.

A critical situation, too often to be met with, first put me upon trying this method. A gentleman who had lost all his children, except one son, by the natural small-pox, was determined to have him inoculated. He told me his intention, and desired I would persuade the mother and grandmother, &c., of its propriety. But that was impossible. They were not to be persuaded, and either could not get the better of their fears, or were determined against conviction. It was always a point with me not to perform the operation without the consent of parties concerned. I therefore advised the father, after giving his son a dose or two of rhubarb, to go to a patient who had the small-pox of a good kind, to open two or three of the pustules, taking up the matter with a little cotton, and as soon as he came home to take his son apart, and give his arm a slight scratch with a pin, afterwards to rub the place well with the cotton, and to take no further notice of it. All this he punctually performed; and at the usual period, the small-pox made their appearance, which were of an exceeding good kind, and so mild as not to confine the boy an hour to his bed. None of the other relations knew but that the disease had come in the natural way till the patient was well.

We do not propose this as the only method in which the small-pox can be communicated. Experience teaches us that it may be done various ways with equal success. In Turkey, from whence we learned the practice, the women communicate the disease to children, by opening a bit of skin with a needle, and putting into the wound a little matter taken from a ripe pustule. On the coast of Barbary they pass a thread wet with the matter through the skin between the thumb and fore-finger; and in Europe inoculation is generally performed by making a small incision through the cuticle of the arm or leg with a lancet, and laying a bit of thread wet with the matter upon the wound, which is covered with a piece of sticking plaster, and kept on for two or three days.

Some of the people in England who make a trade of ino-

culation only open one of the ripe pustules with a lancet, and while it is wet with the matter make a slight incision in the arm of the person to whom they want to communicate the disease; afterwards they close up the wound and leave it without any other dressing. It is likewise done with a lancet covered with the dry matter; but this is less certain. It frequently fails, and ought never to be depended upon unless where fresh matter cannot be had.

Indeed, if fresh matter be applied long enough to the skin, there is no occasion for any wound at all. Let a bit of thread, about half an inch long, wet with the matter, be immediately applied to the arm, midway between the shoulder and elbow, and covered with a piece of the common sticking plaster, and kept on for eight or ten days. This will seldom fail to communicate the disease. We mention this method because many people are afraid of a wound; and doubtless the more easily the operation can be performed, it has the greater chance to become general. Some people imagine that the discharge from a wound lessens the eruption; but there is no great stress to be laid upon this notion. Besides, deep wounds often ulcerate and become troublesome.

We do not find that inoculation is at all considered as a medical operation in those countries from whence we learned it. In Turkey it is performed by the women, and in the East Indies by the Brahmins or priests. In this country the custom is still in its infancy; we make no doubt however but it will soon become so familiar, that parents will think no more of inoculating their children, than at present they do of giving them a dose of physic.

No set of men have it so much in their power to render the practice of inoculation general as the clergy, the greatest opposition to it still arising from some scruples of conscience, which they alone can remove. We would recommend it to them not only to endeavor to remove the religious objections which weak minds may have to this salutary practice, but to enjoin it as a duty, and to point out the danger of neglecting to make use of a means which Providence has put in our power for saving the lives of our offspring. Surely such parents as wilfully neglect the means of saving their children's lives are as guilty as those who put them to death. We wish this matter were duly weighed. No one is more ready to make allowance for human weakness and religious prejudices, yet I cannot help recommending it, in the warmest manner,

to parents to consider how great an injury they do their children, by neglecting to give them this disease in the early period of life.

