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ANSWERS
TO ALL THE OBJECTIONS

HITHERTO MADE AGAINST

COW-POX.

BY JOSEPH ADAMS, M.D. F.L.S.

Physician to the Small-pox and Inoculation Hospitals, and Author of
“*Observations on Morbid Poisons,*” &c.

THE FIFTH EDITION, WITH ADDITIONS.

*The Profits of this Tract are given to the Small-pox and
Inoculation Hospitals.*

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THE HISTORY OF THE
COW-BOY

COW-BOY

THE HISTORY OF THE
COW-BOY
BY
JAMES W. WELLS
WITH ILLUSTRATIONS BY
JAMES W. WELLS
NEW YORK
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1897

R54921

TO THE PEOPLE,

OF THAT PART OF THE UNITED KINGDOMS

CALLED

ENGLAND.

As the Cow-pox Inoculation has now been practised for more than seven years, and as the nobility, and most of the gentry, in this and all foreign parts, vaccinate their children, it seems a matter of wonder that it should be necessary to say any thing in its favour. Still there are people who for want of better information make objections, and as these, without doubt, intend the best for their children, I have thought it worth while to take some pains in examining all that has been said against it. But, first, it seems very remarkable that these objections should only be known in England. Though vaccination is spread through France*, Spain, Italy, Portugal, Germany, Prussia, Russia, and every other part of Europe; through the East Indies, and most other parts of Asia; through

* The last report from Paris says, that Cow-pox has been found a security against Small-pox as certain as it is mild. That more than a hundred thousand persons have been vaccinated without a single fact occurring that could shake the Public confidence.—*Chaptal's Letter to the Minister of the Interior.*

Africa, and not only that part of America which is inhabited by the descendants of Europeans, but among the Indian savages: still we hear of no objections to the practice but in England! England, that ought to boast the honour of the invention! England that may proudly say to France, 'If you think us not a match for you, single-handed, in killing, at least we will be your superiors in the art of saving life!'

Some people may fancy, that because the practice begun among us, therefore it has been more general and in consequence more accidents have happened; but this is far from the case; for the practice has been universal in other countries, and only partial in this. In the East Indies, the Priests, who lead the ignorant multitude, used to inoculate for Small-pox; they were therefore fearful of losing their consequence by the introduction of a better plan. However, the people finding that all the English children fared so well under the Cow-pox, determined, in a matter that concerned them so nearly, to judge for themselves, in consequence of which the Priests, or Bramins, have done the same, pretending to find something about the Cow-pox in their own books. The English were too prudent to contradict them, though they well knew that there was no Cow-pox in the country but what was derived from some sent by Dr. Jenner, by way of Germany. Since that time it has been spread through all the East Indies, and Small-pox Inoculation is nearly at an end.

In America, Small-pox has been generally a very

fatal disease. It is well known, that bad cases sometimes occur from Inoculation in England. In America they were much more frequent, so that for this and some other reasons it was not so generally practised as in many parts of the world. But the extraordinary success of Cow-pox has obviated all difficulties, and all the objections they hear from this country only excite their astonishment instead of altering their practice. Over South America Cow-pox has been as universally diffused as the empire of Spain extends. For the king of Spain commissioned a vessel for no other purpose than to send this blessing into his Colonies.

How comes it, then, that England, who should be so proud of the discovery, and of her son, Jenner, who made it, is the only nation that speaks evil of this blessing? I know there are people who impute this to jealousy, and say that as an Englishman made the discovery, Englishmen cannot bear to see one of themselves raised so much above them. But for my part I am willing to think better of my countrymen. However, it must be confessed that Englishmen are but men; and it is possible that some people of this description may have written books which may have rendered others uneasy; for, as it is commonly said, evil reports fly very fast, and very few have leisure to inquire into the truth of them; and when we recollect how many poor creatures were formerly burnt for witchcraft, we cannot wonder if, even in these days, when we are wiser in those respects, some of us should

still be shy of what is at present new. Beside which, those who love their children (and the English ought to do more for their preservation than other nations, because they inherit more blessings) are of course anxious that they should be perfectly safe from so dangerous a disease, and they have been long enough acquainted with Small-pox Inoculation to know its security.

Thus you see I am ready to make large allowances for the different opinions of different people, and, to give a further proof of this, have paid great attention to all the objections that have been made against Vaccination, which I shall endeavour to answer in a manner I hope satisfactory to all. But it is worth remarking, how much they resemble those which were made against the first introduction of Inoculation for Small-pox in the year 1721, of which my late ingenious and candid friend, Dr. Woodville, has given the following account :

“ The most redoubted champion (says he *) who at this time appealed to the public against inoculation, was Dr. Wagstaffe, a man of extensive professional practice ; and as a Fellow of the College, and Physician to St. Bartholomew’s Hospital, he could not fail to influence the minds of many to a considerable degree ; more especially as his “ *Letter shewing the Danger and Uncer-*

* See Doctor Woodville’s History of Inoculation.— It is but justice to remark, that the reading of Mr. Merriman’s valuable Observations on Vaccine Inoculation, first suggested these Extracts.

tainty of inoculating the Small-pox," was addressed to the learned Dr. Friend. In this letter Dr. Wagstaffe takes a very comprehensive view of the subject, and as he concludes with a recapitulation of his objections to inoculation, I am thereby enabled to give them as stated by himself.—Now, sir, I have recounted, I believe, most of the inconveniencies arising from this experiment; I have observed that it may differ from itself as practised in another climate; that it is not agreeable to reason, that the positions of the favourers of Inoculation are false, and their practices as precarious; that some have had the distemper not at all, others to a small degree, others the worst sort, and that some have died of it. I have given instances of those who have had it after inoculation in the common way, and consequently as it is hazardous, so it will neither answer the main design of preventing the distemper for the future. I have considered what the effects may be of inoculating on an ill habit of body, and how destructive it may prove to spread a distemper that is contagious; and how widely at length the authors in this subject disagree among themselves, and how little they have seen of the practice; all which seem to be just and necessary consequences of these new-fangled notions, as well as convincing reasons for the disuse of the practice."

"One of the rumours spread (continues Dr. Woodville) with a view to prejudice the public against inoculation was, that this art seldom produced the genuine Small-pox, and therefore would not secure the inoculated from the effects of variolous infections in the natural way. Mr. Tanner, at that time surgeon to St.

Thomas's Hospital, declared that he inoculated a person who had undergone the casual Small-pox several years before, and the effect of the operation was a discharge from the incisions and irregular eruptions; appearances which the inoculators, in the experiments at Newgate, had deemed sufficient to prevent the patients having the Small-pox in future*."

After this several supposed cases are enumerated of the appearance of the Small-pox after inoculation, some of which proved to have been Chicken-pox, others uncertain eruptions, the nature of which cannot now be ascertained.

Dr. Woodville, in summing up the result of inoculation for the first three years, concludes thus: "Hence we find, that of the 474 persons first inoculated in England, nine died, and their deaths were suspected to have happened in consequence of inoculation. Three of these unfortunate cases, which occurred in the year 1722, I have already related; the remaining six, which happened in the year 1723, are now to be noticed."

"Miss Rolt, aged between nine and ten years, and a boy about three years old, were inoculated by Serjeant Surgeon Amyand, in London, both with the same matter, September 25th, 1723. They both began to sicken on the eighth day from inoculation; and on the tenth the Small-pox appeared, of the distinct kind, on both. The boy recovered: but Mr. Maitland says,

* This case shews the unfair advantage which has been taken of the few instances in which similar slight eruptions have appeared in such as have been inoculated with Small-pox after vaccination.

“ Miss Rolt, the day before the eruption, complained of great pains in her shoulders, elbows, and knees; and the fever continuing, the Small-pox fluxed upon her third day from the eruption. Sir Hans Sloane and Dr. Arburthnot attended her. She went through the distemper with ease; the Small-pox began to turn on her on the seventh day; but were not dried all over till the fourteenth. The fever that arose then occasioned her being bled, and soon after several tumours appeared in the neighbourhood of several joints, which were opened. The fever continued, and more suppurated tumours were daily appearing, which were discharged as soon as possible. Some times she was troubled with a diarrhœa, whereby as well as by the suppuration of twenty or thirty boils that were opened, she was spent, so that she died the 27th of November following: that is, nine weeks after inoculation.”

It would be tedious to enumerate the other cases. I have chosen this as enough for my purpose, to shew that the apprehension of humours (though we shall presently see they were erroneously ascribed to inoculation) was built on a more plausible foundation than any that has been produced in support of the same objection against vaccination.

But it will be said,—What are a few boils, and even the death of the patient, compared with all the horrid stories we hear against vaccination? Certainly these last are very terrible things. But the devil being the most terrible thing in nature, it was thought by the early objectors to inoculation sufficient to bring him

forward, and after his agency in a bad business was well established, it was unnecessary to say more.

