

Facts decisive in favour of the cow-pock: including an account of the inoculation of the village of Lowther / [Robert John Thornton].

Contributors

Thornton, Robert John, 1768?-1837

Publication/Creation

London : H.D. Symonds, 1802.

Persistent URL

<https://wellcomecollection.org/works/evjvgdgx>

License and attribution

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>



51310/B/2

L.Lxvi.

19/t

[Faint, illegible handwriting]

WATTS PATENT

IN THE

COW POCK

THE

AT THE

VILLAGE OF

THE

THE

THE

THE

THE

THE

THE

THE

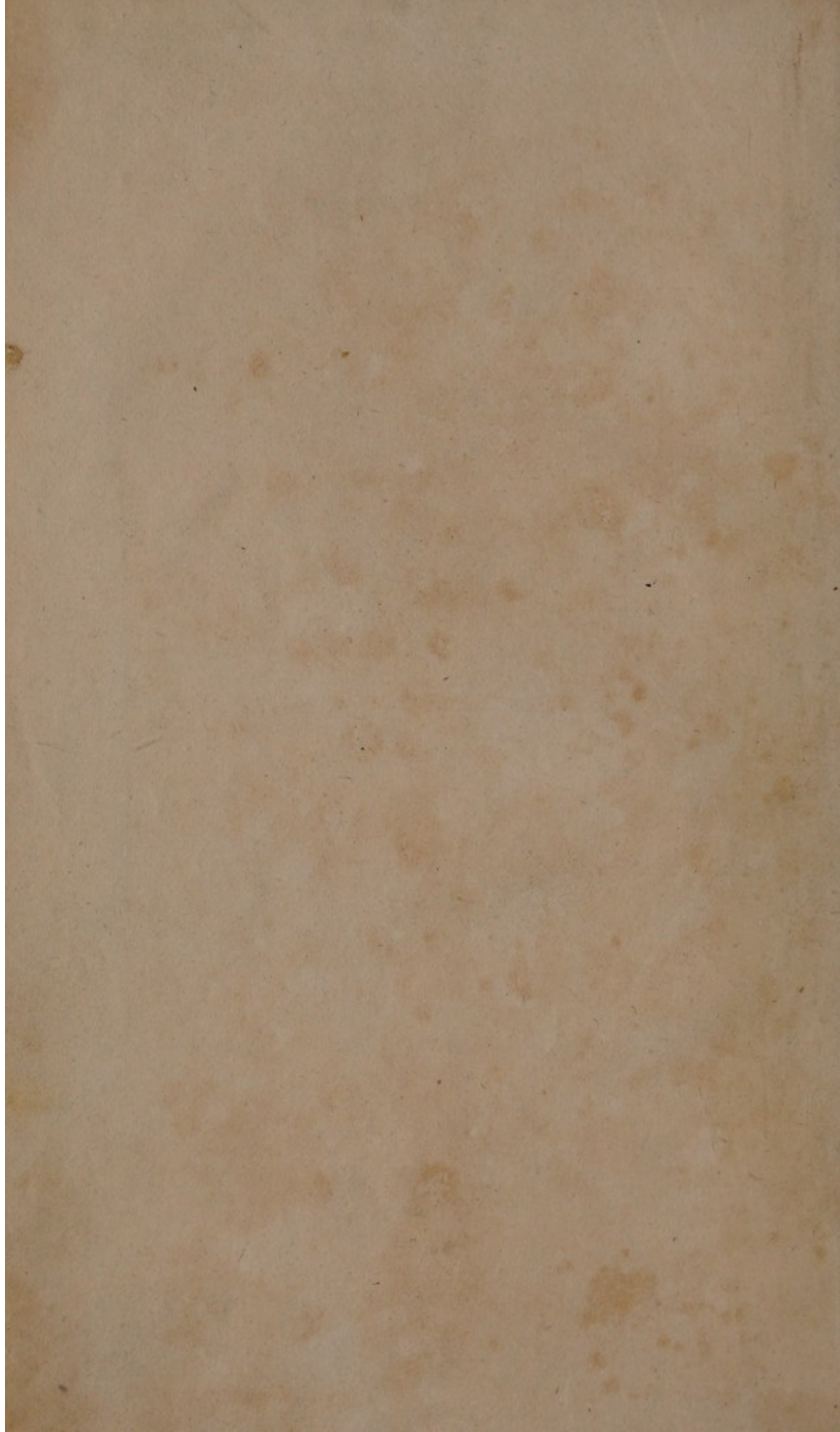
THE

THE

THE

THE

THE



FACTS DECISIVE
IN FAVOUR
OF THE
COW-POCK:
INCLUDING
AN ACCOUNT OF THE INOCULATION
OF THE
VILLAGE OF LOWTHER.

BY
ROBERT JOHN THORNTON, M.D.

Late of Trinity College, Cambridge; Lecturer on Medical Botany at
Guy's Hospital; Physician to the Mary-le-bone Dispensary; One of the
Council of the London Medical Society; Member of several Literary
Societies; Author of the Philosophy of Medicine; A New Illustration
of the Sexual System; And the Politician's Creed,

L O N D O N :

Printed for H. D. SYMONDS, Paternoster-row; Cox, St. Thomas's-street,
Borough; JOHNSON, St. Paul's Church-yard; WHITE, Fleet-
street; CALLOW, Crown-court; MURRAY and HIGHLEY,
Fleet-street; and KEATING and BROWN,
Duke-street, Grosvenor-square.

1802.

The highest honours have been conferred on heroes both ancient and modern, who have desolated provinces by the destruction of their fellow-creatures: trophies, monuments, and statues, have been erected to commemorate their sanguinary deeds; but the altar of JENNER is not consecrated by hecatombs of the slain; *his* claim is that of having saved and multiplied the human race, of having arrested the arm which scatters death and misery over the universe.

DR. LETTSOM.



T. BENSLEY, Printer, Bolt-Court, Fleet-Street.

CONTENTS.

	PAGE
<i>Dedication</i> - - - - -	3

PART I.

<i>On the Natural and Inoculated Small-Pox</i> -	5
Sect. I. <i>Description of the Natural Small-Pox</i> <i>and its Ravages</i> - - -	7
Sect. II. <i>Antiquity of Small-Pox Inoculation</i> -	15
Sect. III. <i>The formal Establishment of Small-Pox Inoculation in England</i> - -	28
Sect. IV. <i>Whether Society at large has benefited</i> <i>by the Introduction of Small-Pox</i> <i>Inoculation</i> - - -	39
Sect. V. <i>Obstacles to a General Inoculation</i> <i>of the Small-Pox</i> - - -	43

PART II.

<i>On the Natural and Inoculated Cow-pock</i> -	63
Sect. VI. <i>On the Natural Cow-pox and its</i> <i>Freedom from Danger</i> - -	65

Sect.

CONTENTS.

	PAGE
Sect. VII. <i>Proofs that those who have had the Natural Cow-Pox are ever after secure from taking the Small-Pox, either Naturally or by Inoculation</i> - - - -	68
Sect. VIII. <i>The Antiquity of the Cow-Pox, and the Knowledge that it was a Security against the Small-Pox; and of some rude Attempts formerly made of acquiring this Disease</i>	85
Sect. IX. <i>The Discoveries of Dr. Jenner respecting the Cow-Pox</i> - - -	93
Sect. X. <i>The Experience of Henry Jenner, Surgeon</i>	150
Sect. XI. <i>Dr. Marshall's Experience</i> - -	156
Sect. XII. <i>Dr. Woodville's Experience</i> - -	164
Sect. XIII. <i>Dr. Pearson's Experience</i> - -	176
Sect. XIV. <i>The Experience of William Fermor, Esq.</i> - - - -	181
Sect. XV. <i>Mr. Kelson's Experience</i> - -	186
Sect. XVI. <i>My own Experience</i> - -	189

TO THE

EARL OF LONSDALE,

LORD LIEUTENANT OF THE COUNTIES OF
WESTMORELAND AND CUMBERLAND,
&c. &c.