The numerous advantages arising from the inoculation of the small-pox have been pretty fully pointed out by the learned Dr. M'Kenzie in his *History of Health*.\* To these we shall only add, that such as have not had the small-pox in the early period of life are not only rendered unhappy, but likewise, in a great measure, unfit for sustaining many of the most useful and important offices. Few people would choose even to hire a servant who had not had the small-pox, far less to purchase a slave who had the chance of dying of this disease. How could a physician or a surgeon who had never had the

\* "Many and great," says this humane author, "are the dangers attending the natural infection, from all which the inoculation is quite secure. The natural infection may invade weak or distempered bodies, by no means disposed for its kindly reception. It may attack them at a season of the year either violently hot or intensely cold. It may be communicated from a sort of small-pox impregnated with the utmost virulence. It may lay hold upon people unexpectedly, when a dangerous sort is imprudently imported into a maritime place. It may surprise us soon after excesses committed in luxury, intemperance, or lewdness. It may likewise seize on the innocent after indispensable watchings, hard labor, or necessary journeys. And is it a trivial advantage that all these unhappy circumstances can be prevented by inoculation? By inoculation numbers are saved from deformity as well as from death. In the natural small-pox, how often are the finest features and the most beautiful complexions miserably disfigured; whereas inoculation rarely leaves any ugly marks or scars, even where the number of pustules on the face have been very considerable, and the symptoms by no means favorable. And many other grievous complaints, that are frequently subsequent to the natural sort, seldom follow the artificial. Does not inoculation also prevent those inexpressible terrors that perpetually harass persons who never had this disease, insomuch that when the small-pox is epidemical entire villages are depopulated, markets ruined, and the face of distress spread over the whole country? From this terror it arises that justice is frequently postponed or discouraged at sessions or assizes where the small-pox rages. Witnesses and juries dare not appear. Does not inoculation in like manner prevent our brave sailors from being seized with this distemper on shipboard, where they must quickly spread the infection among such of the crew who never had it before, and where they have scarce any chance to escape, being half stifled with the closeness of their cabins, and but very indifferently nursed? Lastly, with regard to the soldiery, the miseries attending these poor creatures, when attacked by the small-pox on a march, is inconceivable; without attendance, without lodgings, without any accommodation; so that one of three commonly perishes."

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small-pox himself attend others under that malady? How deplorable is the situation of females who arrive at mature age without having had the small-pox. A woman with child seldom survives this disease. And if an infant happens to be seized with the small-pox upon the mother's breast, who has not had the disease herself, the scene must be distressing. If she continues to suckle the child, it is at the peril of her own life; and if she weans it, in all probability it will perish. How often is the affectionate mother forced to leave her house, and abandon her children, at the very time when her care is most necessary. Yet should parental affection get the better of her fears, the consequences would often prove fatal. I have known the affectionate mother and her sucking infant laid in the same grave, both untimely victims to this dreadful malady. But these are scenes too shocking even to mention. Let parents who run away with their children to avoid the small-pox, or who refuse to inoculate them in infancy, consider to what deplorable situations they may be reduced by this mistaken tenderness.

As the small-pox has now become a constitutional disease in most parts of the known world, no other choice remains but to render the malady as mild as possible. This is the only manner of extirpation now left in our power. And though it may seem paradoxical, the artificial method of communicating the disease, could it be rendered universal, would amount to nearly the same thing as rooting it out. It is a matter of small consequence whether a disease be entirely extirpated or rendered so mild as neither to destroy life nor hurt the constitution; but that this may be done by inoculation does not now admit of a doubt. The numbers who die under inoculation hardly deserve to be named. In the natural way, one in four or five generally dies; but by inoculation not one of a thousand. Nay, some can boast of having inoculated ten thousand without the loss of a single patient.

I have often wished to see some plan established for rendering this salutary practice universal, but am afraid I shall never be so happy. The difficulties indeed are many, yet the thing is by no means impracticable. The aim is great,—no less than saving the lives of one-fourth part of mankind. What ought not to be attempted in order to accomplish so desirable an end?

The first step towards rendering the practice universal must be to remove the religious prejudices against it. This,

as already observed, can only be done by the clergy. They must not only recommend it as a duty to others, but likewise practise it on their own children. Example will ever have more influence than precept.

The next thing requisite is to put it in the power of all. For this purpose we would recommend it to the faculty to inoculate the children of the poor gratis. It is hard that so useful a part of mankind should, by their poverty, be excluded from such a benefit.

