

Cheap tract on the cow-pox. A plain statement of facts, in favour of the cow-pox, intended for circulation through the middle and lower classes of society / by John Thomson.

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CHEAP TRACT ON THE COW-POX.

A PLAIN STATEMENT OF FACTS,

IN FAVOUR OF

THE COW-POX,

Intended for Circulation through the middle and lower Classes of Society.

BY JOHN THOMSON, M. D.

LATE PRESIDENT OF THE ROYAL MEDICAL SOCIETY OF EDINBURGH; CORRESPONDING MEMBER OF THE LITERARY AND PHILOSOPHICAL SOCIETY OF MANCHESTER; ONE OF THE PHYSICIANS TO THE HALIFAX GENERAL DISPENSARY, &c.

To inform and instruct the public Mind may do much, and it will probably be found, that the Progress of Cow-pox in different Parts of the United Kingdom, will be in Proportion to that Instruction.

REPORT OF THE ROYAL COLLEGE OF PHYSICIANS LONDON.

Embrace the Blessing Heaven hath sent !

N. BLOOMFIELD'S LINES TO DR. JENNER.

Halifax :

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A PLAIN

STATEMENT OF FACTS,

IN FAVOUR OF

THE COW-POX,

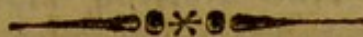
The following Works are referred to,

BY THE LETTER PREFIXED TO EACH WORK.

- A. Adam's Popular View of Vaccine Inoculation, 1807.
B. Bryce's Observations on the Cow-pox, second edition, 1809.
C. Aikin's Concise View, &c. 1801.
D. Debate in the House of Commons, on Dr. Jenner's Reward.
Stockdale's Parliament. Register, 1807, page 515.
E. Edinburgh Review, No. XVII. Art iii.
F. Report of the Royal College of Physicians of London, on Vaccination.
H. Haygarth's Sketch of a Plan to extenuate the Small-pox.
J. Dr. Jenner's Reports, Parts I. and II.
L. London Medical and Physical Journal.
M. Medical Commentaries, 1794.
Y. York Herald, for September 5, and November 26, 1800. for the excellent Papers on the Cow-pox, of the late Dr. Robert Cappe.
X. Woodville's Observations on Cow-pox, 1800.

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INTRODUCTION.



SO many publications have appeared on the Cow-pox, that the greater part of the medical world is heartily sick of the subject, and the public in general view it with more than indifference. But the object of this little tract is different from that of any which I have met with. The design is to circulate in the cheapest form, through the middle and lower classes of society, such facts, observations, and arguments in favour of the Cow-pox, as may promote its progress and general adoption. The understandings of plain people will be addressed in language as plain as possible, and the hard words of the medical art will be omitted. The subject it is hoped will thus be universally understood. The author has met with, and frequently meets with, opinions against the Cow-pox, which he regards as prejudices, and with many statements which are unfounded in fact. These will be considered and corrected. The objections against the Cow-pox and the arguments in its favour will be duly weighed. The following subjects will each occupy a chapter. 1. The history of the Cow-pox. 2. Our present knowledge respecting it. 3. The arguments in its favour. 4. The objections to it considered. 5. The causes of its failure. 6. General observations on the subject.

The design of this little work is now obvious. Such as take an interest in the Cow-pox, the friends of the human race, must regard it as commendable, and as far as it answers this end, may be disposed to extend

tend its circulation. All who have the power of communicating knowledge to their less favoured fellow-creatures, may it is hoped by this means convey instruction which concerns the health and happiness of every family and of every fireside.

So many publications have appeared on the Cow-pox, that the greater part of the medical world is heartily sick of the subject, and the public in general view it with more than indifference. But the object of this little tract is different from that of any which I have met with.

CHAPTER I.

The history of the Cow-pox.

A PARTICULAR kind of sore or eruption upon the teats and udders of cows has been known time out of mind, to those who have had the care of large dairies. In Gloucestershire, Wiltshire, Somersetshire, Buckinghamshire, Devonshire, Hampshire, Liecestershire, and Staffordshire, it is generally known by the name of *Cow-pox*. In Suffolk and Norfolk it is called the *Pap-pox*. Near Cork, in Ireland, where it has been long known, it is called in the ancient language *Shinagh*.^{*} More lately it has been observed near Gottingen, in Holstein, in Swisserland, on the cows in the neighbourhood of Constantinople,[†] and matter has been procured from the cows in Lombardy.[‡] It is communicated from the cow to the hands of the milker, and thence to other cows; so it passes through the whole herd, and the milkers of the cows belonging to it. This *natural Cow-pox* is a disease sometimes of considerable violence, though never fatal. It will occasionally produce very painful and foul sores particularly on the wrists and fingers, pain along the arm, pain and swelling in the arm-pit, with so much fever and general illness as to oblige the patient to keep his bed.

^{*} This word is formed of two Celtic words which express the origin of the disease, *Simne* or *Shinne*, a teat, and *agh* a cow, L. viii. 476. [†] By Dr.

It was a saying and a belief amongst these people, that such as had this Cow-pox were ever after free from the Small-pox, whether inoculated for it or exposed to its infection in a natural way. Such has been observed to be the fact, and particularly by Dr. Jenner, a physician, formerly residing at Berkley, in Gloucestershire. *He ascertained by the most accurate investigation and the closest inquiries, the truth of the popular belief, that this Cow-pox was a preservative from the Small-pox.* His observations and trials have been made in every possible way, and he has produced instances of persons who having had this Cow-pox, some twenty, some thirty, and some fifty years before, have remained free from the Small-pox, though frequently in that time nearly exposed to its infection in attending upon those ill of it, and though even inoculated for it in the usual way.* It occurred to this ingenious physician that the natural Cow-pox might be communicated by inoculation, and might be made milder in the same way as the Small-pox is communicated, and made milder by inoculation. This he tried with perfect success. The inoculated Cow-pox is found to be much milder than the natural Cow-pox, its exact appearance, characters, regular stages, and changes have been ascertained. In this undertaking many members of the medical profession, and many not of the profession have assisted, and by varying their trials in every possible way, by making their observations under every possible circumstance, in different places and at different times, have produced a great and unexampled body of evidence given by a cloud of witnesses in favour of the Cow-pox. This constitutes

CHAPTER II.

Of our present knowledge respecting the Cow-pox,

Which I shall endeavour to convey in as few words as possible, and support by facts.