“The Rev. Mr. Maffey, in a sermon preached at St. Andrew’s, Holborn*, against the dangerous and sinful practice of inoculation, treated the inoculators with the most unqualified abuse, calling them diabolical forcerers, hellish venefici, enemies of mankind, and hoped they would be distinguished from those of the faculty who deserve honour, and not be permitted to mingle with them, as the devil among the sons of God. He considers inoculation as a very ancient art, and first put in practice upon Job by the “devil, who, by some venomous infusion into the body of Job, might raise his blood to such a ferment, as threw out a confluence of inflammatory pustules all over him from head to foot; that is, his distemper might be what is now incident to most men, and perhaps conveyed to him by some such way as that of inoculation.” Thus we are to understand, that the devil was the first inoculator, and poor Job his first patient†. Hence he

* On Sunday, July 8th, 1722. His text was: “So went Satan forth from the presence of the Lord, and smote Job with sore boils, from the sole of his foot unto his Crown.” Chap. xi. ver. 18.

† This conceit of the Rev. Divine gave rise to the following epigram, published in the Monthly Miscellany for March, 1774

We’re told, by one of the black robe,
The Devil inoculated *Job*;
Suppose ’tis true what he doth tell,
Pray, neighbours, did not *Job* do well?

terms inoculation “ a diabolical operation, and an anti-providential project, that insults our religion, and banishes Providence out of the world.”

This reverend gentleman was disposed to be civil to the faculty at least; but another writer thought we ought to be ranked with the father of lies.

“ He declares (says Dr. Woodville) this new practice to be founded in atheism, quackery, and avarice, which, to use the author’s words, “ push men to all the hellish practices imaginable: men murder fathers, mothers, relations, and innocent children, and any that stand in the way of their wicked desires.” He adds, “ While this hellish principle has so much hold upon mankind, it is highly necessary that there should be no doors left open for the practice, at least none that can be shut; that there should be no room for the covering of such horrid things from the reach of the law. Physicians have already too much latitude in the practice to make havoc of mankind for the satisfaction of their judgment in physic, and increase of their experience; but every quack now may be a hireling to the devil, and, like that banditti in Italy, be ready to do the drudgery of removing heirs, and other obstructing incumbents of many kinds; and to do this under the mask of a cure, inoculating death instead of a disease, and making use of an art never before practised, in a manner not foreseen, and by the laws not yet sufficiently guarded against.”

It cannot be doubted that these dreadful threatenings

must have had considerable influence on the minds of parents. Many who were even sensible that some of the objections were false, were still apprehensive that such strong language could not be used without some real cause; accordingly we find that in the year 1724, the third after the introduction of the practice, only forty persons were inoculated. It will be presumed that many answers appeared to all these objections; but still the apprehensions of the timid, who are sometimes among the best intentioned part of society, had their effect. Few people see enough of the world to enable them to judge impartially of contradictory evidence; and whilst the mind is thus kept in suspense, it listens eagerly to every suggestion which strengthens its doubts, and serves as an excuse for its want of decision. There is, however, a class of mankind, whose hourly intercourse with the world enables them to form the most correct judgment of characters, and whose elevated rank furnishes them with all the information they wish for.

“ When Sir Hans Sloane, at that time the first physician in Europe, was consulted by George the First, relative to the inoculation of the two princesses his grand-children, he told his Majesty—it was impossible to be certain but that on raising such a commotion in the blood, there might happen dangerous accidents not foreseen. To this the king replied—that such might and had happened to persons, who had lost their lives by bleeding in a pleurisy, and taking

physic in any distemper, let ever so much care be taken. In this opinion Sir Hans coincided with his Majesty, and the two princesses were inoculated."

This conduct, so worthy of one celebrated for the goodness of his disposition, and the soundness of his judgment, one should have expected would have had a proper effect: but neither example nor argument had any influence on Dr. Wagstaffe; whose remark on the occasion was, "Posterity will scarcely be brought to believe, that an experiment, practised only by a few ignorant women, should so far obtain in one of the politest nations in the world, as to be received into the royal palace." However the Doctor had soon afterwards the mortification to find it introduced a second time into the royal family; for their Royal Highnesses Prince Frederick and Prince William were both inoculated this same year.

Yet with all this encouragement the progress of inoculation was in those days incredibly slow, compared with vaccination in our own. The numbers vaccinated and inoculated at the Small-pox Hospital alone, within these last *eight months*, exceeds the whole that were inoculated during *fourteen years* after the first introduction of that practice. There was indeed one objection against Small-pox Inoculation, which was too well founded. The first projectors flattered themselves that the disease given in this way would not prove infectious to others, excepting by inoculation. In this they soon found themselves mistaken. But this cannot be urged against vaccination: the ob-

jections against which I shall now proceed to consider. They may I believe be all comprehended under the three following heads :

First, That it is no security at all against the Small-pox. Secondly, That it is only a security for a time. And, thirdly, That it introduces humours into the constitution.

The first objection has now almost died away ; the evidence to the contrary is so strong, that no reasonable people will any longer attempt to maintain it.

That it is only a security for a time has been urged by a very well-intentioned author. But the best of people are liable to errors, and very few are ready to acknowledge them. However, the most respectable among those who maintain this opinion, is now led to believe, that if a person is vaccinated in the hand he may be secure from the Small-pox for life ; but if in the arm, only for a time. Let not the reader suppose I mean to laugh at this distinction. The best and the ablest men now and then fall into what appears an absurdity, but they always get out ; not by the arguments of other people, for they knew them beforehand, but by being left to themselves they inquire after truth ; whereas, when improperly opposed, they are too apt to think that their only business is to defend themselves at all events. Something of this kind must, I think, have suggested this notion to the worthy gentleman who holds this opinion. But, it is not a question worth quarrelling about, for the true friend of vaccination will be no more angry with another for

vaccinating the hand, than for using his left hand instead of his right.

However, there can be no doubt that some instances have occurred of Small-pox after Cow-pox, but this we shall show is no real objection against the practice. There are three ways in which it may happen :

First, By an imperfect vaccination.

Secondly, By the constitution being under the influence of some other disease at the time of vaccination*.

And, lastly, by the person being liable to the Small-pox twice.

This last seems very strange to those who suppose that there are rules which admit of no exceptions. But it is well known that some people never take the Small-pox at all; and it is equally certain that some few, happily very few, have it twice. I know some say, this was never thought of till the Cow-pox made its appearance : but the following quotation is from a book published before vaccination was practised.

“ It is a law with most morbid poisons, that a constitution that has once gone through the action excited by them is no longer susceptible of it. This is the case, with very *few exceptions*, in the *Small-pox*. I say with very *few exceptions*, because some cases to the contrary have been so well authenticated, that I am

* These instances are well known to medical people. See Medical Journal, vol. xii. p. 97.

not sceptical enough to doubt that the susceptibility may be so strong in some particular constitutions as to *admit of the disease a second time after a certain period.*"

—See Observations on Morbid Poisons, published by Johnson, 8vo. 1795.

Thus you see, as Small-pox is expected sometimes to occur twice, there is no wonder if it has also appeared after Cow-pox. But most of these cases have been found on inquiry not to be the genuine disease. This has made some people say, "If it is so difficult to know the genuine Cow-pox, is it not better to use the Small-pox, which is better understood?" But the truth is, the Cow-pox is much more easily understood than the Small pox, because being a milder disease it is much more regular in its appearance; whereas the Small-pox, from its violence, assumes so many shapes, that, unless by the period of the fever, we cannot always ascertain from the arm, whether the patient is safe or not; and even the ablest practitioners have been obliged to acknowledge their doubts and mistakes.

But it is best to give a few instances. Baron Dimf-dale, who had the honour to inoculate the late Empress of Russia, and was ennobled by her, mentions whole districts which were inoculated with Chicken-pox, instead of Small-pox; and the error was never discovered till the Small-pox occurred, and all the inoculated were found to take the disease. In Denmark, the first inoculation of supposed Small-pox was Chicken-pox, and the same consequences happened. The following

case shews that a very skilful practitioner may be mistaken in Small-pox inoculation; and what is more that he may be honest enough to confess it. The case was published by the London College of Physicians, as long ago as the year 1785.

“ Last spring I inoculated two children in one family. On the third day there was a slight inflammation around the places of incision. On the fifth, it was considerably increased; and the places felt hard, upon being pressed by the finger. I saw them again on the seventh or eighth day; and then the inflammation was much increased, extending nearly to the breadth of half a crown. Upon my applying a gentle pressure to the inoculated places, matter issued out of them; with which, as it issued from the arms of both patients, I perfectly saturated a cotton thread. With this thread I inoculated nineteen persons, by first making a slight incision in their arms with a clean lancet, and then applying a small piece of the cotton thread, and a plaster to retain it upon the place, as is usual. Every one of these had a fever and eruption of pustules, at a proper time. But the children from whom the matter was taken did not sicken as was expected: and, on the eleventh day, the inflammation upon their arms was considerably abated; and, two or three days after this, there remained nothing but a dry scab. Agreeably to the general opinion of the Faculty, I told the parents, that their children were secure from future infection to the Small-pox. They, however, insisted

upon their being inoculated again; which was accordingly done, in the arm of each. Contrary to my expectations, their arms began again to be inflamed, and went on in the same manner as they had done before, till about the ninth or tenth day; when they sickened, had a smart fever for three days, and then an eruption of a considerable number of variolous pustules.