Should this fail, it is surely in the power of any state to render the practice general, at least as far as their dominion extends. We do not mean that it ought to be enforced by a law. The best way to promote it would be to employ a sufficient number of operators, at the public expense, to inoculate the children of the poor. This would only be necessary till the practice became general; afterwards custom, the strongest of all laws, would oblige every individual to inoculate his children to prevent reflections.

It may be objected to this scheme that the poor would refuse to employ the inoculators. This difficulty is easily removed. A small premium, to enable mothers to attend their children while under the disease, would be a sufficient inducement. Besides, the success attending the operation would soon banish all objections to it. Even considerations of profit would induce the poor to embrace this plan. They often bring up their children to the age of ten or twelve, and when they come to be useful they are snatched away by this malady, to the great loss of their parents and detriment of the public.

The British legislature has, of late years, shown great attention to the preservation of infant lives, by supporting the foundling hospital, &c. But we will venture to say, if one-tenth part of the sums laid out in supporting that institution had been bestowed towards promoting the practice of inoculation of the small-pox among the poor, that not only more useful lives had been saved, but the practice ere now rendered quite universal in this island. It is not to be imagined what effect example and a little money will have upon the poor; yet, if left to themselves, they would go on forever in the old way, without thinking of any improvement. We only mean this as a hint to the humane and public-spirited. Should such a scheme be approved, a proper plan might easily be laid down for the execution of it.

But as public plans are very difficult to bring about, and often, by the selfish views or misconduct of those intrusted with the execution of them, fail of answering the noble purposes for which they were designed;—we shall therefore point out some other methods by which the benefits of inoculation may be extended to the poor.

There is no doubt but inoculators will daily become more numerous. We would therefore have every parish in Britain to allow one of them a small annual salary for inoculating all the children of the parish at a proper age. This might be done at a very trifling expense, and it would put it in the power of all to enjoy the benefit of this salutary invention.

Two things chiefly operate to prevent the progress of inoculation. The one is a wish to put the evil day as far off as possible. This is a principle in our nature; and as inoculation seems rather to be anticipating a future evil, it is no wonder mankind are so averse to it. But this objection is sufficiently answered by the success. Who in his senses would not prefer a lesser evil to-day to a greater to-morrow, provided they were equally certain?

The other obstacle is the fear of reflections. This has very great weight with the bulk of mankind. Should the child die, they think the world would blame them. This they cannot bear. Here lies the difficulty which pinches, and till that be removed inoculation will make but small progress. Nothing however can remove it but custom. Make the practice fashionable, and all objections will soon vanish. It is fashion alone that has led the multitude since the beginning of the world, and will lead them to the end. We must therefore call upon the more enlightened part of mankind to set a pattern to the rest. Their example, though it may for some time meet with opposition, will at length prevail.

I am aware of an objection to this practice from the expense with which it may be attended; this is easily obviated. We do not mean that every parish ought to employ a Sutton or a Dimsdale as inoculators. These have by their success already recommended themselves to crowned heads, and are beyond the vulgar reach; but have not others an equal chance to succeed? They certainly have. Let them make the same trial, and the difficulties will soon vanish. There is not a parish, and hardly a village, in Britain destitute of some person who can bleed. But this is a far more difficult operation, and requires both more skill and dexterity, than inoculation.

The persons to whom we would chiefly recommend the performance of this operation are the clergy. Most of them know something of medicine. Almost all of them bleed, and can order a purge, which are all the qualifications necessary for the practice of inoculation. The priests among the less enlightened Indians perform this office, and why should a Christian teacher think himself above it? Surely the bodies of men, as well as their souls, merit a part of the pastor's care; at least the greatest Teacher who ever appeared among men seems to have thought so.

Should all other methods fail, we would recommend it to parents to perform the operation themselves. Let them take any method of communicating the disease they please, provided the subject be healthy and of a proper age, they will seldom fail to succeed to their wish. I have known many instances of parents performing the operation, and never so much as heard of one bad consequence. A planter in one of the West-India islands is said to have inoculated with his own hand, in one year, three hundred of his slaves, who, notwithstanding the warmth of the climate, and other unfavorable circumstances, all did well. Common mechanics have often, to my knowledge, performed the operation with as good success as physicians. We do not however mean to discourage those who have it in their power from employing people of skill to inoculate their children, and attend them while under the disease, but only to show that where such cannot be had the operation ought not upon that account to be neglected.