I. *The Cow-pox is a preservative from the Small-pox.* This is proved by the fact that those who have had the Cow-pox remain ever after free from the Small-pox, whether inoculated for it or exposed to its natural infection. Read the following cases. In 1785, Ben. Cowley, aged 26, of Stowe, in Buckinghamshire, had the natural Cow-pox. Three years afterwards he entered the Oxford militia. *He was inoculated three times for the Small-pox by the surgeon of the regiment, but did not take it.* R. Smith, aged 24, had the natural Cow-pox at the same time and place. *His large family have had the Small-pox at different*

different times, but he never took it from them. Ed. Stockley, age 120, had the Cow-pox when young, he was inoculated several times for the Small-pox, but never took it. A servant of Mr. Morris had the Cow-pox many years ago; he has been inoculated for the Small-pox seventeen times since, but never took it. (a) Alban Collingbridge had the natural Cow-pox twenty years ago. Four years after he was inoculated for the Small-pox, but did not take it. Two of his brothers who had not had the Cow-pox took the Small-pox. He slept with them, but did not take it. His children have had the Small-pox, but he did not take it. Mr. Steaves had the Cow-pox from his own cows in the year 1764. Four years after he was inoculated for the Small-pox, and in 1791, twenty-seven years after, all his family had the Small-pox, he attended them all the time. He never took the Small-pox. (b)

— Rudland, aged 73, had the Cow-pox when young; from fifty to sixty years afterwards said that he never had the Small-pox, and thought he never should, he had been inoculated so many times without taking it. (c)

These facts may suffice. I shall now select a few from a multitude, to prove a similar preserving power in the inoculated Cow-pox.

Of seven thousand five hundred cases that had the inoculated Cow-pox under Dr. Woodville's eye, he inoculated afterwards near four thousand for the Small-pox. Not one of them took it. (e)

Of twelve hundred patients inoculated for the Cow-pox by Mr. Ring, one thousand have been either inoculated for the Small-pox or exposed to its contagion, but not one has had it. (f)

This trial has been made more than a million of times with the same result. (g) It is surely unnecessary to give any more evidence to prove this fact. Such however as wish to make assurance doubly sure, may find volumes of evidence pointed out below. (h) We have a record not to be doubted, of eighteen thousand cases, (inoculated for the Cow-pox by the first practitioners in London) who have since remained free from the Small-pox, though inoculated for it or exposed to its contagion. (i)

Dr. Jenner has observed that wherever the Cow-pox has been much practiced, there the Small-pox is least seen, and where it is universally practiced that it is not seen at all; and if brought by accident that it does not spread. In the year 1805, the Small-pox raged in London, notwithstanding the decrease in the number of deaths from Small-pox, in the preceding years
1801,

(a) L. ii. 403. (b) L. iv. 259. (c) L. vii. 541. See further, L. ix. 133. Vol. vi. 106, and the cases in Dr. Jenner's two works. (e) R. 3. (f) R. 38. (g) E, 51. (h) W. 11. 15, &c. L. from 1798—1809. A. 86. B. R. appendix. F. L. Vol. 5. 101. 2. (i) W. 13. (10) W. No. 1.

1801, 2, 3, 4. In this year, 1779 *died* of Small-pox in London. Whilst this pestilence was thus fatal, all persons inoculated for the Cow-pox since 1799, and particularly the poor were frequently exposed to the contagion of the Small-pox, and some were inoculated for it, yet they all, *thousands and tens of thousands* were proof against it.(11) In Cheltenham the Cow-pox was very generally adopted. During the summer and winter of 1805—6, the Small-pox was brought into it *seven* times but *did not spread to any other individual*, whilst the neighbouring city of Gloucester where Cow-pox met with indifference, was harassed with the frequent ravages of Small-pox. In the town of Preston, in Lancashire, the Small-pox raged in the autumn, winter and spring, of 1804—5, many children who had been inoculated for the Cow-pox were unavoidably exposed to the infection, *they ate with the same spoon out of the same dish, they laid in the same bed, but not a single instance occurred of Small-pox, after Cow-pox.*(12) At Newcastle-upon-Tyne, the Small-pox were very fatal in 1805, but not one case out of upwards of three thousand inoculated for Cow-pox at the dispensary took the Small-pox. In a small village near that town, more than *thirty* children *died* of the Small-pox, but every child in the village who had undergone the Cow-pox escaped though surrounded with the contagion of Small-pox. In one of the regiments of Gloucester militia, upwards of one hundred men who had not had the Small-pox, were inoculated for the Cow-pox and had the disease. They went into barracks *just quitted* by a regiment which had suffered dreadfully from the *Small-pox*, the barracks even had *not been cleaned*, but *not one of these men took the Small-pox*. But it is not necessary to proceed; there is no end to the variety of proof. An infant inoculated twelve months before for the Cow-pox, has been made to eat bread and milk after it *has been in the mouth of a boy then labouring under natural Small-pox of the worst kind, and very full about the tongue, mouth and throat. He did not take the Small-pox.*(13.) It is not meant that the matter swallowed would have given the disease, but the children must have been nearly exposed to each other when fed from mouth to mouth.

II. *The Cow-pox is not contagious, and it is free from danger.* The natural Cow-pox is communicated to the milkers by the matter of the sore getting into a cut, sore, or crack in the skin of the hands. The inoculated Cow-pox in like manner is communicated by taking matter either from the cow or from the Cow-pox on a human being, and by putting the matter with some instrument under the scarf skin of the arm or of any other part.

These

(11) W. 19. (12) Dr. Robinson, W. xxxi; vide W. appendix. (13) L.

These two ways are the only means of communicating the Cow-pox. It is not (like the Small-pox, the measles, scarlet-fever, &c.) caught by breathing the same air, living in the same room, sleeping in the same bed, or keeping the company of any person ill of it. To use plain language, the Cow-pox is not *catching*, it is not *smittle*.* To give the Cow-pox the *matter* of the Cow-pox, must by some means or other be *put into the skin*. Nothing is more common than for those who have the Cow-pox to sleep with those who have neither had the Cow-pox nor the Small-pox, without communicating the disease.