“ This I aver to be true, how ill soever it may agree with any pre-conceived theory concerning infection; and the ignorance of what is obviously deducible from this fact, has, sometimes, brought a discredit upon Inoculation. For I know that there have been some instances, where the inoculator, from the *appearance* upon the arm *only*, has pronounced his patients safe from any future attack of the Small-pox; and yet, some years afterwards, they have taken that disease in the natural way.

“ Sedbergh, 19th December, 1772.

“ P.S. At a proper time, I make no doubt but that these two children might have been inoculated *from themselves*.”

It appears probable that these children did not sufficiently take the Small-pox the first time; and if such a gentleman as this was mistaken in a disease which he must have known all his life time, no wonder if in the beginning of Vaccination some errors should have been

committed. None of the cases, however, vaccinated by Dr. Jenner have failed, numerous as they certainly must be; and this is the less remarkable, because from his longer acquaintance with the subject he was not likely to mistake the appearance. Another remark I would make from this case is, that it is very plain that those few cases in which a pustule was raised by inoculation of Small-pox after Cow-pox, were of the same nature as the first that appeared in these children, and is such as may happen at any time to a person who has gone through the Small-pox or Cow-pox.

The histories of persons who have had Small-pox after inoculation for that disease are so numerous, that I doubt not most of them rest upon much the same authority as those which are reported after Vaccination. However among the number some are well founded in both; and probably about the same proportion. The following case was recorded when the friends of inoculation were particularly zealous in enquiring into the force of every objection, and its evidence is supported by the most respectable authority.

Dr. Deering's "*Account of the improved Method of treating the Small-pox, published in 1737,*" contains a striking fact, which has never been contradicted. He says, "I have with pleasure read the several accounts of the progress and happy success of inoculation: but when I heard of some who had been inoculated in vain, no eruption ensuing; when I *was an eye-witness of the*

*inoculation of a little boy**, who notwithstanding the great care there was taken in the choice of the pus, had the confluent kind severely, and twelve months after had them naturally, and the favourable sort, yet was very full; when I met with many, and among them three in one family, miserably seamed and pitted; when it was known in several parts of London that some of the inoculated persons had lost their lives: I could not help fearing these things might do that method harm, as they contradicted the sanguine promises of some of the favourers of that operation."

But, perhaps, it will be said, if the Small-pox happens after inoculation for the Small-pox and after the Cow-pox also, will it not be better to take the disease in the natural way, and make ourselves sure?—If there was any greater security in the natural way there might be some reason in this argument, but it will be found upon inquiry, that this is not the case, for some families are so very liable to Small-pox, that the greater part will have it severely, and some twice over; whilst other families are so little susceptible, that most of them will have it slightly, and some will not take it at all, either by inoculation or exposure. The following case of Small-pox in the natural way twice, stands on such good authority, that I shall think it enough to tran-

* This boy was the son of Dr. Croft, and inoculated by Dr. Steigerthal, physician in ordinary to King George the First.—See Woodville.

scribe it without troubling the reader with any others. It is extracted from the Memoirs of the London Medical Society, and that the fact might remain undisputed *we* find it recorded by the Rector himself in the Parish register.

HISTORY OF A SECOND SMALL-POX;

By EDWARD WITHERS, *Surgeon, Newbury, Berkshire, and C. M. S.*

“ Mr. Richard Langford, a farmer of West Sheffield, in this county, about fifty years of age, when about a month old had the Small-pox, at a time when three others of the family underwent the same disease, one of whom, a servant-man, died with it. Mr. Langford's face being remarkably pitted and seamed, so as to attract the notice of all who saw him, no one could entertain a doubt about his having had that disease in the most inveterate manner; moreover it was usual for him also, whenever the Small-pox happened among the poor of his parish, to attend and assist in accommodating them with all necessaries.

“ On the 8th of May, 1775, I was desired to visit this person. I saw him again early on the morning of the 10th, when his fever was somewhat abated. The succeeding day I found him still better, but complain-

ing of a rash, which the family then informed me they had perceived very early the morning before, but which they forgot to mention to me, and which had escaped my notice, his chamber being a very dark one.

“ On examining this eruption, its appearance so much resembled the Small-pox, that I told the family I should not have hesitated in pronouncing it to be so, if his having had that distemper had not been so notorious. The next day the eruption was universal; his throat also, which he had complained of the day before, was now become more troublesome, and, indeed, every other appearance so much favoured the idea of the disease being variolous, as to induce me to give the most decided opinion of its being so, and to desire that there might be no communication or intercourse with any of his friends who had not had that disease. This opinion was ridiculed, and consequently but little attention paid to the precaution. In the progress of this case, the advancement of the pustules, the swelling of the face and head, and that smell peculiar to the disease, as well as every other circumstance, still more and more confirmed me in the opinion I had given.

“ Reflecting on the singularity of the case, I desired, on the eighth day from the invasion, that a physician might visit him; accordingly Dr. Collet, then a resident in this place, was desired to see him. Considering how necessary it was that the nature of this case should be investigated in the fullest manner, I requested Dr. Hulbert, a physician of eminence here, would

attend with Dr. Collet, on my own account. This measure appeared to me the more necessary, as the whole neighbourhood held my opinion in contempt; even Dr. Hulbert, to whom the patient was well known, laughed at my idea of its being the Small-pox. However both those gentlemen, on visiting the patient, pronounced it to be so. As the patient himself never could be reconciled to the opinion of his case being Small-pox, he was disinclined to pursue the means recommended. Under these disadvantages, he had but an indifferent chance of recovery from a bad confluent distemper; he died on the twenty-first day from the seizure.

“ Four of the family, as also a sister of the patient, to whom the disease was conveyed by her son’s visiting his uncle, falling down with the Small-pox, fully satisfied the country with regard to the nature of the disease, which nothing short of this would have done: the sister died.

“ This case was thought so extraordinary a one as to induce the Rector of the parish to record the particulars of it in the parish register.

“ EDWARD WITHERS.

“ *Newbury, March 20, 1791.*”

Though we are apt to be surpris’d at these events, yet in reality they are not more remarkable than a white negro, or a cow with two heads, which every body has seen or heard of. But a man with the Small-pox

a second time is not shown at Bartholomew Fair, therefore few people know any thing about the matter.

Let us now attend to the last charge, that Cow-pox inoculates humours. By this I suppose is meant, that children are subject to breakings-out after it. Children are certainly subject to breakings-out, whether vaccinated or not. The same objection we have seen started against inoculation for Small-pox, and with more reason; because when the inoculated Small-pox is violent, which is now and then the case, it may do the same mischief as the natural Small-pox, which is often followed with very terrible diseases. This, therefore, is not the fault of inoculation, but of the disease: as a proof of this take the following history, related by Mr. Baker, and published by the Medical Society of London.

“The following dismal case is the third of diseased joints after the *natural Small-pox* which has come within my knowledge; and which I beg the Society's permission to lay before them.

“Edward Hughes, born in the workhouse of St. Bride, a healthy fine child till the age of rather more than five months, when he was seized with the natural Small-pox. The pustules were few, large, and full of matter, and were every where perfectly dried off by the ninth day, about which time the left elbow became inflamed very much; and after a few days a large suppuration took place in the cavity of the joint, which

seemed, from the quantity of matter, to have perfectly separated the natural attachment between the bones: hardly had this gone its length, but a similar one took place in the other elbow, not less violent than the first. — In this state the child was brought to me, October 2d. Poultices of bread and milk had been applied by the direction of the gentlemen of St. Bartholomew's hospital, where it had been taken for advice. It had then considerable symptomatic fever; saline, and gently opening medicines were now given, and the poultices continued.

“ About the 10th of October the tumor on the left elbow broke, and discharged a great quantity of smooth well-digested pus; and left the bones so completely separated, that the fore-arm might have been twisted round; and seemed almost in danger of being torn off by accident, from the total loss of substance, except diseased skin, and cellular membrane, which were very loose and flaccid, from the previous tumefaction. Scarce had the mischief began in the right elbow, before similar inflammation appeared in both knees, and in each wrist. The sufferings of the poor little object are not to be described: it gradually languished in this miserable state till October 17th, when it died, aged about seven months.”

Here we see the dreadful effects of three cases of natural Small-pox, so that in this case, Inoculation could have nothing to do with the disease that followed. But what have we heard of Cow-pox? Doubtless that

some children have had breakings-out after it, and that others have been cured of their breakings-out by it*. But where do these breakings-out come from? Is it from the cow, or from the person from whom the matter is taken? If from the person, we are not likely to fare better from Small-pox inoculation. Is it then from the cow? Let us for a moment recollect who are the people that are most subject to Cow-pox, in whom the discovery was first made, and who receive it, though with less violence, sometimes two or three times in their life. These are the healthy, plump, English dairy maids! celebrated throughout the world for their rosy cheeks, their sleek arms, and robust constitutions. This I think must be enough to do away all the apprehension of inoculating humours from an animal whose milk makes the principal part of our childrens' food, whose flesh is the source of Old English courage, and whose breath is not only flagrant, but salubrious.