MY LORD,

THE strength of a nation is its people ;
hence the preservation of life has been esteemed
among the duties of legislators. Humanity
pleads also in favour of a plan to annihila-
late the deaths and miseries excited by the
small-pox ; and your Lordship's high political
situation, great philanthropy, joined to a most
acute and penetrating mind, well versed in all
sciences, first led your Lordship to observe,
and sanction, the scheme of *Vaccine Inoculation*,
or *Cow-pock* ; which will be, we trust, proved
in this book, chiefly from the experiments
conducted at LOWTHER, as capable of effecting

DEDICATION.

so desirable a purpose. And whilst thus bringing your Lordship's name publickly forward, as allowing this Dedication for promoting the essential interests of humanity, I have also the pleasing view of testifying how much I esteem myself honoured in having the privilege of expressing my gratitude to your Lordship for the many acts of private friendship shewn me by your Lordship; and have the honour to remain,

MY LORD,

With unfeigned respect,

Your Lordship's most obliged,

and devoted servant,

ROBERT JOHN THORNTON.

PART I.

ON THE
N A T U R A L
AND
I N O C U L A T E D
SMALL-POX.

PART I

OR THE

NATURAL

AND

INOCULATED

SMALL-POX

SECT. I.

DESCRIPTION OF THE NATURAL SMALL-POX, AND ITS RAVAGES.

THERE is no disease, that the medical writer has to describe, which presents a more melancholy scene than the *natural Small-pox*, as it very frequently occurs.

When the physician is first called to the bedside of the patient, he is enabled at once to form a probable conjecture as to the approaching disorder,

1. From the frequent sighings and sobbings of the person labouring under an anxiety he is unable to express.
2. By pains felt in the region of the stomach, with an inclination, but generally an inability, to vomit.
3. By the racking and frequent shooting pains along the back and loins.
4. A general lassitude and aching of every limb.
5. A most unpleasant sensation of cold, not relieved by any external warmth.
6. A continued drowsiness, and disinclination to take food.

Then succeed

7. Heat.
8. Thirst.
9. An inflamed eye.
10. Restlessness, or a constant inquietude.
11. The pulse is quick and hard.
12. Convulsions now come on in children, and
13. Violent sweating in adults.

Such are the symptoms which usher in this dreadful foe to the human race, which now manifests itself,

14. By many speck-like spots, resembling flea-bites, which appear first on the face, and upper parts of the body, and afterwards invade the whole trunk, look angry, create pain, and gradually elevate themselves above the skin, taking on the appearance of pimples.

15. By the fifth or sixth day, these are converted into pustules, containing a transparent fluid, and each has an accompanying inflammation around.

At this period of the disease,

16. The throat becomes inflamed and is painful.
17. The breath is hot and foetid.
18. Swallowing is difficult.
19. The voice hoarse.
20. In adults there comes on a salivation, and
21. In infants a diarrhoea.

On

On the seventh day,

22. The eye-lids swell, and are glued together, and the patient has both the sensation and apprehension of the loss of sight.

On the eighth day,

23. The aqueous fluid of the pustules is changed into thick pus.

24. And the effluvia now issuing from the patient is highly noisome and infectious.

25. Or, instead of a yellow pus, or matter, only ichor is produced, which erodes deep, and ends in mortification of the parts.

26. Often, purple spots appear in the spaces surrounding the eruption, which forebodes the approaching catastrophe.

27. Often, profuse hæmorrhages of thin corrupt blood pass off by the several outlets of the body.

28. The human face divine, bereft of every feature, then exhibits the most distressing sight, being one mass of corruption; and, at this time, should sleep kindly come in to appease his miseries, it is disturbed and short, and he frequently wakes with a start, as if roused by some dreadful apprehension; but more generally the sleepless nights are passed in tearing off this mask of humours, which from a dark brown changes to a black, and each morning presents a horrid scene of gore mingled with corruption.

To

To behold the poor tortured victim muffled, resisting, and finally overcoming every artifice to prevent him tearing his flesh to pieces, is the most melancholy sight which the fond mother can witness. By-standers no longer recognize the temper or features of the lovely infant. Happy if he escape without actual loss of vision, and the dimples of the cherub cheek are not furrowed into deep seams and unsightly pits. Parents at such a moment would willingly compromise every external grace for the possession of life. But fate yet hangs suspended on a thread. The swelling of the face abates.

29. The limbs in their turn become tumified.

30. The fever, which had remitted somewhat of its first violence, recurs, from the matter absorbed, and the poor tortured victim undergoing a second conflict more dreadful than the first, with weakened powers of resistance,

31. Most commonly from between the 14th to the 17th day (one out of three or four usually dying of the natural small-pox) finds a release from his miseries by the Arrow of Death, now esteemed as a kind Deliverer, instead of the Horror of the Human Conception.

32. Or if Nature should come off victorious, how scarred! how each bone protrudes through the skin! how the limbs totter! how fretful
the

the temper! how emaciated the countenance!
how sunk the eye! how livid the flesh!

Perhaps even then the Destroyer has still accomplished his work, and the patient, too early congratulated, sinks under

1. A lingering consumption,
2. Or he is eaten away by slow corroding ulcers, commonly called the king's evil, or scrophula.

Such is the too faithful picture of this loathsome disease, that baffles in description all the powers of language, and which destroys annually in Great Britain alone 50,000 souls, or throughout the habitable globe 20,000,000 of people, exclusive of those who perish from the impoverished state of the system, producing those formidable disorders, which follow in her train.

THE MORTALITY OCCASIONED BY THE SMALL-POX.

Ἦξει δὲ καὶ πολύπῃς
Καὶ πολύχειρ, ἃ δεινοῖς
Κρυπτομένα λόχοις
Καλκοπῃς Ἐριννύς.

Lo! with unnumbered hands, and countless feet,
The FURY comes, her destined prey to meet;
Deep in the covert hid, *she glides unseen.*—

SOPHOCLES.

The reader may form some tolerable notion of the ravages committed by the small-pox, by examining the bills of mortality, for in London
where

where the climate is temperate, the disease well known, and the treatment of the sick very ably conducted, from 2000 to 3000, at the present day, annually perish. *Baron Dimsdale.*

So great was the epidemic of the small-pox at Paris in 1723, that upwards of 20,000 perished in that city alone! *Voltaire.*

In 1768, this same scourge destroyed at Naples 16,000 persons in a few weeks. *Abbé Chappe.*

In Russia the annual destruction is estimated at 2,000,000. *Baron Dimsdale.*

In China, where the population is immense, the number who annually die of the small-pox, the most loathsome, next to the leprosy, of all diseases, is incalculable. *Dr. Clark.*

The fatality is still more remarkable among new people, who are wholly ignorant of the means of prevention, and the methods of cure.