Out of the many millions of people that have been inoculated for the Cow-pox *not one case* has occurred in which death has been owing to the Cow-pox. Instances have been *said* to have happened at Portsmouth, at Oxford, at Ringwood, but on examination, the falsehood of the report has been made apparent. Dr. Woodville's extensive practice has been referred to page 6. With none of the patients says Dr. W. did the infection occasion a severe disorder, or excite one alarming symptom. (14) Dr. Pearson says that the chance of life appears to be greater during the Cow-pox inoculation than under the ordinary circumstances of life, that he has in general found the *health of sickly children mended* by it, and does not know of any disease excited by it. The same fact has been observed by others, and *puny children have been inoculated with the Cow-pox with a view to restore their health, and with the best effects*. It is a *very singular fact*, that the presence of the Cow-pox, though so mild as to be in many instances scarcely noticed, and though producing the most trifling indisposition, seems to shield for the time from other diseases. Thus we know that out of *one hundred and sixty four thousand three hundred and eighty one* (15) cases of Cow-pox, only *three* deaths occurred during the course of the disease, and these deaths were *not the consequence* of the Cow-pox, but of other causes well ascertained. Now the course of the Cow-pox may be taken at fourteen days, and it would be impossible in the healthiest season and in the most favourable circumstances to fix upon the same number of children though chosen as the most healthy, in which not more than *three* deaths would *happen* in fourteen days. The number of children who die in London, under two years old, is *one third of all the deaths of that city*,† and it appears that on a common average in every *sixty thousand* healthy subjects *seven* die in fourteen days, without the infection of any disease but what is in the common course of events. (16) If therefore *seven out of sixty*

* Smittle,—contagious, infectious, Yorkshire dialect. (14) R. (15) D.

† Bills of mortality, in 1808, the number of deaths was 19,954, 6,075 died under two years old. (16) R.

sixty thousand die in fourteen days, out of one hundred and sixty-four thousand three hundred and eighty-one, nineteen would have died except for the Cow-pox, but only three died. This is a fact which has not excited the attention which it deserves.

The inoculated Cow-pox is "a disease perfectly harmless in its effects." (17) Dr. Adams, physician to the Small-pox hospital, says, that by adopting the Cow-pox, without symptomatic fever, without secondary eruptions, or without danger from either, and also without danger to others, we secure ourselves, our children, our friends. No season need be preferred, no age is improper. (18) I need only mention two striking cases as instances of its mildness. The child of Dr. Portenshal, (a physician at Vienna, and one of the earliest friends of the Cow-pox,) was inoculated four hours and a half after its birth, by Dr. De Caro; it went regularly through the disease with perfect safety (19) Mr. H. Jenner inoculated with the Cow-pox an infant a few hours old; the child went regularly through the disease, and afterwards resisted the Small-pox completely. (20) From the foregoing facts we may safely conclude that the Cow-pox is an effectual preservative from the Small-pox, that it is *not contagious*, that it is so *mild* as scarcely to deserve the name of disease, and that it is *wholly free from danger*.

CHAPTER III.

Arguments in favour of the Cow-pox.

The object of this chapter will be best answered by making a short *comparison* between the Small-pox and the Cow-pox. One out of every six cases of *natural* Small-pox is *fatal*. The natural Small-pox in women with child is fatal in at least *nineteen* out of *twenty* cases, to the child in the womb, and to *fifteen* of the women, (21) and of such as the fear of having the *natural* Small-pox, has compelled to submit to be *inoculated for the Small-pox*, many have lost their own lives and very few have born living children, (22) Pregnant women are inoculated for the Cow-pox *with perfect safety*, to themselves and their children.* The Small-pox are particularly fatal to infants and young

(17) X. p. 30. (18) A. 72. (19) L. 195. Vol. 3. (20) C. 63. (21) Med. Commentaries, 1794. (22) Y. 438.

* Dr. Jenner has lately published two cases of pregnant ladies, where the ladies themselves were preserved from any sensible influence of the Small-pox, when epidemic, by having previously had the Small-pox and the Cow-pox. But one of the children sickened and had the Small-pox a day or two after it was born, *having taken the infection when in the womb*, and the other was born

young children. But for the Cow-pox infants have been inoculated in the arms of their nurses, others at the age of one, two, and three years, up to fifteen, (23) persons of forty, fifty, and upwards, a grand-father and his grand-children, with perfect and similar success.

In London, before the Cow-pox was introduced, about *three thousand* died yearly, or about eight a day. (24) The deaths from the Small-pox in the united kingdom of Great Britain and Ireland, are annually from forty thousand to forty-five thousand. (25) From the London bills of mortality it appears that the Small-pox have *annually* destroyed more than two thousand and twenty, during seventy-five years, ending at 1777 (26) The total amount is one hundred and fifty-one thousand five hundred and seventy. If the population of London be taken at one million, within the bills of mortality, the proportion is one death out of (26) every five hundred inhabitants. The proportion in the country is greater, because one fourth of all the deaths in London is of strangers, who do not fix there till the age of eighteen or twenty, and most of them have had the Small-pox before they settle there. In Manchester, Liverpool and Chester, one person died of this disease every year in two hundred and five inhabitants. If you compare the deaths with the *births*, in London there is one death from the Small-pox in each six and a half (27) births, and in Liverpool one in five and a half (28) births. In London one tenth (and sometimes more) of all the deaths is occasioned by the Small-pox, or at least ninety-five out of every thousand deaths. (29)

Of the *inoculated* Small-pox on its first introduction about the year 1721, one in fifty died; but on the cool improved mode of treatment the proportion of deaths is much less. Some calculate it as one in three hundred (30) in England; one in one hundred and fifty in the rest of Europe, in Asia, Africa, and America. Others calculate one in two hundred in London; one in three hundred in the country. (31) Some have calculated the deaths in London as one in every hundred inoculated for the Small-pox. The mortality of the *natural* Small-pox is eight or nine times greater than that of the *inoculated*; but it appears that in the most favourable circumstances one dies of every three hundred inoculated for the Small-pox, and one in twenty-five has a severe disease from it. (32)

Not

with the Small-pox thick upon it. Thus inoculation preserved the mothers from any bad effects of an infection which yet is so powerful as to reach the inmost recesses of the human frame.—

Transactions—Medico—Chirurg, Vol. i. 263.

(23) L. v. 101. (24) R. 41. (25) W. ii. (26) Y. 437. (27) Y. 437. note. (28) H. i. 140. (29) R. 4. (30) R. 25. (31) R. (32) R. 38.