Enough has been said, I hope, to show how unfounded these prejudices are. But I cannot conclude without a few other remarks. It has been said by some of the best of people, that it is every one's duty to inoculate for the Small-pox, because by it the child is saved from a severer disease. This was very proper before a better method was known. But now it becomes every one's duty, not only to think of their own,

* See Medical Journal, vol. xii. p. 97.

but every other person's children: *To do as they would be done by.* Now, it is well known, that whoever is vaccinated, not only is secured from the Small-pox, much safer from humours than if inoculated with Small-pox, but also that he cannot convey the disease to another. Whereas by inoculation for Small-pox, a whole town may be infected, and numbers carried off before they are aware of the cause. For your own sakes, therefore, for the sake of others, and keeping in view a Christian command, I trust you will persuade every one to relinquish a practice which may be dangerous to others, and adopt one against which nothing can be said.

but every other person's children: To do as they would
 to do for them, it is well known, that whoever is
 taken care of, and only is looked upon as a child,
 and not as a person, that is, that is, that is, that is,
 but, that he cannot receive the benefit of the
 law: Whereby by looking upon the children, as well
 as the adults, and the number of the children,
 they are not at the same time, for your own sake, that
 for the sake of others, and having in view a
 Christian standard, I wish you to be careful, not only
 to respect a practice which may be dangerous to
 others, and stop one against which nothing can be
 said.

APPENDIX.

IN the course of the work it has been mentioned, that cases of Small-pox, after Inoculation for that disease, have been recorded before the Cow-pox was known. The following are inserted merely because the events being recent, and the parties well known, any one may satisfy himself of the truth.

No. I.

[Copy of a Letter from the Earl of Westmeath.]

SIR,

Understanding that a report has been industriously circulated, which, if believed, would tend much to weaken that confidence which is at present so generally and so justly entertained by the public, in your system of Inoculation for the Cow-pox; namely, that my youngest son had taken the natural Small-pox after having been vaccinated; I think it but justice to you to contradict the report, and to state for your sa-

tisfaction the real circumstances of the case, which are as follow :

When he was about two months old, he was Inoculated for the *Small-pox* in the Suttonian method, by a physician in Ireland, who has been very generally successful in Inoculation, and pronounced by him to be entirely free from the risk of infection; notwithstanding which he caught the infection about a fortnight since, and is now recovering from the *natural Small-pox*.

I beg to inform you at the same time, that my youngest daughter, who was vaccinated by you about four years since, has not only been frequently exposed to the danger of infection, but was actually inoculated for the *Small-pox* without taking it. I have considered it incumbent upon me to bear this testimony to the efficacy of the Vaccine system, as I consider the report relative to my son, that originated in misrepresentation, to have been circulated for purposes obviously prejudicial to that most useful and fortunate discovery.

I am, Sir,

Your obedient humble servant,

(Copy)

WESTMEATH.

To Dr. Jenner.

No. II.

MISS PRICE, niece of Mr. Whitebrook, Wine-cooper, in Greek-street, Soho, was inoculated when an infant for the Small-pox, by the late Dr. Barwis, of Devizes, in Wiltshire, at the time of a general variolous inoculation in that town. She had the disease satisfactorily, some marks of which are still visible on her face. About five weeks ago she sickened, and had a pretty full eruption of the natural Small-pox of the distinct kind, and is now just recovered from it; her mother attended her, and from the recollection of her daughter's having had the Small-pox by Inoculation, could not be convinced that the last eruption was Small-pox, till its complete character placed the matter beyond dispute. Upon enquiry it appeared she had the Chicken-pox when a child, which removes the possibility of her having been inoculated through mistake, in the first instance, for that complaint.

No. III.

Case of Mrs. SYDNEY PROBERT, principal Nurse at the Fever-house, in Gray's-Inn-Lane :

Sydney Probert, aged 76, was inoculated at the age of about 15 years, at Ludlow, in Shropshire, by Mr. Cole, Surgeon of that place, whose son now succeeds

him. She took the disease, fevered with an eruption, to the satisfaction of Mr. Cole. The following year she came to London, lived in service, and exposed herself without caution, and without inconvenience, to the Small-pox. She married, and kept the George at Enfield, where she nursed seven children of her own with Small-pox, without catching it.

About twenty-six years ago she was seized with fever, which in the end proved Small-pox, and so violent, that she is more seamed and scarred with the disease, than is usually met with in the worst cases of that dreadful distemper.

No. IV.

The following cases are annexed to shew the uncertainty of Vaccination when the constitution is under any other disease. The children had probably the Itch at the time they were vaccinated; and as the surgeon never visited after he had inoculated them, he never knew whether they took the Cow-pox or not; moreover the history is written by Dr. Clutterbuck, a gentleman of well-known respectability, as yet not a warm advocate for Vaccination.

It has been publicly stated within these few days, by a professional enemy of the Vaccine inoculation*, that at the house of Mrs. Mills, Sleaford-street, Bat-

* Dr. Mosely,

tersea-fields, (a nurse to the poor children of St. John's parish, Westminster) two children had within the last ten days died of Small-pox, who had the Cow-pox last summer; and that three other children were at this time ill of the same disease, in a severe degree, who also had Cow-pox last summer.

As this account will probably be laid before the public, and is certainly calculated to make a strong impression, I felt anxious to obtain a more minute relation of the particulars, and for this purpose repaired with my friend Mr. Sawrey, Surgeon to the House, on Saturday last, the 25th instant. The Nurse informed us, (Dr. Clutterbuck continues his account) that nine children under her care were inoculated for the Cow-pox last summer, by a gentleman, who at that time attended the sick poor of the parish, but whose name she does not now recollect. She says, that he never saw the children after the inoculation. She thought at the time that some of them took the infection, others not: but she has no distinct recollection of the particular appearances. Three of these children died of the natural Small-pox within the last ten days; but she cannot say whether the Inoculation left any marks on the arms; yet she says, that ever since, all the children have had breakings-out to a violent degree, which she attributes to the Cow-pox, and to the children not having taken physic afterwards.

Upon examining the arms of the three children now under the Small-pox, I was not able to discover any cicatrices (scars, or marks from Inoculation, which continue through life). But it must be observed, that the arms, like the rest of the body, have a considerable number of pustules on them, though there is sufficient room for the scar to appear, if situated in the interstices. In one of them there is such a general roughness and scabiness of the skin, that a cicatrix, if present, would scarcely be perceived.

The remaining three children have not taken the Small-pox. Upon the arms of all these visible cicatrices are left by the inoculation; in two, as strongly marked as usual; in the third, very faintly.

The breaking-out on the skin of these children, which the nurse refers to the Cow-pox, is indubitably the Itch; very distinctly characterized between the fingers, and on some other parts, though in many places, it has degenerated into angry, scabby pustules, an appearance not at all unusual in the Itch in children. The nurse herself has this disease in a great degree.

From the above account no inference can be drawn against Vaccination: on the contrary, imperfect as it is, it is rather in favour of the practice; for in the three instances where there is any evidence of the Cow-pox having really taken place, (viz. the cicatrices remaining

on the arms) the Small-pox has not occurred; whilst in those that died, and in the other three now ill of the Small-pox, it is at least doubtful whether any cicatrices were left.

I confess that the late failures have made me somewhat sceptical as to the permanency of the preventive power of Vaccination; and I have taken pains, in consequence, to ascertain the foundation of many of them. I need not observe, for it is notorious, that the greater number of the reputed failures are unfounded, and originated in some mistake, either with regard to the Cow-pox, or to the supposed Small-pox afterwards. A few seem scarcely to admit of doubt; at least no explanation of them has been yet given that is satisfactory to my mind. In some the circumstances have been erroneously represented from misinformation, and so have led to a conclusion the reverse of what it ought to have been. This I apprehend has been the case in the instance related above.

(Signed) HENRY CLUTTERBUCK.

St. Paul's Church-yard,

May 29th, 1805.

By the same Author.

This day is published, the Second Edition, 4to. Price £1. 5s. boards, of OBSERVATIONS on MORBID POISONS, CHRONIC and ACUTE.—Callow.