The small-pox was first introduced into New Spain in 1520, by a negro slave, who attended Narvarex in his expedition against Cortes. Torribio affirms, that one half of the people in the provinces visited with this distemper, died. The small-pox was not brought into Peru for several years after the invasion of the Spaniards; but there too that distemper proved very fatal to the natives. *Garcia Origen, p. 88. cited in Robertson's History of America, vol. iii. p. 400.*

About fifty years after the discovery of Peru, the small-pox was carried over from Europe to America, by way of Carthagená, when it overran the continent of the new world, and destroyed upwards of 100,000 Indians in the single province of Quito. This account was found by M. La Condamine, in an ancient MS. preserved in the cathedral of that city. This author also observes, that in the Portuguese settlements bordering upon the river Amazons, the small-pox was nearly fatal to all the natives, i. e. original Americans. See his *Mem. sur l'Inoc.* p. 61.

In 1767, never were so many people seen to die as at Kamtschatka, when a soldier introduced the small-pox for the first time; 20,000 perishing from that disease, and whole villages were observed nearly desolate. *Cook's Voyage.*

The small-pox was first introduced into the frozen region of Greenland in 1733, when the mortality of this disease was so great, that it almost depopulated the whole country. See *Crantz's History of Greenland*, vol. i. p. 336.

Even so late as the year 1793, when the small-pox was conveyed to the Isle of France, in the East Indies, by a Dutch ship, 5,400 persons perished there by this distemper in six weeks. *Woodville*, vol. i. p. 28.

THE CONCLUSION.

1. Hence it appears, that had the small-pox seized upon a person more than once during the period of life, the body being susceptible of more than one attack, as is the case with colds, fevers, agues, &c. either the human race would have presented a frightful spectacle of corroded scars and mangled deformity, or, what is more probable, would have become extinct, unless the inventive genius of man, assisted by God's mercy, had found out a mode to lessen the fatality and deformity occasioned by so formidable a disease, either by treatment, or some other means.

2. It is likewise evident from this statement, that all the wars throughout the whole world (an observation worthy the notice of the statesman) have never cut the thread of so many lives as this inexorable Devourer of the human race, now happily, as will be seen in the following sections, chained down, it is hoped, never more to turn her destructive fury on mankind, and strew the universe with dead bodies, mangled victims, and disconsolate mourners.

SECT. II.

ANTIQUITY OF INOCULATION.

THE practice of inoculating, or transferring the small-pox from an infected to a sound person, has prevailed from time immemorial in different and remote countries.

Our nature is so formed, that although we are inclined to avoid what is hurtful, yet when the evil is to be undergone, we are impatient to get through with it, in order that the rest of our lives may not pass in the fearful apprehension of what is to arrive, and we wish this period to be when we are in the greatest force to combat with the disease, and can spare the readiest the time requisite for its duration.

This probably suggested the idea of inoculating from the pustule, as containing the germ of this disease; like as ignorant people are seen daily to carry their children within the reach of infection, in order, as they plead, "to have it over, and at a good age;" and the practice would become popular by observing that inoculation produces a milder sort of disease, not one in five hundred dying in this way; whereas of the natural small-pox the mortality was one out of three or four, that is more than thirty in

in an hundred, a measure which therefore multiplies greatly the chances of recovery.

The early practice of inoculation, as we might expect, would be extremely awkward.

In China they take the skins of some of the dried pustules which are fallen from the body, and put them into a porcelaine bottle, stopping the mouth of it very close with wax. When they intend to transfer this disease, they mix three or four of these scabs with a grain of musk, enfoldng it in a tent of cotton, which they put up the nostrils.

This practice probably arose from the idea that the small-pox was taken up by these parts. Nor were they mistaken in their expectation.

The small-pox as certainly followed, but with less danger than the casual; yet still with more distress than was requisite.

This was proved, says the learned Dr. Mead, by me, when making an experiment with a view to this purpose. For when, in the year 1721, by order of his sacred Majesty, both for the sake of his own family, and of his subjects, a trial was to be made upon seven condemned malefactors, whether or not the small-pox could safely be communicated by inoculation; I easily obtained leave to make the Chinese experiment in one of them. There was among those, who were chosen out to undergo the operation, a young girl of eighteen years of age; into whose nostrils I put a tent wetted with matter taken out of ripe pustules. The event answered;

answered ; for she, in like manner with the others, who were infected by incisions made in the skin, fell sick, and recovered ; but suffered much more than they did, being, immediately after the poison was received into the nose, miserably tormented with sharp pains in her head, and a most severe fever."

Inoculation in one spot of the world arose from another cause.

It is a well known fact, although it must stagger the belief of fathers and mothers, that there exists a class of people in Georgia, who regularly train up their children for sale and prostitution. Forming the speculation, if their daughter has a fine form, and fair complexion, the young Circassian is first inoculated, and if it succeeds, some expence is afterwards laid out on external accomplishments, as music and dancing ; and when the bashful bloom of youth sits on the cheek, the fair virgin is carried to the shambles of a Turkish market, and a price is given, varying according to the fancy of the purchaser, who confines her eve rafter in the harem of a seraglio, never more to behold the face of any other than this her lord and master, and his numerous concubines. Should her features be disfigured, all education is omitted, and she continues in the humbler and happier sphere of subaltern life. Such were the sordid considerations which first induced the natives of Georgia to inoculate,

B

and

and the method could not fail to be told to the Turks, whose religion prevented them from adopting the practice from better motives; nevertheless it was performed by the Greeks both at Constantinople and Smyrna.

We have a lively description of their manner by Lady Mary Wortley Montague. She writes as follows. "The small-pox, which is so fatal and so general amongst us, is here entirely harmless, by the invention of *ingrafting*, which is the term they give it. There is a set of old women who make it their business to perform the operation every autumn here, in the month of September. When the great heat is abated, people send to one another to know if any of their family has a mind to have the small-pox; they make *parties* for this purpose, and when they are met, (commonly fifteen or sixteen together,) the old woman comes with a nut-shell full of the matter of the best sort of small-pox, and asks where they please to be inoculated. She immediately pierces that part you offer to her with a large needle, (which gives you no more pain than a common scratch,) and puts into the part as much matter as can lie upon the head of her needle, and after that binds up the little wound with a hollow bit of shell; and in this manner makes four or five incisions. The Grecians have commonly the superstition of making a scratch in the middle of the forehead, one in each arm, and one in the breast,

to

to make the sign of the cross; but this has no very ill effect, all those wounds seldom leaving scars, and is not done by those who are not superstitious, who choose to have them in the leg or that part of the arm that is concealed. The children, or young patients, play together all the rest of the day, and are in perfect health to the eighth. Then the fever begins to seize them, and they keep their beds two days, very seldom more. They have very rarely above twenty or thirty in their faces, which never mark, and in eight days after they are as well as before their illness. Every year *thousands* undergo this operation; and the French ambassador says, pleasantly, that they take the small-pox here by way of diversion. *There is scarce an example of any one that has died in it; and you may believe I am well satisfied with the safety of this experiment, since I intend to try it on my dear little son. I am patriot enough to take pains to bring this useful invention into fashion in England; and I should not fail to write to some of our doctors very particularly about it, if I knew any of them that I thought had virtue enough in them to destroy such a CONSIDERABLE BRANCH of THEIR REVENUE, for the GOOD OF MANKIND.—Perhaps, if I live to return, I may, however, have courage to wage WAR with them.*"

This communication, stating the advantages of inoculation upon indubitable authority, as well as similar accounts of the success of this new practice,

orally given by merchants and others, who, from business or pleasure, had visited the Ottoman metropolis, could not fail greatly to interest many in this country. Indeed, any scheme much less plausible than the present, which promised to disarm of its terrors so universal and destructive a distemper as the small-pox, must have had a strong claim to the attention and patronage of any nation. But an English example was required before the practice could be adopted, and this was fortunately soon exhibited.