Not one fatal case of Cow-pox has yet occurred. Though by inoculation for the Small-pox the chance in favour of the individual was increased, yet the *number of deaths* on the whole was *much increased*, because the Small-pox being contagious the sources of infection were increased. Free exposure to fresh air formed the great improvement in the treatment of Small-pox; but by this exposure, the uninfected became exposed to infection, and the air became full of contagion. Inoculation, therefore, though a *partial* and individual good, was a *general evil*. The late Government of France forbade it by law. Dr. Jurin, (33) shews from the bills of mortality for eighty-four years, that for forty-two years *before inoculation* for the Small-pox took place, seventy-two deaths in every thousand were from the Small-pox; but in the next forty-two years *after the inoculation*, the deaths amounted to eighty-nine in every thousand. In the first twelve years it was seventy-four in every thousand; in the next ten years it was eighty-three; in the next ninety-six; and in the last ten years it was one hundred and nine in every thousand. Thus by the spreading of the disease by inoculation, the number of deaths in forty-two years increased *thirty-seven in every thousand*.

It has been calculated that in twenty-five years Europe has lost FIFTEEN MILLIONS of inhabitants by this disease. In America the natural Small-pox is still more fatal, and it has taken off twenty, thirty, and even forty in every hundred. Every inoculation for the Small-pox tends thus to destroy life, and to perpetuate that loathsome disease, whilst every inoculation for the Cow-pox tends to preserve life, to destroy the Small-pox, and in time to render even the Cow-pox inoculation itself unnecessary. In some families Small-pox is particularly severe, and in some constitutions it certainly called forth the king's evil and other diseases of a dangerous kind. This was the consequence of the *disease* and not of the *inoculation*, for it followed more *frequently* and more *surely* the *natural* Small-pox (34)

Another frequent effect of *Small-pox* is either total blindness or partial loss of sight. In one establishment in London for the blind, out of thirty-four, fourteen owed their blindness to the Small-pox. Dr. Beer, a celebrated oculist at Vienna, (where the Cow-pox was early and generally adopted,) did not meet with a single case of disease of the eye from Small-pox, for two years, though *before the Cow-pox* was practised, he met with not less than fifty cases every year. (35)

Against the *Small-pox inoculation* some argued, that though the disease was made much milder, though it was three hundred to one

in

in favour of the child, still that the child *might* die, that *inoculation* did not *ensure* it, that it *might escape* the Small-pox, and that if any thing happened it, they should never forgive themselves; all this is plausible, and most of it undeniable; but on inoculation for the *Cow-pox* they may be *assured that the child will not die*. Let any person consider the two diseases but for a moment. The Cow-pox is given by the slightest cut in the skin, around this a small watery bladder forms, and afterwards a darkish red ring more or less extensive. The water in the small bladder becomes thick and like matter, it becomes dry, a dark brown scab forms, and the whole gradually heals. The fever is slight, and seldom lasts more than a few hours, sometimes there is a little swelling of the arm-pit, but it soon goes away of itself. The child scarcely loses, or but for a short time, its playfulness, its usual habits, and its many little nameless charms. Such in general is the Cow-pox. Now look at a different picture: a child has caught the *natural Small-pox*, observe the fiery redness of its eyes, sore throat, burning heat, thirst, great pain at the pit of the stomach, vomiting, convulsions, with high raving at times; if not taken off by early fits, a general redness appears, the fever which has been less and greater in the early stages, now rages high and constant; the face and body are covered with eruptions that run into each other: the child's skin is one large scab: the face is swollen, all the features undistinguishable; the eyelids closed; the spittle runs constantly from the open chapped mouth; the tongue is black; the power of swallowing lost; the nose stopt; dark spots and bluish blotches appear on different parts of the body; the breath is offensive, the stench, *peculiar to the disease*, is scarcely to be borne; the eruptions seem to go back, are dark and black; the child lies on its back senseless, motionless; the breathing is stopped by catchings; the heat is leaving the swelled limbs; the child dies; the body runs rapidly to decay. Such is the Small-pox.

The Cow-pox is a slight disease peculiarly mild to infants, and seldom prevents adults from following their usual occupation. It is a protection to the individual without endangering the health of others, whilst the Small-pox does not afford a *sure* protection from death, is a benefit to the individual at the risk of others, and is as highly contagious as any other disease, the plague itself not excepted. The contagion of Small-pox in clothes, merchandize and letters, is spread over a vast extent of country, and even across seas to distant kingdoms. The earliest trace of the Small-pox is in Arabia, where it is said that the disease was first caught from the camel, by the Arabs sleeping with that useful animal. They were brought from the East to Europe. They were in Britain probably in the
sixth

sixth century. The Europeans have since spread this dreadful disease from the centre to the ends of the earth. The Danes carried it to Greenland. The Spaniards when they invaded Peru, took with them the Small-pox, a disease more terrible even than their arms, their thefts, their bloodshed and their brutalities. In the Province of Quito, *one hundred thousand* persons died of the Small-pox, when they first appeared in that country.(36) They have been known in Hindostan, and inoculation practised there by the Brahmins, upwards of two thousand years. Thence it was adopted in Greece, and Lady M. W. Montague, having observed its good effects in the practice of the Greek slaves, in Turkey, (for predestinarianism did not allow the Turks themselves to use it,) it was introduced into England, by her means, about the year 1721—2.

CHAPTER IV.

Objections to the Cow-pox considered.

I. It has been said that the Cow-pox introduces new, unheard of, and monstrous diseases. Of such assertions the physicians of London say no proofs have been brought, and they regard them as the lies of designing, or as the mistakes of ignorant men.(37) This objection has been, in some measure, already answered, by shewing the great mildness of the Cow-pox, and its freedom from danger. The objection is *without proof*, it does not stand on a single fact. Dr. Moseley, who was one of the first to bring it forward, as he confesses, '*on theory*,' two years afterwards when examined before the House of Commons, said, "that he did not himself know of any instance, in which it had failed to prevent Small-pox, or had been followed by constitutional diseases; although he had heard of some such things from persons, but he could not recollect their names." He could not refer the committee to any adverse case.(38)