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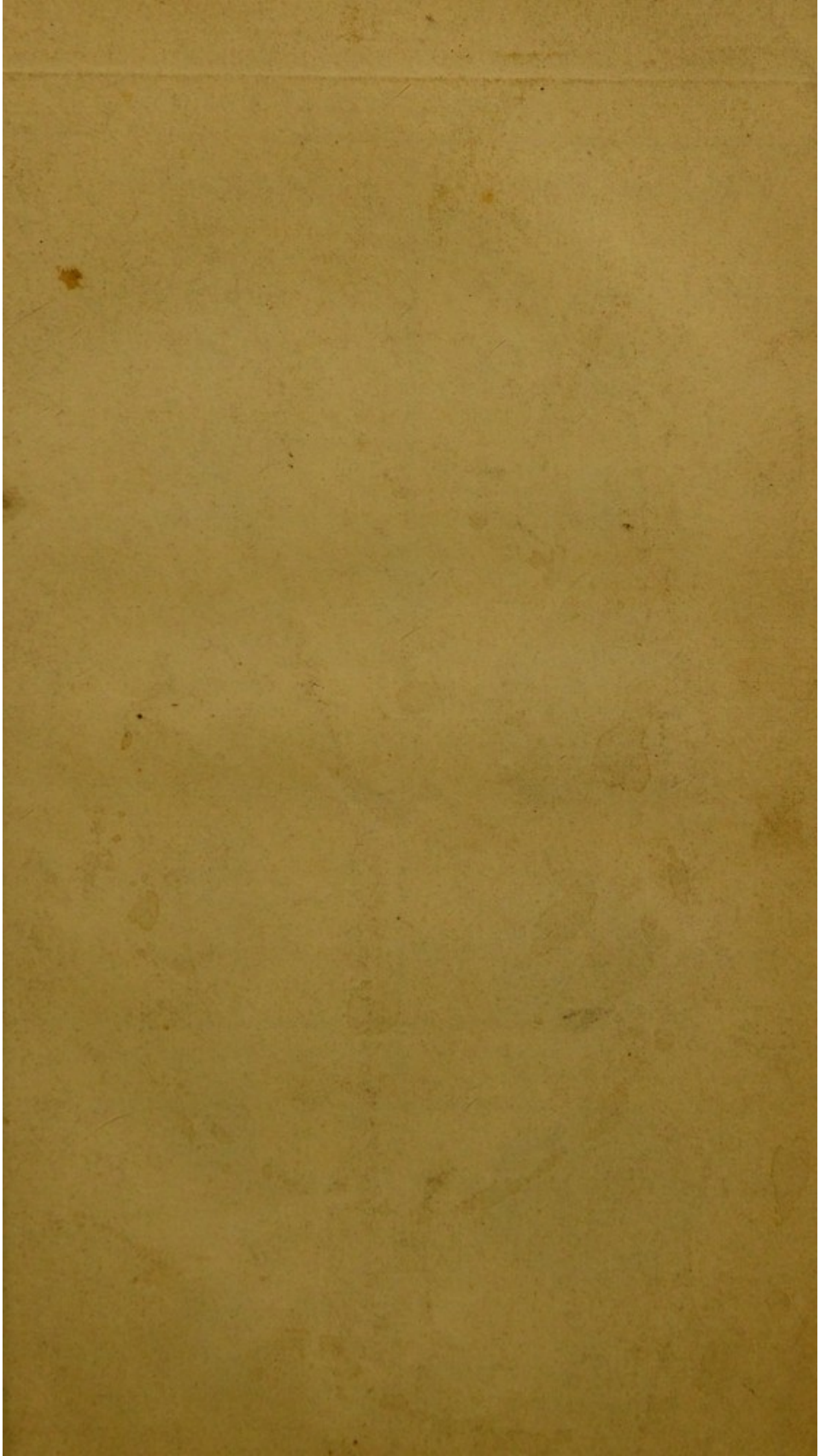
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· COW-POX ·

Genuine Kind.

Spurious Kind.

(Page 12)

Fig. 1st 3rd day



A

3rd day

Fig. 2nd 5th day



B

4th day

Fig. 3rd 8th day



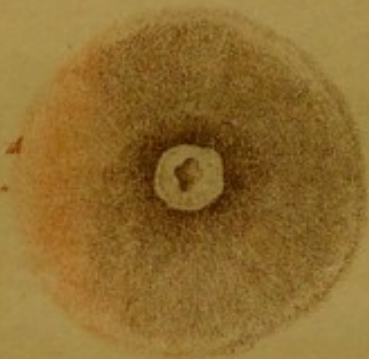
Fig. 3rd

8th day

A

Incision
C

Fig. 4th 10th day



D

5th day

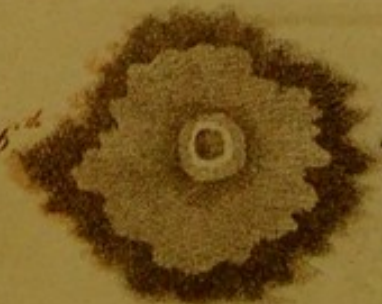
Fig. 5th 11th day



E

6th day

Fig. 6th 12th day



F

7th day

Fig. 7th 15th day



8th day



For the Use of Families.

PLAIN AND FAMILIAR

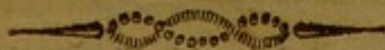
TREATISE ON THE COW-POX,

DESCRIBING ITS

ORIGIN, NATURE, AND MODE OF INOCULATION,

(WITH A PLATE,)

Whereby any person may distinguish the *Genuine* from the *Spurious* Kind—a distinction of the utmost importance; as the *one* Kind renders the body unsusceptible of the infection of the common Small-Pox, whilst the *other*, having only a *local* effect, leaves it still liable to that baneful disease.



Extracted from the Writings of Drs. JENNER, WOODVILLE, PEARSON, &c. and of
Messrs. AIKIN, BELL, RING, &c. Surgeons;

WITH CONSIDERABLE ADDITIONS.

"All lawful means are to be used to preserve our lives; for not to preserve is to destroy."

DODDRIDGE'S Ethics.

LEEDS :

PRINTED BY EDWARD BAINES, AND SOLD BY THE BOOKSELLERS.

1804.

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CONTENTS.

Preface.

CHAP. I.—The Origin and Discovery of the Cow-Pox.

II.—The invaluable Utility of the Discovery, and the Impropriety of neglecting it.

III.—A comparative Estimate of the NATURAL Small Pox.—The INOCULATED Small-Pox
and the INOCULATED COW-POX.

IV.—The Nosology—or the Description of the Cow-Pox as a Disease.

V.—The manner of performing the Inoculation.

VI.—The Disease shewn in its various Stages—with Reference to the Plate.

VII.—Sundry Remarks, and Recapitulation of the most interesting Particulars.

R54922

PREFACE.

1. **A** TREATISE on the Cow-Pox in a plain, easy and familiar style, and at a low price, seems to be much wanted; in order, if possible, to extend the happy advantages which a gracious Providence has been pleased to confer upon the world by so valuable a discovery.

2. 'Tis true, that several very excellent publications have appeared upon the subject; but the *general* usefulness of the greater part of them, has been lamentably curtailed by their authors' having placed them out of the reach of the *purses* or the *intellects* of the majority of mankind:—To remedy these defects has been my principal intention.

3. It may be urged, that such a publication is unnecessary; and that the attention paid by the Faculty totally supersedes it:—Far be it from me to undervalue the medical character—perhaps no person respects it more highly than myself. However, in spite of all the generous offers from the Faculty to inoculate the poor *gratis*; and the efforts of certain benevolent characters to encourage the practice, have we not still to lament, that Inoculation for the Cow-Pox does not gain that universal adoption which it merits? Do we not find the Small-Pox continue to commit dreadful ravages among an innocent race of sufferers?—And, it appears, that some other more effectual measures must be resorted to, before these helpless objects can be rescued from a premature grave.

4. I cannot imagine, that persons in *moderate* circumstances, *will* or *ought* to hesitate to employ the Faculty in the Inoculation of their children for the Cow-Pox:—Their extensive practice, accurate observation and superior skill, must insure to them a decided preference to all the books in the universe:—The confidence reposed in them, allays those anxious fears for our children's welfare, which parental tenderness is ever ready to suggest.

5. It appears to me, however, that *one* great obstacle to the progress of the Vaccine Inoculation is *ignorance* or *misunderstanding*:—The baneful effects of the common Small-Pox can never be very considerably lessened; nor can the devastating malady be eradicated from this island, till people become more intimately acquainted with the happy advantages derived from the Cow-Pox; and till every parent will as *readily* as he may *safely* inoculate his own children. It is an event devoutly to be wished, that the Small-Pox could be extirpated and repelled from our shores, with the same happy success as the Plague or Yellow Fever.

6. If Ministers of various denominations would exert themselves in promoting the Vaccine Inoculation, they would surely render a service very acceptable both to **GOD** and man:—Much is certainly in their power—and the pulpit would not be disgraced by their frequently explaining the propriety, and enforcing the practice as an incumbent duty:—Nay more, they are the fittest persons, after the Faculty, to employ the lancet on such occasions. Several Ministers in London have already undertaken to inoculate the children at the time of baptism; and Mr. Bell, in his excellent treatise on the Cow-Pox, mentions a Clergyman in Yorkshire, who had, in one year, inoculated 1500 with his own hand. Surely the hearts of such as have neglected this duty, must experience some remorse, whilst

performing the last sad rites of sepulture, over the numerous and lamented victims of the Small-Pox; when they consider, that Providence has graciously presented so easy and certain a preventive. I really hope that Ministers will take these melancholy facts into their serious consideration—Humanity and helpless infancy are pleading for it—and who knows but that HE *who forgets no work or labour of love*, may present an opportunity to those very children so preserved, of repaying the kindness either to them or their posterity?