Mr. MAITLAND, surgeon to the Honourable Wortley Montague in his diplomatic character at the Ottoman court, informs us, that the ambassador's lady, being convinced of the advantages of inoculation, was determined that her only son, then six years of age, should undergo the operation. For this purpose she desired Mr. Maitland to procure the variolous matter from a proper subject; which being done, an old Greek woman, many years in the constant habit of inoculating, was employed to insert it. "But," says Mr. M. "the good woman went to work so awkwardly, and by shaking of her hand put the child to so much torture with her blunt and rusty needle, that I pitied his cries, and therefore inoculated the other arm with my own lancet, and with so little pain to him, that he did not in the least complain of it." The consequent disease was very mild, there
being

being only about fifty pustules; and it may be remarked, that this inoculation, which was performed at Pera, near Constantinople, in the month of March 1717, (if the mode of buying the small-pox be excepted,) was the first ever practised upon any *English subject*.

As soon as inoculation came to be introduced into England, as a thing wholly *new*, it was found that this practice had existed in South Wales, as far back as tradition could be traced, an account of which we have in the Philosophical Transactions for the year 1722.

Mr. Wright writes to Mr. Bevan as follows: "I received yours the 9th inst. and, in answer to it, will readily give you all the satisfaction I can in relation to a very ancient custom in this country, commonly called *buying the small-pox*; which, upon strict inquiry since I had your letter, I find to be a *common practice*, and of a *very long standing*, being assured by persons of unquestionable veracity and of advanced age, that they have had the small-pox communicated to themselves in this way, when about sixteen or seventeen years of age; they then being very capable of distinguishing that distemper from any other, and that they have parted with the matter contained in the pustules to others, producing the same effects."

"There are two large villages in this county, near the harbour of Milford, more famous for this custom than any other, namely, ST. ISHMAEL's and

MARLOES. The old inhabitants of these villages say, that it has been a *common practice* with them *time out of mind*; and what was more remarkable, one W. Allen, of St. Ishmael's, *ninety* years of age, who died about six months ago, declared to some persons of good sense and integrity, that this practice was used all his time, and that he got the small-pox that way. These, together with many other informations I have met with, from all parts of the country, confirm me in the belief of its being a very *ancient practice* among the common people; and to prove that this method is still continued among us, I will give you the relation of an elderly woman, a midwife, (who accidentally came into company when your letter was reading,) whose name is Joan Jones, aged *seventy* years, of good credit, and perfect memory. She solemnly declares, that about fifty-four years ago, having the small-pox, one Margaret Brown, then about twelve or thirteen years of age, bought the small-pox of her; and she further says, that she has known this way of procuring the small-pox practised from time to time above *fifty years*; that it had been lately used in her neighbourhood; and she knows but of *one* dying of the said distemper when communicated after the method aforesaid, which accident happened within the two last years."

The manner of *inoculating*, or *buying the small-pox*, here alluded to, was not always the same, but was varied by different persons. Dr. Williams says,
 " They

“ They either rub the matter, taken from the pustules when ripe, on several parts of the skin of the arms, &c. or prick those parts with pins, or the like, being first infected with the inoculating matter. Mr. Owen, and five of his school-fellows, “ scraped the skin with a knife until the blood began to flow, before they applied the variolous pus.” Others produced the distemper, “ by holding a certain number of dried pustules for a considerable time in the palm of the hand.”

We are also informed, that the inhabitants of the *Highlands of Scotland*, for many ages, have had recourse to a species of *inoculation*, performed by tying worsted threads, moistened with variolous matter, round the wrists of their children.

This vulgar or domestic custom of inoculating the small-pox, likewise prevailed in many other parts of *Europe*, and in various countries of *Asia* and *Africa*; and, what is highly curious, in several of these distant nations, the practice was, as in Wales, termed *BUYING THE SMALL-POX*. For it was superstitiously imagined, that inoculation would not produce the proper effect unless the person, from whom the variolous matter was taken, received a piece of money, or some other article in exchange for it, from those whom it was intended to infect.

At *Naples*, Mons. de la Condamine, in 1769, learned that *inoculation* had been secretly used by the people there from *time immemorial*: and the celebrated P. Boscowich assured him it was practised

in the same manner at *Pavia*, where the nurses often inoculated, without the parents' knowledge, the infants intrusted to their care. For this purpose they commonly rubbed the palm of the hand of the child with fluid variolous matter, recently taken from a pustule.

The practice of *buying* or *inoculating* the small-pox prevailed also in *some of the provinces* of France, especially in *Auvergne* and in *Perigord*; and still more generally among the ignorant peasantry in many parts of *Germany*, *Denmark*, and *Sweden*.

In the *northern parts of Europe* this practice seems to have been less complete than that adopted on the southern and eastern coasts of the *Mediterranean Sea*. For in *Barbary* and in the *Levant*, though they placed implicit confidence in the efficacy of *buying* or purchasing the variolous pustules; yet their method of performing the operation was such as could not fail of producing the inoculated small-pox. *The infectious matter was inserted at a small opening made in the fleshy part of the hand, between the thumb and forefinger*; and, according to Dr. Shaw, "the person who is to undergo the operation, receives the infection from some friend or neighbour, who has a favourable kind, and who is intreated to *sell* two or three of his pustules, for the same number of nuts, comfits, or such like trifles."

This account of inoculation differs not materially from that practised in the kingdoms of *Tri-*
poli,

poli, *Tunis*, and *Algier*, as related by his excellency Cassim Aga, in 1728, when ambassador to our court. He says, "If any one has a mind to have his children inoculated, he carries them to one that lies ill of the small-pox, at the time when the pustules are come to full maturity. Then the father makes an incision on the back of the hand, between the thumb and forefinger, and puts a little of the matter, squeezed out of the largest and fullest pustules, into the wound. This done the child's hand is wrapped up in a handkerchief, to keep it from the air, and he is left to his liberty, till the fever arising confines him to his bed, which commonly happens at the end of a few days. This practice is so innocent, and so sure, that out of 100 persons inoculated not *two* die; whereas on the contrary, out of 100 persons that are infected with the natural small-pox, there die commonly about *thirty*. Inoculation is so *ancient* in the kingdoms of *Tripoli*, *Tunis*, and *Algier*, that nobody remembers its first rise; and it is not only practised by the inhabitants of the towns, but also by the *wild* Arabs."

That this practice is very common with the Arabs, and is by them also called *buying the small-pox*, fully appears from Dr. Russell's communication to the Royal Society. About the year 1758, while this ingenious physician was on a visit at a Turkish harem, a lady happened to express much anxiety for a child who had not had the small-pox; the distemper at that time being frequent in the city.

city. None of the ladies in the company had ever heard of *inoculation*, so that the Doctor having once mentioned it, was obliged to enter into a detail of the operation, and the peculiar advantages attending it. Among the female servants in the chamber was an old Bedouin *Arab*, who having heard the Doctor with great attention, assured the ladies, "that the account given by the Doctor was upon the whole a just one; only that he did not seem to know well the way of performing the operation, which she asserted should not be done with a lancet but with a needle:" she added, "that she herself had received the disease in that manner when a child, and *had inoculated many*; that the whole art was well known to the *Arabs*, and that they termed it *buying the small-pox*." In consequence of this hint, Dr. Russell made further inquiries, by which he discovered, "that inoculation had been of long standing among them. They indeed did not pretend to assign any period to its origin; but persons seventy years old and upwards, remembered to have heard it spoken of as a *common custom* of their ancestors, and they believed it to be of as *ancient a date* as the disease itself."