II. That it produces troublesome eruptions and obstinate sores in the arms. In London, when the Cow-pox was first introduced, the matter of the Cow-pox and Small-pox were *mixed accidentally*, at the Small-pox Hospital. The children inoculated with this mixed matter, had many of them *Small-pox eruptions*, and some inoculated there for the Cow-pox, where the air was laden with Small-pox infection, had similar eruptions, but these were clearly owing to the influence of the Small-pox, and do not exist where that influence does not exist. With respect to other eruptions it must be considered that children

children about the age of inoculation, are subject to many eruptive complaints from teething, worms, foul bowels, &c. which would happen whether they were inoculated or not. Because they may *follow* the Cow-pox, they are not *produced* by the Cow-pox. Winter follows autumn, but the frost snow and cold of January are not produced by the sunshine of August. In the last and commencement of this year, says an eminent practitioner, I have inoculated two hundred, from the age of three weeks and upwards, and not one unpleasant symptom has occurred. During the heat of last summer, the Small-pox was very rife, and extremely fatal. When but one of a family was attacked with the disease, I frequently got beforehand with it, by immediately inoculating the rest with the Cow-pox, which went through its usual mild course *without eruptions*.(39) I can assert, says the celebrated Mr. J. Pearson, with great satisfaction, that in my private and public practice not a single accident has occurred to me, either of sore arms, general disease, or any other attendant, or subsequent unpleasant symptom.(39*) It would appear very improbable that any such monstrous effects should take place when we reflect that dairy-maids, who receive the natural Cow-pox in all its force, are proverbially wholesome and robust, or full of what is called rude health. After Cow-pox, says Dr. Adams, (and his opportunities of observation have been great,) I can truly say, that I have met with no such complaints, not even a sore arm.(40) To the same effect is the testimony of Mr. Trye, Surgeon to the Gloucester Infirmary, the county where Cow-pox has been known time out of mind, the birth-place and cradle of Dr. Jenner's discovery. He says that a more healthy set of human beings does not exist, nor one more free from all impurities of the skin, than those who from employment in the dairies are the most exposed to Cow-pox; that many hundreds have had the Cow-pox there, but that in fifty years not a single patient has applied to the Infirmary for relief of any disease imputed to the Cow-pox.(41) I shall only add the testimony of Dr. Willan, who sees more diseases of the skin than all the practitioners of London. He says, after the most careful examination, *no new disorders* have appeared since the Cow-pox; that he has examined many cases *attributed* to the Cow-pox, but found diseases well known and described a thousand years ago, the common diseases of the skin which exist before and after Cow-pox, and which have nothing at all to do with it. He says that the number of diseases of the skin has *not increased* but *decreased*, since the introduction of Cow-pox, and he *brings facts to prove this*. And he says further,

further, that the Cow-pox has a decided advantage over the Small-pox, measles, and scarlet fever, in *not* calling forth any other disease. (41)

In some constitutions, the scratch of a pin has produced foul sores, mortification, and death; the bite of a leach, the application of a blister, have done the same. So it may have happened, that children of such constitutions, have had a sore arm from inoculation, but they probably would have had the same, from the scratch of a pin, or of the point of a lancet, though no Cow-pox matter had been on it. We hear every day of such accidents as these: a person cuts his toe-nail to the quick, mortification and death follow; yet who ever thought that this was owing to any deadly matter being on the knife. It is generally and with sufficient truth said, that the event is owing to the person having been in a bad habit of body. Such no doubt is the case in some instances of inoculation. There is also very good reason to believe, that unpleasant sores have been caused by making the wound with the lancet *too deep*, (44) by making *long scratches across the arm*; by using *rusty lancets*, by using *matter older than the tenth day*, when it is become *putrid and changed*. It is astonishing the mischief that has been done by *stabbing and scratching* the arm, by putting *threads into it*, by using *rusty and improper instruments*, such as *cobblers' awls*, (48) &c. The wound cannot be *too small*, if the scarf skin be raised; and the smallest particle of matter is sufficient. Yet after all, after all the bungling, mangling, and unnecessary wounding of the arm, after all the sorry collection of instruments that have been used, such as *rusty lancets, tooth picks, quills, awls, knitting needles, &c.* sore arms are much *less frequent* after the *Cow-pox*, than they were after the *Small-pox*: a fact, which, if it be in some measure owing to the mildness of the Cow-pox matter, is in a great degree owing to the method of inoculation having become more simple. I may add a remark of a *practical* nature: after the inoculation for the *Small-pox*, if the arm was considerably inflamed, and the health at the same time disordered, the child was deemed perfectly secure from the Small-pox, though not a single pock appeared. This seems to me extremely doubtful; there seems no evidence in this of the existence of the Small-pox disease, and we know *for a certainty*, that a sore arm produced by inoculation for the Cow-pox, or any appearance on the arm, except the true Cow-pox going through its regular stages, is *not* a security from the Small-pox.*

III. That Cow-pox is not a preventative of Small-pox, or

(44) W. x. app. (48) C. 77. W. 32.

* I find, since writing the above, that the late Dr. Heberden urges the same doubt, and gives a case in point. Comment. Cap. 95.

if so, only for a time. To what has been said above, (page 5,) little need be added. It has long been known, that one person out of sixty is *incapable of taking* the Small-pox; the same holds good as to the Cow-pox. It has also long been known, that in some persons *Small-pox* has *happened twice or more*. I have not room for cases of this kind, but I refer to them below (42) In the same manner there certainly have been a few cases in which *Cow-pox* has occurred *twice*, and in which *Small-pox* has occurred *after Cow-pox*. This was admitted by Dr. Jenner himself, in 1802; but the *Small-pox* has been observed to be *particularly mild, and free from danger, when it has happened after Cow-pox.** And these cases are very few, and bear no proportion to the millions to whom *the Cow-pox* is a *complete security*. In many cases also the Chicken-pox, Swine-pox, and other eruptive diseases, have been mistaken for Small-pox. In one register, of twenty-three thousand three hundred and twenty-three cases of Cow-pox, twenty cases of Small-pox afterwards are said to have been observed. Now if this be true, it appears that *not one in a thousand* cases of *Cow-pox* fails of preserving from Small-pox, but in the *inoculated Small-pox*, in the most favourable circumstances, *one in three hundred dies*.

It was objected to the *inoculation for the Small-pox*, as it is now to the *Cow-pox*, that it could only preserve for a short time; (43) but we have the experience of a century in favour of the Small-pox, and of more than fifty years in favour of the Cow-pox. Inoculation for the Small-pox was fully established in about twenty years, and inoculation for the Cow-pox will follow with equal steps.