7. Some readers may be ready to wish, that a number of cases had been brought forward, to prove that the Cow-Pox assuredly fortifies the body against the infection of the Small-Pox—indeed numerous instances of this nature might have been adduced, but they would have swoln the pamphlet beyond its original design.

8. The following is *one* amongst the many that might be produced—“About a year and a half ago,” says Mr. Bell, “the natural Small-Pox appeared in a large village in Scotland, accompanied with symptoms of the most alarming kind. The Surgeon of the place, considering this as a good opportunity to give a fair trial to the Vaccine Inoculation, and having prevailed on many to agree to it, the practice was immediately begun at the end of the village opposite to that in which the Small-Pox first made its appearance. With great satisfaction he found, that none of his patients suffered any inconvenience from the Cow-Pox—None of them took the Small-Pox; while scarcely any escaped the infection, who had not previously had the disease; and a great proportion of those, who were seized with it, died.”

9. Experiments have been made to prove the efficacy of the Cow-Pox, almost in all quarters of the globe. Patients have been exposed in all possible situations to the infection of the Small-Pox. They have undergone Inoculations without end—lived together in the same rooms, and slept together in the same beds—yet there does not appear *ONE single case* fairly made out, where the person has passed through the *Genuine Cow-Pox*, and been found insecure from the *virus* of the common Small-Pox. Enough has certainly been done, by way of trial, to satisfy the most timid, and convince the most sceptical objectors; provided they would take the trouble of a calm and attentive investigation.

10. The critical reader will apologize for all inelegancies of composition, when he recollects the remark of Horace—*Difficile est proprie communia dicere*.

11. Lastly—To whatever censures the writer may be subjected, he feels some consolation in the consciousness, that the present little tract is ushered to the public from the purest motives of benevolence, and with a sincere wish to contribute his mite towards the preservation of the valuable lives of the rising generation. Trivial indeed is the *good* that any of us is capable of performing, in comparison of the enormous mass of prevailing *evil*; but still this mortifying idea should not discourage us from the attempt. It is a circumstance truly humiliating, that *evil* should be so much easier to accomplish than *good*; however, in this state we *found* the world, and in this state, we shall, most probably *leave* it—far easier it is to burn a city than to build a house.

I. K.

ON

THE COW-POX.

CHAP. I.

On the Origin and Discovery of the Cow-Pox.

1. **T**HE origin of this disease, as far as relates to its immediate communication to the human body, must be ascribed to that very useful animal the Cow. Dr. Jenner, of Berkley, in Gloucestershire, informs us, that he first learnt the efficacy of the Cow-Pox in preventing the Small-Pox from the inhabitants of that county, in whose extensive dairies it appeared to have been long and very well known.
2. The Dr. paid some attention to the Cow-Pox upwards of twenty years ago; and, in answer to his enquiries then made, he found the idea generally prevalent, that such as had passed through the Cow-Pox in their youth, were ever afterwards rendered secure from the infection of the common Small-Pox. He met with aged persons who assured him, that, having accidentally caught the Cow-Pox by contact, in their younger years, they had, during their whole lives, remained free from the Small-Pox contagion, though often subjected to its influence.
3. The Doctor also found that this fact had been handed down from parent to child, as positive and certain; and that it was spoken of with such confidence by the good people, that he thought it merited his closer attention.
4. In the year 1796, he began to make some actual experiments upon the possibility of Inoculation for the Cow-Pox, and found that it succeeded to his fullest expectation; and in 1798, he published a number of cases, with a view of exciting others to pursue the inquiry.
5. The Cow-Pox is a very common disease in the great dairies in the western counties of England, appearing upon the paps and udders of the cows in the spring and autumn months, and particularly when the weather is rainy; and when the skin of the milker's hands happens to be chopped or broken, some of the matter from the Cow-Pock enters and communicates the disease.

CHAP. II.

The invaluable Utility of the Discovery of the Cow-Pox, and the Impropriety of neglecting it.

1. **T**HE value of every discovery must assuredly depend upon the real advantages that are likely to result from it. The *Cui bono?* or *What good will it produce?* is a measure very proper to be applied to every fresh discovery; and in exact proportion to the benefit which it promises, it ought to claim our attention.

2. But in a case like the present, where no less than the preservation of the lives of such an immense number of our fellow-creatures, and most of them helpless infants, is involved, the discovery *is* and *must* be invaluable.

3. The Rev. Samuel Partridge, A. M. Vicar of Boston, in Lincolnshire, has made a calculation of the deaths in his parish for the term of 54 years, from 1749 to 1802, (See his pamphlet entitled, *An Account of Baptisms, Burials, &c.*) in which he proves, that nearly one twelfth of those deaths had occurred from the Small-Pox, and that upon comparing the population of the united kingdom with that of his parish, there must have died of the same disease, within the same period, *One Million, Seven Hundred and Sixty-two Thousand, One Hundred and Thirty-five*—or *Thirty-two Thousand, One Hundred and Thirty-five*, every year. The Royal Jennerian Society, calculates the number of deaths annually to amount to *Forty Thousand!* How dreadful would be the number if applied to Europe, or the world!

4. But considering that the number of yearly deaths, occasioned by that fatal malady, is so great; and reflecting also, that a gracious Providence has been pleased to afford us the means of securing our offspring against the direful effects, how improper must be our conduct! nay, how can we escape criminality, if we neglect so noble and so incomparable a gift?

“ Whatever thy free bounty gives,
Let me not cast away;
For GOD is paid, when man receives,
T' enjoy, is to obey.”

5. I have often lamented over the imprudence of many in not using the means which heaven has been pleased to put in their power, for the welfare of their children. It is well known, that what is called *taking the Small-Pox naturally*, is no other than the receiving of the infection from the breath, or perspiration, of some person labouring under that disease—we cannot believe that there is any supernatural interference. If we keep a child out of the reach of the infectious matter, it

will never have the disease:—So that it is commonly *we ourselves* that are accessory to a child's receiving the Small-Pox, either by inoculation, or by carrying, or permitting it to go, into an infected atmosphere. When a child receives the Small-Pox without having been near to any individual labouring under the disease, we are not to ascribe it to any supernatural agency, but to the circumstance of some person having inadvertently carried in his dress, particles of morbid matter, from some infected person or place, to the party receiving the disease.

6. It may be objected, that many of those persons who have not availed themselves of the Small-Pox Inoculation, have acted *from a principle of conscience*, not daring to do it, by reason of the danger that attended it. To this we might reply,—1. Every person who pleads *conscience*, is in duty bound to have that conscience well informed; otherwise, conscience might be pleaded for the most improper transactions; Paul persecuted the Church of Christ for conscience sake, and under that impulse sinned grievously.—2. The discovery of the Cow-Pox, removes all fear of danger, for not one case of death has yet occurred from that disease.

7. John Woolman, a Friend, in his journal, (Dublin edit. 8vo. 1794, page 116) after having considered *the Small-Pox as a messenger from the Almighty*, to be an assistant in the cause of virtue; and when hinting that *it requires in us great clearness of knowledge, that it is our duty to inoculate before we take upon us, in health, a distemper of which some die*, has the following very pertinent remark:—*Had HE (the ALMIGHTY) endowed men with understandings to hinder the force of the disease by INNOCENT means, which had NEVER proved mortal, nor hurtful to our bodies; such discovery might be considered as the period or end of chastisement inflicted by this distemper, where that knowledge extended.* Now upon the very principle of this truly worthy man, ought the Cow-Pox to be esteemed as the ALMIGHTY's gift, to put a welcome period to the sad visits of this mournful messenger—And why?—Because the means are *innocent*, and have *never proved mortal*.

8. Dr. Doddridge, in his Ethics, says, *All lawful means are to be used to preserve our lives; for not to preserve is to destroy. And if bringing any temporary disorder upon ourselves, may be the probable means of preserving life, virtue not only permits, but requires us to do it, though it may be attended with some hazard; provided that hazard be less than would arise from omitting it.* If such were the Doctor's sentiments upon the Small-Pox Inoculation, where *one case in three hundred is expected to prove fatal*, how clearly would he have expressed himself, had he lived to hail the discovery of the Cow-Pox.—He would then have said with confidence—*Not to preserve is to destroy!* Indeed the idea must be shocking to a parent's

feelings ; but still the fact is the same—Negligence in preserving, is tantamount to positive destruction.

9. Perhaps it may be proper to notice, under this head, the opposition which Inoculation for the Cow-Pox has met with from some few medical practitioners, who point out this and the other child, that, after having had the Cow-Pox, has taken the natural Small-Pox. In reply, we might ask them, 1.—Are you *sure* that the cases mentioned were not of the *spurious* kind? if they were, there is no wonder that they have taken the Small-Pox.—2. Have you considered that many practitioners have been as scrupulous as *yourselves* in the encouragement of the Vaccine Inoculation, and yet have been constrained by positive facts to alter their sentiments?—3. Have you duly reflected upon the evidences which stand forward in favour of the Cow-Pox—Gentlemen of the most accurate observation, penetrating genius, and respectable characters? (See the Medical Council to the Royal Jennerian Society.—4. Has not the bias in your minds prevented you from giving the Cow-Pox that calm and dispassionate notice which it deserves?—5. Lastly, Would not candor suppose it more probable, that *you* may be mistaken, rather than the most able and wise Physicians, resident in all the quarters of the world ; many of whom have tried the effects of the Cow Pox by every method which their imaginations could suggest, and whose uniform testimonies confirm Dr. Jenner's modestly expressed hopes, that they would be found a safeguard against the variolous infection?