Dr. Russell was likewise assured, "that inoculation was equally common among the *eastern Arabs*, being practised not only at *Bagdad* and *Mosul*, but also at *Buffora*; and that at *Mosul* particularly, when the small-pox first appeared in any district of the city, it was a custom sometimes to give notice by a
public

public cryer, in order that those who were so inclined might take the opportunity to have their children *inoculated*."

"In *Armenia*," Dr. Russell says, "the Turko-man tribes, as well as the Armenian Christians, have practised inoculation *since the memory of man*; but, like the Arabs, are able to give no account of its *first introduction* among them. At *Damascus*, and all along the coast of *Syria* and *Palestine*, inoculation has been long known. In the *Castravan* mountains it is adopted by the Drusi as well as Christians. Whether the Arabs of the desert to the south of Damascus are acquainted with this manner of communicating the small-pox, I have not," says this physician, "hitherto been able to learn; but a native of *Mecca*, whom I had occasion to converse with, assured me that he himself had been inoculated in that city."

From the various accounts of *inoculation* here related, it is *highly curious* that in so many *distant nations*, differing widely in manners, customs, laws, habits, and religion, this art should be generally known by the name of "BUYING THE SMALL-POX." It is also to be considered as a remarkable proof of its *great antiquity*, that the less civilized part of mankind, or people of the most simple and uniform habits, have possessed this salutary custom the longest*.

* For a further account of this interesting inquiry, vide the elaborate History of Inoculation by Dr. Woodville, Physician to the Small-pox Hospital;—a work replete with curious facts and useful instructions.

SECT. III.

THE FORMAL ESTABLISHMENT OF INOCULATION
IN ENGLAND.

INOCULATION of the small-pox was first *regularly* adopted in England in the month of April 1721; and it was owing to the enlightened and philosophic mind of Lady Mary Wortley Montague, that GREAT BRITAIN had the honour of adopting this practice the first among the nations of Europe. For after this celebrated lady had witnessed the good effects of inoculation upon her son at Pera, she determined also to try it upon her daughter, then an infant of three months old. The particulars of the case are stated by Mr. Maitland in the following manner:—"This noble lady sent for me last April, and when I came, she told me she was now resolved to have her daughter inoculated, and desired me to find out matter for that purpose. I pleaded for the delay of a week or two, the weather being then cold and wet; for indeed I was unwilling to venture on an experiment altogether new and uncommon in England, in a cold season: though I am now convinced it may with due care be practised at all times and seasons, but still with more safety in the temperate and favourable. I
also,

also prayed, that any two physicians, whom they thought fit, might be called in, not only to consult about the health and safety of the child, but likewise to be eye-witnesses of the practice, and contribute to the credit and reputation of it. In the meantime, having found proper matter, I engrafted it in both arms; the child was neither blooded nor purged before, nor indeed was it necessary, considering the very cool regular diet she had ever been kept to from her infancy. She continued easy and well, without any sensible alteration, bating the usual little spots and flushings, till the tenth night, when she was observed to be a little hot and feverish. An old apothecary in the neighbourhood being then called, prudently advised not to give the child any medicine, assuring them there was no danger, and that the heat would quickly abate, which accordingly it did; and the small-pox began to appear next morning. Three learned physicians of the College were admitted, one after another, to visit the young lady; they are all gentlemen of honour, and will on all occasions declare, as they have hitherto done, *that they saw Miss Wortley playing about the room, cheerful and well, with the small-pox raised upon her; and that in a few days after she perfectly recovered of them.* Several ladies and other persons of distinction visited also this young patient, and can attest the truth of this fact."

The very favourable event of this first trial of the Byzantine mode of inoculation in Britain,
and

and also that of a second, made on the son of Dr. Keith, which immediately followed, was soon generally known in London, and consequently communicated to the different parts of the kingdom. *For an art so new and interesting to the public, could not fail to excite the attention of people of all ranks, and more especially those of the medical profession, on whose concurrent opinions the establishment of this foreign practice here was ultimately to depend.*

However, though these prosperous instances of inoculation had hitherto confirmed the reports of its success at Constantinople; and though the practice had been introduced among the English by a woman who, from her brilliant accomplishments, masculine understanding, and great influence in the fashionable circles, was, above all others, most likely to be followed as an example in the metropolis; yet this valuable art was still regarded with a suspicious caution, and several months elapsed before a *third trial* of it was made in London.

Even *four months* after the inoculation of Miss Wortley, this practice was still viewed in such a dubious light, that it was determined that several culprits, then in Newgate, who had forfeited their lives to the laws of their country, should, on submitting to be inoculated, receive full pardon by the royal prerogative: a proposition which is said by some to have been suggested by the College of Physicians to their Royal Highnesses the Prince and Princess of Wales; but Sir Hans Sloane states it

to have wholly originated with the *Princess of Wales*. Mr. Maitland was accordingly requested to perform the operation, which he declined; but lest the opportunity should be lost, Sir Hans wrote to Dr. TERRY, at Enfield, who had practised physic in Turkey, to know his opinion concerning inoculation. The Doctor replied, that he had seen the practice there among the Greeks encouraged by the patriarchs, and that not *one* in *eight hundred* had died in consequence of the operation. Upon which inoculation was performed upon the following six criminals at Newgate, on the ninth day of August 1721, in the presence of several eminent physicians and surgeons.

Mary NORTH	- - - - -	36 years old
Ann TOMPION	- - - - -	25
Elizabeth HARRISON	- - - - -	19
John CAWTHERY	- - - - -	25
John ALCOCK	- - - - -	20
Richard EVANS	- - - - -	19

All these six, who were inoculated by making incisions in both arms, and on the right leg, obtained a remission of the sentence of the law on very easy terms; for in ALCOCK, on whom the operation produced the greatest crop of pustules, the number did not exceed *sixty*; and EVANS, having had the small-pox the preceding year, of course did not receive the disease a second time.

These

These experiments, no doubt, tended much to the encouragement of inoculation, which in so many instances had now fully answered the utmost expectations of its patrons. The trials of it, however, were yet considered by the faculty as still *too few* to ascertain the general safety and advantage of the practice.

Early in the spring of the year 1722, inoculation began to be adopted in various parts of England; and by order of her Royal Highness the *Princesses of Wales*, it was practised first upon *six*, and afterwards upon *five*, *charity children*, belonging to the parish of Saint James's. The success with which these trials were attended, induced her Royal Highness to cause Princess AMELIA and Princess CAROLINA to be inoculated on the 19th of April 1722; the former being then *eleven* and the latter *nine* years of age. They were inoculated by Serjeant Surgeon Amyand, under the direction of Sir Hans Sloane: but before her Royal Highness determined upon the inoculation of the *Princesses*, she consulted Sir Hans respecting the propriety and safety of the measure. He "told her Royal Highness, that by what appeared in the several essays, it seemed to be a method to secure people from the great dangers attending the small-pox in the *natural way*. That the preparations by diet, and necessary precautions taken, made that practice very desirable; but that not being certain of the *consequences* which might happen, he would not persuade
nor

nor advise the making trials upon patients of such importance to the public." The princess then asked him "if he would *dissuade her from it*:" to which he answered, "he would not in a matter *so likely to be of such advantage*." Her reply was, "that she was *then resolved it should be done*;" and ordered Sir Hans to go to the King (George the First) who had commanded the Doctor to wait on him upon the occasion; and it being agreed upon between his Majesty and Sir Hans, the two Princesses were inoculated.