Joseph Merret, . . . 25 years,	} after having the Cow-pox, were inoculated for the Small-pox in vain. These cases were published in Dr. Jenner's first pamphlet. His second pamphlet contained others of the same kind. See also above, (page 5 and 6 of this tract.)
Sarah Portlock, . . . 27 ib.	
John Philips, . . . 53 ib.	
Mary Barge, . . . 31 ib.	
Elizabeth Wynne, . . 38 ib.	
William Stirchcomb, 10 ib.	
Hester Walkley, . . 26 ib.	

What further evidence of security for a number of years can be required? It is all the nature of the case allows, and every day is adding to the strength of the fact.

In the British Islands some hundreds of thousands have been inoculated for the Cow-pox, (nearly as many as have been inoculated for the Small-pox since its first introduction,) in our possessions in the East Indies, upwards of eight hundred thousand, and among the nations of Europe, the practice has become

(42) Medical Transactions, Vol. III. p. 385. Memoirs of the London Med. Soc. Vol. IV. p. 86. E. p. 61. W. 71. 2. 5. * E. 61. (43) W. 24.

become general. The College of Physicians, of London, with these facts before them, and on the fullest enquiry, conclude, "that the security from the Cow-pox is as nearly perfect as can perhaps be expected from any human discovery." (a) It is very remarkable, that, though in *a few instances*, Small-pox has occurred after the Cow-pox: not one instance of this kind has happened in the practice of Dr. Jenner, Mr. Jenner, Mr. John Pearson, and of other cautious and observing men. But what are the failures that have occurred? *not deaths*, not even instances of danger; but a mitigated, mild, or imperfect Small-pox, neither the same as occurs under other circumstances "in the violence, nor in the duration of its symptoms, but with very few exceptions remarkably mild, as if it had been deprived by the previous Cow-pox, of all its malignity." "Amongst several hundred thousand cases, with the result of which, the College have been made acquainted, the number of alledged failures is surprisingly small, and it appears that there are not nearly so many *failures* in a given number of persons inoculated for the Cow-pox, as there are *deaths* in an equal number inoculated for the Small-pox."†

IV. It has been objected that Cow-pox is too mild and trifling to secure from the Small-pox. In addition to the facts already brought forward, we know that the mildest inoculated Small-pox, and the mildest attack of measles, preserve from any future attack of those complaints, as completely as the most confluent Small-pox, or the most severe measles.

V. It has been said, that there is *something* in the British constitution that must be *carried off* by Small-pox; but our forefathers, before the visitation of the Small-pox, were equally healthy as their pockmarked descendants.

VI. It has been urged, that "Small-pox is a visitation of God," "the Cow-pox is produced by presumptuous man." Small-pox has been called "a divine ordinance;" and it has been thought *impious* "to wrest out of the hands of the Almighty the dispensations of Providence." (46) But Cow-pox is equally "a divine ordinance," "a dispensation of Providence," it is not "a visitation" indeed, but a rich blessing. War, pestilence, and famine, are all appointments of Providence; but that same kind Providence requires of us, to promote peace, to heal the sick, and to feed those who are in hunger and in want.

VII. I shall only mention another objection which will answer itself, and which is not more absurd than many that have been urged: a German Physician, at Frankfort, endeavoured to prove from the prophecies of the Holy Scriptures, and from the fathers of the christian church, that the Cow-pox is no less than antichrist!

CHAPTER V.

Of the causes of the failure of the Cow-pox.

I. It has been already observed that about one person in sixty is incapable of taking the Cow-pox. In some cases, (and particularly before the best means of keeping the matter were discovered,) it has been found difficult to produce the Cow-pox. Repeated inoculations may be necessary, for children have taken it on repeated inoculation, who for several times, seemed not to be capable of it. This may be owing to some state of the general health not apparent, and it is known that many things so trifling as scarcely to be called complaints, will prevent its taking place, or alter its course, such as pimples, sore ears, boils, an eruption about the mouth and nose from cold, a few scurfy spots on any part of the body. (47) The same is effected by more serious complaints, as scarlet-fever, measles, tooth-rash, nettle rash, tetters, chicken-pox, swine-pox, itch, by all diseases affecting the skin, and by fevers of various kinds; whilst some diseases, such as king's evil, rickets, &c. seem neither to affect the Cow-pox nor to be affected by it. Now children inoculated for the Cow-pox under such circumstances, are of course, equally liable to the Small-pox as before. Yet a neglect of these circumstances has brought the Cow-pox very unjustly into disrepute.

II. Another and a very principal cause of the failure of the Cow-pox was, *inoculation* having been performed by *improper* persons, or by such as did not know the true Cow-pox from the spurious. This was unavoidable at first. During the years 1799 and 1800, inoculation was practised by ten or twelve thousand persons, who had *never seen the Cow-pox*, persons in the medical profession and out of it. In their zeal they did a world of mischief. Thousands and tens of thousands were inoculated, but never seen again. Whether they had the Cow-pox or not cannot be known. It is only known that they were inoculated, but the *inoculation* for the Cow-pox, and the *Cow-pox itself* are very different things, the one the *means* of producing the disease, the other *the disease* itself; the one merely a slight cut in the arm, the other a regular disease of two or three weeks length, and yet they have been confounded. Many who were *inoculated for it* but *did not take it*, were thought as safe as those who went regularly through it. The number of these instances is without end. Nothing is so usual on mentioning the Cow-pox to a parent as to hear the following reasons given against it. "No, Mary shall not have the Cow-pox tried, for Dick had it, but took the Small-pox afterwards; look how he is pitted and seamed. He was blind a week; they have left a horny speck on each eye; and soon after, those