Instead of multiplying arguments to recommend this practice, I shall just beg leave to mention the method which I took with my own son, then an only child. After giving him two gentle purges, I ordered the nurse to take a bit of thread which had been previously wet with fresh matter from a pock, and to lay it upon his arm, covering it with a piece of sticking plaster. This staid on six or seven days, till it was rubbed off by accident. At the usual time the small-pox made their appearance, and were exceedingly favorable. Surely this, which is all that is generally necessary, may be done without any skill in medicine.

The spring and autumn have been usually reckoned the most proper seasons for inoculation, on account of the weather being then most temperate; but it ought to be considered that these are generally the most unhealthy seasons of the

whole year. Undoubtedly the best preparation for the disease is a previous good state of health. I have always observed that children in particular are more sickly towards the end of spring and beginning of summer than at any other time of the year. On this account, I would propose the beginning of winter as the most proper for inoculation; though on every other consideration the spring or autumn would seem to be preferable.

The most proper age for inoculation is betwixt three and five. Many disagreeable circumstances attend inoculating children sooner, which we have not time to enumerate. Neither should the operation be too long delayed. When the fibres begin to grow rigid, and children make use of grosser food, the small-pox become more dangerous.

Children who have constitutional diseases must nevertheless be inoculated. It will often mend the habit of body; but ought to be performed at a time when they are most healthy. Accidental diseases should always be removed before inoculation.

It is generally thought necessary to regulate the diet for some time before the disease be communicated. In children, however, great alteration in diet is seldom necessary, their food being commonly of the most simple and wholesome kind, as milk, water-pap, weak broths, bread, light pudding, mild roots, and white meats.

But children who have been accustomed to a hotter diet, who are of a gross habit, or abound with bad humors, ought to be put upon a spare diet before they be inoculated. Their food should be of a light cooling nature, and their drink whey, buttermilk, and such like.

We would recommend no other medical preparation but two or three mild purges, which ought to be suited to the age and strength of the patient. It is no doubt possible by purgative and mercurial medicines, and a very cool regimen, to lessen the eruption; but it seldom happens that the eruption by inoculation proves too great; and we have always observed that those children who had a pretty free eruption, and where the pox filled well, enjoyed the best health afterwards.

The regimen during the disease must be the same as under the natural small-pox. The patient must be kept cool, his diet must be light, and his drink weak and diluting, &c. Should any bad symptoms appear, which is seldom the case,

they must be treated in the same way as directed in the natural small-pox. Purging is not less necessary after the small-pox by inoculation than in the natural way, and ought by no means to be neglected.

#### CHAPTER XXIV. OF THE MEASLES.

THE measles appeared in Europe about the same time with the small-pox, and have a great affinity to that disease. They both came from the east, are both infectious, and seldom attack people more than once. The measles are most common in the spring season, and generally disappear in summer. The disease itself, when properly managed, seldom proves fatal; but its consequences are often very troublesome.

CAUSE.—This disease, like the small-pox, proceeds from infection, and is more or less dangerous according to the constitution of the patient, the season of the year, the climate, &c.

SYMPTOMS.—The measles, like other fevers, are preceded by alternate fits of heat and cold, with sickness and loss of appetite. The tongue is white but generally moist. There is a short cough, a heaviness of the head and eyes, drowsiness, and a running at the nose. Sometimes indeed the cough does not come before the eruption has appeared. The eyelids frequently swell so as to occasion blindness. The patient generally complains of his throat; and a vomiting or looseness often precedes the eruption. The stools in children are commonly greenish; they complain of an itching of the skin, and are remarkably peevish. Bleeding at the nose is common both before and in the progress of the disease.

About the fourth day, small spots resembling flea-bites appear first upon the face, then upon the breast, and afterwards on the extremities. These may be distinguished from the small-pox by their scarcely rising above the skin. The fever, cough, and difficulty of breathing, instead of being removed