Both these younger branches of the Royal Family passed through the small-pox in a *very favourable manner*: and inoculation, in consequence of this illustrious example, was now making a rapid progress, when the number of persons inoculated in England amounted to 182, *viz.*

By Dr. Nettleton	-	-	-	-	-	61
Mr. Maitland, Surgeon	-	-	-	-	-	57
Claud Amyand, Esq. Serjeant Surgeon	-	-	-	-	-	17
Dr. Dover	-	-	-	-	-	4
Mr. Weymish, Surgeon	-	-	-	-	-	3
The Rev. Mr. Johnson	-	-	-	-	-	3

In or near London - - 145

Brought over—in or near London	145
Mr. Smith, Surgeon, and Mr. Dwyer, Apothecary at Chichester	- - - 13
Dr. Brady, at Portsmouth	- - - 4
Mr. Waller, Apothecary at Gosport	- 3
A Woman at Leicester	- - - 8
Dr. Williams, at Haverfordwest	- - 6
Two other persons near the same place	2
Dr. French, at Bristol	- - - 1
<hr/>	
In all	- - - 182

Out of this number (says Dr. Jurin) the opposers of inoculation affirm, that *two* persons *died* of the inoculated small-pox; the favourers of this practice maintain, that their death was occasioned by *other causes*.

If, to avoid dispute, these two be allowed to have died of inoculation, we must estimate the hazard of dying of the inoculated small-pox, as far as can be collected from our own experience at present, to be that of *two* out of 182, or *one* out of 91; since which time, by a proper preparation by medicine, the favourable chances have been yet more increased.

In the natural way the chances are as *one* to 6, which is a wonderful odds in favour of inoculation.

Although

Although the advantages of inoculation were great, in the *first place*, as it gave every prospect of recovery in this otherwise often fatal disease, and *secondly*, security in future, which removed the terror of apprehension, which, like a sword hung over the head, and was sure often to present itself to the scared imagination, yet was its first introduction, from the opposition it experienced, extremely slow.

During the year 1723, the practice, however, of inoculation made a considerable progress in England. It was adopted not only among the nobility of the first rank, but (which still more tended to its promotion) it received encouragement from the heads of the church, having been introduced into the family of the Bishop of Winchester, and also into that of that learned divine Dr. Calamy. Whence the number of the inoculated *that year*, far exceeded the numbers in the two preceding years taken together. It amounted to 292, which being added to 182, makes the whole number of the inoculations in the years 1721, 1722, and 1723, to be 474, out of which number, as will be shewn in the next page, although the treatment was bad, the hot regimen being then in fashion, only *nine* died.

The Result of these Cases are represented in the annexed Table, taken from Dr. Jurin.

AGES.	Persons inoculated.	Had the Small-pox by inoculation.	Had an imperfect fort.	Had no effect.	Supposed to have died of inoculation.
Under One Year - -	11	11	0	0	0
One to Two - - - -	15	14	0	1	2
Two to Three - - - -	31	31	0	0	1
Three to Four - - - -	41	38	0	3	1
Four to Five - - - -	33	31	0	2	1
Five to Ten - - - -	140	137	1	2	2
Ten to Fifteen - - - -	82	76	0	6	0
Fifteen to Twenty - -	56	50	1	5	2
Twenty to Fifty-two	62	50	3	9	0
Age unknown - - - -	3	2	0	1	0
Total - - -	474	440	5	29	9

Hence we find, that of the 474 persons first inoculated in England, *nine* died, and their deaths were not unjustly suspected to have happened in consequence of inoculation.

Thus inoculation triumphed, under the auspices of *royal patronage*; and Dr. Wagstaffe, after his invidious remark, "*that posterity will scarcely be brought*

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," had 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 year*. The former, who reſided at Hanover, and was then eighteen years of age, ſubmitted to be inoculated by Mr. Maitland on the firſt of May 1724, and the event was extremely favourable; his Royal Highneſs not having more than from eleven to eighteen puſtules. The latter, was about the ſame time inoculated here by Surgeon Amyand, under the direction of Sir Hans Sloane, who likewiſe paſſed through the ſmall-pox without any alarming or even troubleſome ſymptom.

But what tended ſtill more effectually to eſta- bliſh the practice of inoculation, was the ſubſequent declaration of the College of Phyſicians, *viz.*

"THE COLLEGE HAVING BEEN INFORMED, THAT FALSE REPORTS CONCERNING THE SUCCESS OF INOCULATION IN ENGLAND, HAVE BEEN PUBLISHED IN FOREIGN COUNTRIES, THINK PROPER TO DECLARE THEIR SENTIMENTS IN THE FOLLOWING MANNER; *viz.* THE ARGUMENTS WHICH AT THE COMMENCEMENT OF THIS PRACTICE WERE URGED AGAINST IT, HAD BEEN REFUTED BY EXPERIENCE; THAT IT IS NOW HELD BY THE ENGLISH IN GREATER ESTEEM, AND PRACTISED AMONG THEM MORE

EXTENSIVELY THAN EVER IT WAS BEFORE; AND THAT THE COLLEGE THINKS IT TO BE HIGHLY SALUTARY TO THE HUMAN RACE."

The words of this famous declaration are, "Quoniam collegio nuntiatum fuit, falsos de variolarum infitiarum in Anglia successu et existimatione apud exterarum gentes nuper exiisse rumores, eidem collegio sententiam suam de rebus hisce ad hunc modum declarare placuit: videlicet, argumenta, quæ contra hanc variolas inferendi consuetudinem in principio afferebantur, experientiam refellisse; eamque hoc tempore majori in honore apud Anglos haberi, magisque quam unquam antea inter eos nunc invalescere; atque humano generi valde salutarem esse existimare. *Vide Taylor Orat. Harv. page 29.*

We may reckon upon inoculation as from this time established in England, although it be not universally practised*.

* *Vide Dr. Woodville's History of Inoculation.*

SECT. IV.

WHETHER SOCIETY AT LARGE HAS BENEFITED BY
THE INTRODUCTION OF INOCULATION?

SOME may smile at my quoting the authority of Dr. Buchan, author of the "Domestic Medicine," a work said to have produced much domestic mischief *; but I know of no writer, who has more sensibly treated on the duties of mankind, and whose advice relative to the preservation of health †, deserves a more general attention.

"As the small-pox," says this benevolent writer, "has now become an epidemical disease in most parts of the known world, no other choice remains but to render the malady as mild as possible. This is the only manner of extirpation now left in our power; and, though it may seem paradoxical, the artificial method of communicating the disease, *could it be rendered universal*, would amount to nearly the same thing as rooting it out. It is a matter of small consequence, whether a disease be entirely extirpated, or rendered so mild as neither to destroy life nor hurt the constitution; but that this may be done by inoculation, does not now ad-

* Dr. Beddoes thus humourously speaks of it.

† The introduction "On the common Causes of Disease," by this popular writer, is a chef d'œuvre.

mit of a doubt. The numbers who die under inoculation hardly deserve to be named. In the natural way, one in four or five generally dies; but by inoculation not one of five hundred. Nay, some can boast of having inoculated thousands without the loss of a single patient."

"To this advantage we might add, that such as have not had the small-pox in the early period of life, are not only rendered unhappy, but likewise, in a great measure, unfit for sustaining many of the most useful and important offices."

"Few people would chuse even to hire a servant who had not had the small-pox."

"How could a physician or a surgeon, who had never had the small-pox himself, attend others under that malady?"

"How deplorable is the situation of females, who arrive at mature age without having had the small-pox! A woman with child seldom survives this disease: and if an infant happens to be seized with the small-pox upon the mother's breast, who has not had the disease herself, the scene must be truly distressing!"

"If she continues to suckle the child, it is at the peril of her own life; and if she weans it, in all probability it will perish!"