kernels in his neck gathered and burst, and they have run corruption ever since. I'll try no more of your new fancies!" Enquire further, and you will find that Poor Dick was indeed *inoculated* for the Cow-pox, but he did not take it; his arm was well in a day or two; they did nothing more to him; they did not take him again to the person who inoculated him: of course Poor Dick was no more secure against the Small-pox, than if his mother's knitting-needle had run into his arm by chance, or the kitten or little Mary had scratched it. Yet when Small-pox has happened after such cases as these, Cow-pox has been blamed. Many of the first inoculators also mistook a spurious, false kind of Cow-pox for the true pox.* They were somewhat alike, and might be mistaken by those not on their guard.† That they were mistaken is beyond all doubt. This spurious false pox is no more a security from the Small pox, than the chicken-pox or the itch is; yet Cow-pox has been blamed when Small pox has succeeded after such cases as these. This fact, and the knowledge and attention which the Cow-pox requires to observe it in its different stages, and to be sure of it, point out the necessity of confining the inoculation of the Cow-pox to medical men. These gentlemen might be slow in some places to adopt the Cow-pox, but on full and deliberate enquiry, they have almost universally adopted it, and it is now certainly safest and best in their hands. I do not say this from a desire to make the simple operation for inoculation of more consequence than it really is, for nothing can be more simple, or the Cow-pox itself a formidable disease, for nothing can be more mild and harmless; but from a knowledge of the mischief that has happened by the contrary practice. I do not mean to say that medical men themselves did not commit the same mistakes, for I believe they did, and it was likely to be the case at first. But now so many opportunities of observation have they had, and so many excellent books have been written on it, that the like mistakes cannot happen again. In inoculating the children of the rich they undertake the management and responsibility, and are therefore entitled to their reward. The poor are inoculated gratis at all Infirmarys and Dispensaries, and by all private practitioners also, for they are not such miserable and greedy wretches, as to screw the last six-pence from the clenched grasp of the poor. Another source of failure sprung from the same source. The necessity of observing the several stages of the Cow-pox not having been sufficiently urged, it was the habit in some cases where two or three children of a village or neighbourhood were inoculated, for the

* Thus Dr Odier, of Geneva, inoculated twenty children with matter taken from a nobleman, who previously had had the Small-pox. They had a spurious kind. Seventeen of the twenty were inoculated with the Small-pox, which they took and did well. The remaining three took the Small-pox naturally and died.

parents of the rest to bring their children and inoculate them with pins, knives, cobbler's awls, knitting-needles, &c. from the arm of the affected child, though they did not know whether it had the Cow-pox, the spurious pox, or any pox at all. The greater part of the children of two parishes in Scotland, were inoculated by persons not of the medical profession, and not acquainted with the Cow-pox. The result was, that the Small-pox came among them soon afterwards, and every one thus inoculated, was affected with that dreadful disease, whilst the few that had been inoculated by persons acquainted with the Cow-pox, entirely escaped.(48)

III. The use of Cow pox matter kept too long is another cause of failure. It is *well ascertained* that matter taken later than the tenth day cannot be depended on.(49) The practice of inoculating from the moistened scab cannot be too highly condemned.

IV. The last source of failure which I shall notice is rather a disappointment of unreasonable expectations, than any failure on the part of the Cow-pox. Suppose for instance the Small-pox raging through all classes. Many induced by fear, *then* with their children to have the Cow-pox; a child is inoculated for it, he seems to have taken it, when in the course of a week, the Small-pox appears upon him, and he goes regularly through both diseases. Even in this instance the Cow-pox is blamed, though it has been always confessed that Cow-pox in general cannot overtake the Small-pox. There is however great reason to suppose that the Small-pox is thus rendered *milder and devoid of danger*, and this it is of great consequence to know, when the Small-pox is rife and very fatal. In the instance in question there is no doubt but the child had received the infection of the Small-pox, either before the inoculation for the Cow-pox, or within ten days after it, for it was ascertained by Dr. Willan ten years ago, that a child who had been inoculated for the Cow-pox, might take the Small-pox by inoculation, if inoculated within seven or eight days after the inoculation for the Cow-pox.(49) The same is true of the natural Small-pox, and in such cases the two diseases go on regularly together. Every practitioner sees instances of this.

It follows from this that in all places where Small pox is raging, the greatest care is required. Though the Cow-pox inoculation may seem to have taken place, yet if the pock loses the true Cow-pox appearance within the first nine days it is *not safe*. Inoculated *Cow-pox* generally appears on the *third*, inoculated *Small-pox* on the *eighth* * day, the *natural Small-pox* usually appears about the twelfth day after infection. The inoculation for Cow-pox ought not therefore to be *relied on* as a security in any instance in which the person has been exposed

to the Small-pox, unless the Cow-pox goes regularly on past the twelfth day without check or change. It is important to know this.

Upon the whole, with the operation of the causes just mentioned, and allowing every thing to mistakes, negligence, and misstatement, it is calculated that failures have occurred only as one to eight hundred. Let it never be forgotten, that of those *inoculated for the Small-pox, in the most favourable circumstances, one in three hundred died*, so that the *deaths from Small-pox*, compared with the *failures from Cow-pox*, are nearly *three to one*.

CHAPTER VI.

General observations on the Cow-pox.

This subject has occupied Dr. Jenner's attention more than thirty years. He began to enquire into it in 1777. In 1788, he tried the inoculation of it. In 1798, he submitted his discovery of it to the public. In 1799, it was sent to America, and given extensively to the Whites and Indians. The Canadian Indians came down the country many hundred miles for this 'blessing,' thus whole tribes were secured from the dreadful slaughter of the Small-pox. In the East Indies, in the British Settlements, the inoculation has been universal. The Hindoos, from their religious veneration of the cow, eagerly adopted it. In Ceylon, by means of the Cow-pox, the Small-pox has been exterminated, and the Small-pox Hospitals have been converted into Barracks. In Lucknow, the average number of deaths annually from the Small-pox was six hundred and seventy, but in 1805, the year after the introduction of the Cow-pox, the number was reduced to seventy-five. The Cow-pox has also been introduced extensively into the crowded population of China. In 1801, it was sent to the Continent, along the Shores of the Mediterranean, to Germany and Russia. In Vienna, the number of deaths from the Small-pox was eight hundred and thirty-five, in the year 1801. In 1802, after the introduction of the Cow-pox, which was generally adopted, the number of deaths from Small-pox was sixty-one. In 1803, it was reduced to twenty-seven. In 1804, only two died of the Small-pox; *so that eight hundred and thirty-three* lives are saved annually by the Cow-pox, in that city alone. In Russia, the Empress Dowager ordered the first child that was inoculated with the Cow-pox, to be called *Vaccinoff*, and settled a pension upon it. In Turkey, Lord Bruce, the infant son of Lord Elgin, the British Ambassador, was the first inoculated for the Cow-pox; soon afterwards an infant of the favourite of the Grand Seignor; and then a house was opened in Constantinople, for the public inoculation of the Cow-pox.

deaths from the Small-pox in London was three thousand. The lives saved in our Capital by the Cow-pox, will be seen by glancing over the following numbers :

In the year 1801,	died of the Small-pox,	1,461.	} See the Bills of Mortality.
_____ 1802,	_____	1,579.	
_____ 1803,	_____	1,202.	
_____ 1804,	_____	622.	