9. We might here adduce an extract from the valuable treatise written by Mr. ^{John} Bell, Surgeon, Edinburgh.—“*My father,*” says he, “*Mr. Geo. Bell, in several journeys through England, within these last three years, and particularly in Gloucestershire, made it his business to inquire minutely into the degree of credit given by practitioners and the people of the country, to the antivariolous power of the Cow-Pox, and found them uniformly of opinion, that a person who has once had the genuine Cow-Pox, is ever afterwards unsusceptible of the contagion of the Small-Pox. It is proper also to add, that my father was one of those who rather declined recommending the Vaccine Inoculation, till more extended practice, and farther knowledge of the antivariolous powers of the disease, should warrant him to do so. From this circumstance, his opinion appears to me to have greater weight.*”

11. But *objections* do but urge more forcibly the necessity that all parents should be able to judge for themselves, whether the disease be of the *genuine* or *spurious* kind. A friend of the writer had a child that was inoculated five times before the real disease was communicated ; and the writer has now a little girl that has three times had the *spurious disease*—but a *disease* perhaps it ought not to be called ; as the general habit does not

seem at all to be affected by the local inflammation of the spurious kind:—However, he cannot think that he has done his duty, till he shall have tried yet again, or again, to obtain the genuine disease.

CHAP. III.

A comparative estimate of the Natural Small-Pox, Inoculated Small-Pox, and the Inoculated Cow-Pox.

1. **T**HIS estimate is nearly copied *verbatim*, from that circulated in London by the Royal Jennerian Society, established for the extermination of the Small-Pox; and patronized by their Majesties, and all the royal family—most of the nobility—the leading members of both Houses of Parliament, and a medical council comprehending the most noted practitioners in the United Kingdom.

2. The NATURAL SMALL-POX, has been known to continue its ravages for twelve centuries, destroying in every year an immense proportion of the whole population of the world—always contagious—sometimes mild; but for the most part violent, painful, loathsome and dangerous to life. ONE in six having this disease DIES:—at the least one half of mankind have it, consequently ONE in TWELVE of the human race perishes by this one disease!!—amounting in London to *three thousand* every year; and in the United Kingdom of Great Britain and Ireland to 40,000 annually.—One in three has the natural Small-Pox dangerously:—The eruptions numerous, painful, and disgusting; causing much confinement, loss of time, and expence—precautions are commonly unavailing—medical treatment necessary both before, and after the disease—leaves pits, scars, seams, &c. which disfigure the skin, and especially the face—is often followed by scrofula in every form; together with diseases of the skin, glands, joints, with frequent blindness, lameness, &c.

3. The INOCULATED SMALL-POX is always contagious—commonly mild; but in some instances is as bad as the natural kind.—In general ONE in *three hundred* DIES; perhaps in London ONE in a hundred—One in thirty or forty has it dangerously—eruptions constant; but the number uncertain. Confinement, loss of time, and expence sometimes considerable—preparations necessary by diet, and medicine—care required as to seasons, period of life, and state of constitution—medical treatment commonly necessary—deformities, and subsequent diseases to be apprehended, same as in the above, whenever the Pox proves to be of a bad kind.

4. The INOCULATED COW-POX.—Is not contagious—mild and inoffensive—seldom painful—free from danger. The

genuine kind is an INFALLIBLE security against the Small-Pox—NEVER FATAL.—Has only ONE pustule or pock, which is upon the inoculated part.—No confinement, loss of time, or expence—proper at all ages and seasons—no medicine required—no deformity of the skin, or face, nor any subsequent diseases.

CHAP. IV.

The Nosology—or the Description of the Cow-Pox as a Disease.

1. IT has been conjectured, that the Pox affecting the udders of Cows is derived from the grease in horses' heels; but this supposition does not gain countenance from many of the most judicious and respectable practitioners.

2. There is a soreness of the teats of Cows, appearing often when suckling their calves, occasioned or increased by the irritation of flies, or other external injuries; and which will even be communicated to the milkers; exciting much pain and uneasiness in their hands—often producing ulcers in both the cow and the human subject not very liable to heal:—Yet none of these sores will preserve a person from the infection of the Small-Pox.—It is proper to note that these ulcers never produce any general fever, &c.

3. The *real* pox, appearing upon the udders of the Cows is very different.—The pustules or pocks are at first of a pale blue or lead colour, with a depression or flattened dimple in their centre, surrounded with an erysipelatous inflammation (an inflammation occasioned by a clustering of small red spots or pimples)—The pustules contain a clear watery fluid; and the surrounding parts become hard.—If care be not taken to prevent them from being injured, they burst and run into a foul deep ulcer, which is slow of healing—sometimes the cow appears unwell, and rather impairs in her milk.

4. If the milker happen to have any skin off from his or her hands, the matter enters, and inoculates the person; and a pock is produced similar to that on the cow's teat, in a few days.

5. At first inflamed spots appear on the hands, joints of the fingers, or wrists; which soon form into pustules, and fill with a watery fluid; increasing for several days.—On the 5th or 6th day the pocks are found to contain a quantity of bluish fluid, are commonly circular, dimpled in the centre, and soon surrounded by an inflamed ring, often 2 inches in diameter.—On the 7th or 8th day the matter then formed on the pock begins to be taken up into the system—Swellings are found in the arm pits—quick pulse—sickness—flushings of heat, followed by cold. These symptoms continue with greater or less violence for 1, 2, or 3 days, and then regularly go off.—The hands

having matter upon them may fix pustules upon the nose, lips, or eyelids, by rubbing them, where the skin is extremely thin.

6. The Cow-Pox in its natural state, when propagated from the teat of an infected cow to the milker's hands, is capable of affecting the human species repeatedly, even to an indefinite number of times; but after the *first* application it is generally much milder in its symptoms;—thus it is evidently preferable, to get the matter from a human subject, rather than from the cow.

7. The Small-Pox secures a person from ever having the *genuine* kind of Cow-Pox; and the Cow-Pox fortifies the body in the same degree, against the Small-Pox.—In both cases, there may afterwards be some *casual* pustules, from infectious matter being absorbed by the vessels on the surface of the body;—the same as we often observe, upon the hands, arms, or breasts of nurses while attending upon children ill of the common Small-Pox:—The disease is then merely *local* and confined to the pock—and though matter may be produced in the pock, yet the system does not seem to take it up, so as to produce the fever and indisposition. Hence also it arises—that when all the servants of the dairy have taken the infection from the Cows—such of them as have before had either the real Cow-Pox, or the common Small-Pox will not be indisposed, but will have the *spurious* kind; while such as have never had either the real Cow-Pox, or the common Small-Pox, will be indisposed, and for a day or two be unable to attend to their work.

8. The medical journal No. 46, for 1802, gives the following very elegant and concise description of the disease, which embraces the whole of this chapter, and is compressible within a nut-shell.—“It is a circumscribed, elevated, solitary vesicle, nearly circular at its basis; having a regular smooth circumference, but is flattened in its apex; surrounded about the 10th day with an erysipelatous efflorescence; afterwards desiccating into a brownish, hard, glistening incrustation; which soon falls off, and leaves a cicatrix through life.”—But this language is not adapted to the generality of mankind.

CHAP. V.

The manner of performing the inoculation for the Cow-Pox.

1. **T**HE first thing is the *choice of matter*; and it is to be feared, that errors have been frequently made in this respect by medical practitioners. For in the *common Small-Pox*, the matter taken is always *thick and white* like cream; but in the Cow-Pox, the matter must be *thin, clear, and limpid* like water. From the *fifth* to the *ninth* day after inoculation, if it be the *genuine* kind, the matter is fit for use:—It is *thin and clear*; but after that period it becomes *thick and*

white, and will be ready to produce an ulcer or the spurious disease; but never the right and genuine kind. In the plate, fig. 6, genuine kind, there is a ring, or areola, discovered round the inoculated point—*this areola*, says Dr. Jenner, *is a mound over which the lancet must not pass*—That is to say, matter should never be taken from a Cow-Pock pustule for the purpose of inoculation, after the efflorescence or circumscribed redness is formed round it. Matter, taken after this period, does not secure the patient from the Small-Pox contagion; as it does, with certainty, when taken earlier; and to this circumstance, practitioners and parents cannot pay too much attention; as the whole, both of success, reputation and security, depends upon it. The *thin clear* matter is contained in a number of cellules, or very small cells, united together something like a honeycomb; so that the pock will not be emptied of ALL the matter till every cellule be pierced.