"How often is the affectionate mother forced to leave her house, and abandon her children, at the very time when her care is most necessary? Yet should parental affection get the better of her fears,

fears, the consequences would often prove fatal. I have known the tender mother and her sucking infant laid in the same grave, both untimely victims to this dreadful malady. But these are scenes too shocking to dwell on."

"Let parents who run away from their children to avoid the small-pox, or who refuse to inoculate them in infancy, consider to what deplorable situations they may be reduced by this mistaken tenderness."

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

His plan is,

- 1st. "Removing of prejudices by the clergy.
- 2dly. The Faculty inoculating, and attending gratis, or if these refuse, then the clergy to do it.
- 3dly. Douceurs to be given to mothers by government for having their children inoculated.
- 4thly. And should both the faculty and clergy shrink from the unprofitable task, [as the Doctor foresees would probably be the case,] for parents *themselves* to perform the operation on their children."

"We have been more full," adds this benevolent writer

writer upon this subject, "because the benefit of inoculation cannot be extended to society by any other means than by making the practice *general*. While it is confined to a *few*, it must prove hurtful to the *whole*. By means of it *the contagion* is spread, and is communicated to many who might otherwise have never had the disease. Accordingly it is found *that more die of the small-pox now than before inoculation was introduced*; and this important discovery, by which alone more lives might be saved than by all the other endeavours of the Faculty, is in a great measure lost by its benefits not being extended to the whole community."

The great and learned Dr. Heberden, in his observations on the increase and decrease of different diseases, observes, "that he examined carefully the bills of mortality, and comparing the destruction occasioned by the *small-pox* among our countrymen *before* and *since* inoculation, reluctantly was brought to this melancholy conclusion, that at the present period the *proportional increase* of deaths from this disease was as *five* to *four*."

SECT. V.

OBSTACLES TO A GENERAL INOCULATION.

THE obstacles to a general inoculation are such, as in all probability to prevent a plan of this kind from ever being carried into execution.

1st. *The prejudices of the lower orders of mankind.*

The cold calculator might estimate the advantages of inoculation to society, and calculate the comparative number of deaths from the natural small-pox, and artificial disease; but yet as he must allow that *some* die under inoculation, the fond mother naturally would thus argue within herself: "Can I bring my mind to consent to what may bereave me of my dear child?—if he were to die, how shall I forgive myself?—am I sure, that I am not anticipating an evil that may never arrive?—where is my right to do this?—is he certain to catch the small-pox?—and were this to happen, and he were, alas! to be taken from me at a later period, I shall then, relying on Providence, have nothing to reproach myself with."

In vain will the philosopher oppose to these natural suggestions of the weak mind,

1. That were the child to die under inoculation, the mother has truly nothing to upbraid herself with, having only done her duty.
2. And had not the ALMIGHTY designed inoculation to be performed, it would not be endowed with the extraordinary virtue it possesses of preventing the small-pox, and have a nature infinitely milder than the other.

The more ignorant the person, the more stubborn against the conviction of reason, and, as Hudibras says,

“ She who’s persuaded against her will,
“ Is of the same opinion still.”

So here, no force of argument, could bring over the unwilling, and words are only lost in the attempt, and a large class of mankind will be *always* found adverse to inoculation, the possibility of death arising to the person inoculated, being the stumbling-block against its universal acception.

2dly. *The chances that infants at the breast have of dying; early age being found most unfavourable to the insertion of the small-pox.*

A fact which soon drew the attention of many eminent medical writers, who endeavoured to account for this circumstance. Thus Dr. Percival.

“ I. The number of diseases to which infants are liable, render them unfit subjects for inoculation. HIPPOCRATES, two thousand years ago, remarked,
ætatibus

ætatibus, morbosissimi sunt juniores. And when we consider the great and sudden changes, both external and internal, which they undergo at birth; the laxity and wonderful delicacy of their frame, and their extreme irritability perhaps depending upon it; the copiousness of glandular secretions, with the difficulty of preserving that equilibrium, the least deviation from which affects them; it is matter of real astonishment that life itself can be supported, under a series of such apparently unfavourable circumstances. Scarcely hath the little stranger been ushered into the world, but he discovers signs of indisposition, by his restlessness, anxiety, crying, and vomiting; by the swelling of his belly; and sometimes by convulsions. These symptoms arise from the load of *meconium* with which the stomach and bowels are oppressed, and generally cease when those organs have been gently evacuated. The jaundice next succeeds, and is sometimes complicated with a very acrimonious state of the fluids, as appears by the eruption of little red pustules, with which the skin is everywhere loaded. The thrush, watery gripes, and convulsions, observe no regular order of time, but attack most infants, either singly or collectively, according as they are more or less obnoxious to the causes which produce them. The quick growth of children, in the first period after birth, is likewise a source of numerous ailments; notwithstanding the provisions which nature hath made, to guard against the inconveniences resulting from

from it, by the laxity of the glandular system. And as most of these causes continue to exert their influence after birth, though in a less degree, the increment of the young animal proceeds apace, and redundances are formed, which in a healthy state are carried off by one or other of the glandular excretions. But a deficiency or excess in any of these, necessarily produces diseases. And in such feeble, delicate, and irritable subjects, the equilibrium cannot long be preserved. If they are defective, all the complaints which arise from plenitude ensue; the child grows feverish, dull, and comatose; his stomach is disordered; his bowels are oppressed with wind; and if his belly be constipated, he falls into convulsions. On the other hand, if they are excessive, a *diarrhœa* is produced; *aphthæ* and severe gripes succeed; and the violent irritation seldom fails to occasion epileptic fits. From this short view of the first period of infancy, I think it must appear evident, that inoculation is ill adapted to that tender season of life. Nature, feeble and irritable as she then is, can scarcely struggle with the diseases to which she is ordinarily exposed. It is therefore equally cruel and unjust to add to the number with which she is already oppressed. For it is demonstrable from the bills of mortality, that two thirds of all who are born, live not to be two years old; and I think it is more than probable, that a considerable proportion of these die under the age of six weeks.

“ II. The fears and anxiety of the mother, excited at a time when her strength hath been exhausted by the pains of labour, and when every uneasy impression should be cautiously avoided, cannot fail to injure her milk. And this is a powerful objection to the early inoculation of infants. If a hired nurse be employed, her milk may disagree with the child, she may fall into some disease during the time of inoculation, may be guilty of excess in eating or drinking, or may be under the influence of violent passions; each of which will aggravate the symptoms, and increase the danger of the artificial distemper under which the infant labours.”

“ III. It hath been observed, by a very able and experienced practitioner, that young children have usually a larger share of pustules from inoculation, than those who are a little farther advanced in life; and that, from this circumstance, so many have died, as to discourage the practice of ingrafting the small-pox on such delicate subjects. This fact is not easy to be explained. Whether the greater irritability of infants subjects them to be more affected with the variolous *miasma* than children of two or three years old; or whether the larger eruption, to which they are liable, be owing to the proportionably greater quantity of their fluids; I will not presume to determine. Both causes may possibly conspire to produce this effect; the former by exciting a quicker and increased contraction of the heart and vascular system; the latter by affording a more
copious

copious *pabulum* for the variolous ferment. By the same principles we may perhaps account for the greater virulence of the lues venerea in infancy, than in the more advanced stages of life."

" IV. A considerable number of those who die of the natural disease, before the expulsion of the variolous eruption, are infants, or very young children. This does not arise, as Dr. KIRKPATRICK supposes, from the extreme weakness of the *vis vitæ* of infants; for the contraction of their hearts is proportionably stronger than in adults, as the quickness of their growth evinces; but from the high degree of irritability with which their nervous system is endued. Hence the convulsive paroxysms, which often precede the appearance of the pustules, and which, though regarded by SYDENHAM as no unfavourable signs, are always alarming, and, when they happen to very young infants, are frequently fatal."