In 1805, the Small-pox raged with great violence, and 1779 died of this disease, and in the last year 1808, 1169, or about a seventeenth of the whole deaths were owing to the Small-pox. This great proportion in London compared with the country is owing to the opposition which Cow-pox has met with from those interested in inoculation for the Small-pox, and from others prejudiced against the Cow-pox; from the practice of inoculating out-patients at the Small-pox Hospital, (a source of infection now happily though but lately stopped,) and from the indolent and cruel habit of parents in not subjecting their children to the Cow-pox, till the Small-pox rages near them, and begins to thin their neighbourhood.

The Cow-pox has also been violently opposed in London, which though it may justly and proudly boast some of the brightest ornaments of the medical profession, is the great stage upon which Quacks in the profession and out of it, play off most successfully their puffs and tricks, and popular delusions, to gull, cheat, and pick the pockets of the foolish multitude.

In 1802, on a report of a committee of the House of Commons, £10,000 were voted to Dr. Jenner, and in 1807, on a report of the College of Physicians, £20,000 were voted to him, as a reward for his discovery, for his ingenuity, perseverance, sacrifices, and disinterestedness. When we reflect that one out of six dies of natural Small pox, one out of three hundred of inoculated Small pox, that a tenth of the deaths of London were owing to this disease, that the number of deaths was on the whole encreased by inoculation, that in many the Small-pox called forth king's evil, eruptions, and abscesses, caused blindness, lameness, and deformity, that forty-five thousand died of it annually in the United Kingdoms, independent of the deaths in the army and navy,(51) we may form some idea of the debt which the world owes to Dr. Jenner, whose labours will be remembered and blessed to the latest ge-

(51) In the navy Dr. Trotter, late physician to the fleet says, that there are always ten thousand who have not had the Small-pox. The advantage of the Cow-pox to the navy was stated by Admiral Pole; and General Tarleton speaking of the number of lives saved by the Cow-pox in the army, said, "It was of great importance that the troops on recovery might leave their barracks, and other succeed without any danger of infection. Military members are said to be most fond of praising great conquerors, but in his opinion, this gentleman who

nerations of man, and whose name will be handed down never to die!

The result, says the Committee of the House of Commons, is, that the discovery of the Cow-pox is one of the most general utility, in as much as it introduces a milder disorder in the place of the inoculated Small-pox, which is not capable of being conveyed by contagion; that it does not excite either lameness or disorders in the constitution; that it has not been known in any one instance to prove fatal; that the inoculation may safely be performed at all periods of life, (which is known not to be the case with the inoculation for the Small-pox,) in the earliest infancy, as well as during pregnancy, and in old age; that it tends to eradicate, and if its use become universal must absolutely extinguish one of the most destructive disorders by which the human race has been visited. (50)

Facts will work their way, and establish in time, the universal inoculation of the Cow-pox. Afterwards will come the time, when it may be no longer necessary to inoculate even with the Cow-pox; when by its means (as in the Island of Ceylon,) the Small-pox shall have been destroyed, when that disease shall be known only by name amongst us, as are the Plague, the Leprosy, and the Sweating Sickness. It is impossible to say how near or how distant this period may be; but whilst it is foolish to expect that it will soon arrive, it is cowardly to despair of its eventually taking place.

I have now finished the design of this little tract, and add but a few words on what I have *not* done. I have not addressed myself to medical men, nor conveyed medical instruction, I have not given any description of the characters of the Cow-pox, of the best methods of preserving and inserting its matter, of the method of treatment, or touched upon any of the subjects necessary to make a *medical treatise*. Such never was my intention, for the minds of medical men are made up on the subject, and they have access to many rich treasures of knowledge and experience. Besides, popular views of medicine seem to me complete nonsense, displaying only the folly of him who attempts to give them, and misleading the public to their ruin. I do not say this from any belief in the infallibility of the art, or out of any respect for its mystery, which I value not a straw, but from a thorough conviction that works on popular medicine do much more harm than good. It is impossible to convey accurate *medical* information to the mass of the people, and to attempt it is to put a dangerous instrument into a man's hands, with the nature of which he is unacquainted, and with which, if he use it, the odds are that he will cut his throat. By a good treatise on brewing you may

make "every man his own brewer," but you cannot make every man his own physician. You may teach by book general principles, but you cannot teach that skilful application of them to particular cases, which constitutes the whole art of medicine. The means are limited and imperfect, but the varying their use and the adapting them to circumstances, are indefinite, and not to be taught by book. I would not if I could, make every man his own inoculator, or the inoculator of his children, any more than I would make every man his own tailor or his own shoemaker. The folly and the mischief of this have already been pointed out. My desire to be as short as possible, has prevented my dwelling on many parts of the evidence of great importance, and which by amplification might perhaps have been placed in a stronger light. I have not taken my reader into those digressions from the subject, which though the least explored, and strewn with gratification and information, are yet bye paths, but have led him through a public and beaten road, without being turned from the object of our journey, either to the right hand or to the left. Such as have travelled with me thus far may be glad of reaching a resting-place. I have endeavoured to give a plain statement of an important discovery and practice. The merits of the discoverer, Dr. Jenner, his perseverance and candour, his sacrifice of self-interest in perfecting his discovery, and his disinterestedness in immediately making public, what if practised in secret would have made him a rapid and immense fortune, are above all praise. Some indeed have opposed his claims, others with a mean jealousy have detracted from his merits, nay, some reptiles with a baser purpose and a low creeping malignity, have lurked in his path, and spit their hissing venom at him. But in vain; the *destruction of a loathsome and fatal disease*, and the *immense saving of human life*, are facts that speak for themselves, and put to silence all cavil.

If a parent's eye will read, and a parent's mind meditate upon the evidence in favour of the Cow-pox, a parent's heart must feel the sacred duty of preserving by such simple and innocent means from the danger and deformity of the Small-pox. If, by your *neglect* of this means, your child is attacked and falls a victim to the Small-pox, are you not the murderer of your child? or if by your inoculating your child with the Small-pox, the contagion is brought by you into the neighbourhood, spreads into the nurseries around you, and commits its slaughter there, is not the blood of these children upon your head? Think of these things as you please, but I would not for the wealth of worlds, have such a reflection to press heavily on my soul.

FINIS.