2. The part commonly chosen for inoculation, is the small hollow in the arm, between the elbow and shoulder. Pierce the pock with the point of a fine penknife or lancet, and the *thin, clear, watery* matter will be seen to ooze out; collect it upon the point of the instrument; and, when possible, apply it *immediately* to the subject for inoculation, even before it be dry—with the point of the instrument prick the arm, or just scratch it lengthwise, till a tinge of blood appear; holding the lancet rather in a declining position, so that the matter may run from the point, and leave it free to perform the incision. As soon as the tinge of blood appears, or the wound is supposed to be deep or large enough, then change the position of the lancet, and let the matter run down it into the incision—Let it dry on, and the inoculation is finished.

CHAP. VI.

The Disease shewn in its various Stages, with Reference to the Plate.

GENUINE KIND.

Fig. 1. **E**XHIBITS the appearance of the inoculated spot, the beginning of the *third* day, or 48 hours after inoculation—a small inflamed spot with the puncture in its centre, and a slight swelling may be seen or felt.

Fig. 2. The *Fifth* day—just beginning to form the pock with the matter in its vesicles—the swelling and hardness increased.

Fig. 3. The *Eighth* day—The inflammation now begins to spread rapidly round its base; the swelling and hardness are increased also: Sometimes the symptoms of rapid increase may appear on the *seventh* day—The whole body begins to be af-

fect at this period, from the matter formed in the pustule having been taken up and mixed with the circulating fluids. Slight symptoms of fever are produced, such as thirst, startings when asleep, &c. attended with a small degree of pain in the arm pits. All these symptoms are commonly too trivial to require any medical aid; and seldom continue longer than 24 hours.

Fig. 4. The *tenth* day—now at the height—Inflammation and hardness considerable—often two inches in diameter.

Fig. 5. The *eleventh* day—Inflammation and hardness rather begin to abate—matter becomes *white and thick*, and top of the pock brownish.

Fig. 6. The *twelfth* day—shews the double areola, or ring, in its most perfect state; which appearance at this period, is the most certain sign of the *genuine* kind: But even, if the rings do not appear so distinct, if the pustules come to maturity *at this period*, still the disease is right.

Fig. 7.—The *fifteenth* day—The brown scab is dried up, and may be expected to loosen and separate in a short time.

We now refer to the SPURIOUS KIND.

A. Shews the inoculated part on the *third* day as forward as the *real* kind is on the *eighth* day.

B. The *fourth* day—equal to the *ninth* day of the *genuine* kind.

C. The *fifth* day—as far advanced as the other is on the *tenth* day.

D. The *sixth* day—nearly at its height.

E. The *seventh* day—rather upon the decline, answers to the *twelfth* day of the *genuine* kind.

F. The *eighth* day—corresponding to the *fourteenth* or *fifteenth* day of the *real* disease.

Additional Remarks upon the Plate.

1. The single Pock placed in the middle of the plate, between the *genuine* and *spurious* rows, with this circumscription:—*Fig. 3—eighth day by incision*, is meant to point out the different forms, or shapes, which the pustules assume from different modes of performing the inoculation. When the operation has been performed by a puncture, or a small wound like the prick of a pin, then the pustule will wear a *circular* form through all the various stages of the disease;—but if the inoculating wound be made rather *long*, like the scratch of a pin, then the pock will always wear an *oval* form; and resemble in all the stages the above mentioned middle pock, marked *fig. 3*, by incision.

2. Both the *genuine* and *spurious* kinds will be found occasionally to vary in their appearances from the plate; but these

variations will never be so great, as to produce any risk of a mistake, in distinguishing the *genuine* from the *spurious* disease; and for this plain reason, because the genuine kind does not come to its height till the *tenth* day; while the spurious pustule arrives at its height, both of swelling and inflammation, on the *sixth* day.

CHAP. VII.

Sundry Remarks, and Recapitulation.

1. **W**HEN *matter* is wanted to be conveyed to any distance, or kept for some time, the grand point to be gained, is to *preserve it from the action of the air*; which tends to destroy its efficacy. Some have succeeded by charging a little thread or cotton wool with the matter and inclosing it in a very small phial bottle, keeping it well corked or sealed. Dr. Carro, of Vienna, received a bit of charged thread inclosed only in a letter, from Dr. Pearson, of London, and still found it to produce the disease.

2. But perhaps the best way is, to have two flat equal sized pieces of glass, to collect the watery fluid from the pock, and then, whilst wet, join the pieces of glass together, which, upon the matter drying, will adhere. Wrap up the pieces of glass, containing the wet matter between them, in a little tin-foil or moistened bladder, which may be thus conveyed to any distance, or kept for any time; and when used, must be previously moistened in the steam arising from warm water.

3. But it is always preferable, to have a constant succession and supply of fresh matter; and for this end, a few patients should only be inoculated at the same time, and then others from them, and so on.

4. It is much the best to inoculate both arms at the same time, and never to take away *the whole* of the matter—indeed, considering that each pustule consists of a number of small vessels or cells, the probability is, that ALL of them will not be ruptured readily with the point of the lancet.

5. This idea, however, seems necessary to be impressed, that the *whole body* wants to be secured, and therefore the *whole body* should be brought to feel the effects of the morbid matter. We hinted before, that the matter formed in the pustule *ought* and *must* be absorbed and circulated through the system, in order to excite the desirable fever from the 8th to the 10th day: And as this absorption of the matter seems indispensibly necessary in order to secure success, care should be taken that the tops of the forming pocks be not rubbed off; rather tie down the child's hands.

6. When there is plenty of good matter, and the desire of getting the inoculation to take place is urgent; then it is proper to perform the operation two or three times in the course of a few days. The part that comes first to maturity, will put a final issue to the rest.

7. It may sometimes be necessary to inoculate several times before the real disease be produced. The reason, why the same matter produces in one subject the *genuine* kind, and in another the *spurious* kind, seems not to be ascertained. Most probably there is some peculiar power existing in the constitution at one time, more than another; which limits the matter to the local affection of the pock.

8. Infants of the age of two or three weeks, do not readily take the disease.

9. It is supposed, that about *one* person in *sixty*, will not take the Cow-Pox infection.

10. The inflammation proceeds more rapidly in summer than in winter.

11. If about the height of the disease, the fever should run high and the inflammation become much greater than expected, a gentle purgative may be given:—Senna tea sweetened with manna, or a little rochelle salt with syrup of violets, might be found to answer the end desired—but these occurrences are but rare.

12. If a person has once had the genuine Cow-Pox, or the common Small-Pox, and be inoculated again with the Cow-Pox matter, if any effect be produced, it will invariably be of the *spurious* kind.

13. In performing the inoculation, take care that the instrument be clean and not rusty. Let the wound made be just deep enough to fetch a tinge of blood, and no more: Should it be made *too deep*, there may be reasons to apprehend, that the pock will not heal up so kindly as might be wished; and that the blood issuing from the little wound may wash out the matter, and prevent infection.

14. If the pustule should have inflamed too much, and incline to a bad sore about the 15th day, let it be sprinkled every 48 hours with a little powder of burnt alum; but there will commonly require nothing more than a little mild ointment—a little *elder ointment* will do as well as any other.

15. We suppose it may not be advisable to inoculate for the Cow-Pox during severe fits of teething; nor while labouring under any eruptive malady, as measles, scarlet fever, or itch; and assuredly not in bad fevers, or other dangerous complaints.

Recapitulation of the most interesting Particulars.

16. Ever bear in mind, that all *matter* must be taken from the *genuine* pock, and between the *fifth* and *ninth* days—that it must be *clear, limpid, and transparent as water*—and if possible used *immediately*; or, at least, kept from the air.

17. In performing the inoculation, just make a tinge of blood to appear, then let the matter run into the wound and dry on.

18. The *true* and *genuine* pock will not come to its height of swelling and inflammation before the *ninth* or *tenth* days—and all the other kinds are of no service whatever. The inoculator ought, therefore, to see his patient at least every third day.

POSTSCRIPT.

Some have objected to the *Cow-Pox*, fearing lest it should introduce a new disease into the human frame—To this, we reply,—1. The *Cow-Pox* has been long known in the dairy counties, and no such inconvenience has yet been found to arise from it.—2. Do not we daily eat her flesh, and drink her milk?—3. May it not be supposed, that the *Cow-Pox* has been originally the same disease as the *Small-Pox*; and that its virulence is diminished by passing through the milder fluids of that clean, and useful animal; and especially, as it nearly runs the same course, and equally fortifies the body against any future attack?

In the preceding part of these pages, we noted the circumstance, that a child might sometimes require the *Cow-Pox* Inoculation to be repeated several times before the *genuine* disease was induced. This is certainly true; but we must also add, that such occurrences are not frequent. Most commonly the *real* disease will be produced, if the matter has been taken at a proper period. And, it is it highly important, that, when the *spurious* kind does appear, it should be duly marked; otherwise the utility of the *Cow-Pox* may be seriously diminished, and the gracious designs of the GREAT AUTHOR of nature frustrated; who in presenting us with so safe and easy a preventive, has undoubtedly intended it as the termination of that fatal malady, which has for so many centuries ravaged the world.

FINIS.