" V. If the number of pustules be so great in the mouth or throat as to obstruct suction, the disease, in all probability, will prove fatal. Even a few pocks in those parts are highly troublesome and dangerous to infants; for besides the pain and restlessness which they produce, they often terminate in ill-conditioned ulcers. Under such circumstances the mute wailings, or shrieks, of an infant occasion equal embarrassment and distress."

" VI. Those who are affected with cutaneous diseases have been generally regarded as unfavourable subjects

subjects of inoculation. Infancy, therefore, which is seldom unattended with eruptions on the skin, must be an improper period for receiving the small-pox by ingraftment."

"VII. The thickness of the teguments of infants, which arises from the quantity of fluids interposed between their fibres, by which the skin is rendered soft and œdematous to the touch, and their perspiring less than children who are capable of using exercise, are further objections to very early inoculation."

"VIII. But the most forcible argument against this practice, is deduced from the ill-success which hath attended infant inoculation in general. For it appears by Dr. JURIN's account of the progress of inoculation in Great Britain from 1721 to 1726, and by Dr. SCHEUCHZER's continuation of it to 1728, that of fifty-eight children under two years old, who received the small-pox by ingraftment, *six* died; whereas of two hundred and twenty-one, inoculated between the ages of two and five, only *three* died."

"It is too common an opinion," says that able writer, Dr. Underwood, in his treatise on the Diseases of Children, "that a very young infant, sucking at the breast, is the fittest subject for inoculation; and medical people have some difficulty in persuading parents to the contrary. Children are then said to be clear from humours, their blood mild and balsamic, their food innocent, and they are free
D from

from all violent passions of the mind. But all these advantages may be counterbalanced by the delicacy of their frame, their disposition to spasm, and their inability to struggle with a severe attack of the disease, if it should chance to fall to their share. And such, indeed, are the facts: infants may have the small-pox very lightly, whether taken naturally or from inoculation, though in both there are a few instances of their expiring in a fit at the time of the eruption; but they seldom get through the disease, if they are full, or it proves of the confluent or malignant kind. And this furnishes a peculiar objection to inoculating infants at the breast, which arises from their necessarily lying so much on the arm of the mother or the wet-nurse, especially in the night; the heat exposing them to a much more copious eruption than children who are weaned. This I have seen clearly exemplified in the instance of a child whose mother could suckle only with the right breast; the consequence was, that the left side of the child was perfectly loaded with the eruption, (though the pock was of the distinct kind) whilst the other had only a moderate sprinkling. The child, however, sunk under the secondary fever at the end of five or six weeks, though turned of two years old; the *only* child I have known to die of inoculation at so advanced an age. A similar instance is related by Mr. Mofs; who not being able to prevail on a young woman whom he had inoculated, to keep her feet (which were very cold)

out

out of the warm ashes of a hearth-fire, at the time of the eruption, they were, in consequence, so loaded with it, as to appear one continued blister; though the disease was very distinct, and went on very favourably in other parts."

"I am aware that many children are inoculated very young, and even in the month, and generally with very good success; but the frequency of this practice, among eminent surgeons, is owing to the urgent solicitation of parents, and their fear of contagion. I cannot therefore avoid saying, that however few may die under inoculation, under any circumstances, the fact is, that the far greater proportion that I happen to have had an account of, is amongst infants under six months old. A remarkable proof of this disproportion appeared lately under a general inoculation at *Luton*, during the progress of a malignant small-pox, which carried off one half of those who were attacked by it in the natural way. In the midst of this fatality, twelve hundred and fifteen paupers were inoculated, through the humanity of the Hon. and Rev. Mr. WILLIAM STUART, many of whom refused all preparatory medicines, and were besides addicted to the use of strong liquors: nevertheless, out of the *twelve hundred and fifteen* only *five* died—all of whom were *infants under four months old*. Seven hundred adult people of better condition, in the same neighbourhood, were inoculated a short time afterwards, and with the like good success with the former."

"From this view of the matter, it is pretty evident, I think, that this operation ought, in general, to be postponed to a later period, which is pointed out by the child having cut all its first teeth."

Dr. Macdonald justly remarks, "that the deaths of infants often happen under circumstances the more distressing."

Before me lie the records of two unfortunate families. In the one, a father and four of his children were inoculated for the small-pox; the eruptions proved of the confluent kind: *two children* out of the four died.—The other is a young widow, who lost her husband at the early age of 24. *One infant* at the breast was left her, which, in her pitiful situation, constituted her only consolation. Soon after, the small-pox began to rage in the city where she lived; she therefore was advised by her friends to inoculate her little boy. With reluctance, as if presaging her impending misfortune, she consented.—Her fears, alas! were but too well grounded: on the day preceding the eruption, the child was seized with convulsive fits, and expired on the tenth day.

"One smiling boy, her last sweet hope she warms,
Hush'd in her bosom, circled in her arms;
Daughter of Woe!—ere morn in vain carest'd,
Clung the cold babe upon thy milkless breast,—
With feeble cries thy last sad aid requir'd,
Stretch'd its stiff limbs, and on thy lap expir'd."

DARWIN,

3d. *Dentition is found to be a period in which inoculation was hazardous.*

The small-pox is usually issued in by convulsions in children at every age. The period of dentition being very liable to such convulsive attacks, which often prove fatal, would naturally put the practitioner on his guard against bringing on, or adding to, an event equally terrific, as it is often fatal.

"It cannot be denied," says my learned and eloquent friend Dr. Macdonald, "but the inoculation of the small-pox has proved to mankind a ready means to alleviate and escape the danger of a most distressing disorder; still, notwithstanding these happy effects, the inoculated small-pox is *often* accompanied with symptoms which give just cause of alarm, and *sometimes* prove fatal under the most judicious management."

"Were I to record all the distressing scenes which frequently attend the inoculated small-pox, or relate the sad histories of those unfortunate families, who, in consequence of inoculation, have felt the ragings of this dire disorder; the stoutest heart would shrink with horror, and drop a tear of pity over the sufferings of humanity."

"I would wish to relinquish this subject, for my pen can give but a faint sketch of those pictures of singular distress, which every physician of even moderate experience has witnessed."

"Paint to yourself one of these little innocent

sufferers, stretched out, and covered with one continued sore; threatened with suffocation, uttering the agonies he feels, by piercingly heart-wounding groans.—Observe how his mouth foams; listen to the grinding of his teeth; see how he thrusts his little trembling tongue betwixt them, and how piteously it is wounded!—Look! how he is agitated with the most dreadful convulsions! his feeble limbs are twisted and contorted, and threaten dislocation; his frame bends backwards, is lifted up and thrown down again!—These fits now increase,—then cease;—alas! only to return with redoubled violence.—Misery calls aloud for help, help;—but calls in vain.—New convulsions succeed;—he foams,—struggles, gasps,—gasps again,—and expires!”

“If at scenes like these your heart would bleed, what must be the feelings of a fond parent, when this destroying scourge nips in the bud the fairest blossom of his hope?”

4th. *Old age.*

Although this period cannot be alledged as equally unfavourable as either of the foregoing, it is one a practitioner would not prefer; and it seems cruel to subject a person on the verge of the grave to the chance of a disease that possibly may prove extremely severe.

5th. *Pregnancy was a situation in which inoculation generally produced abortion, and the death of the individual.*

Cases of this sort are to be found in every author. In Mead we have the following affecting narrative :

“ A lady of quality at the seventh month of her pregnancy was seized with the natural small-pox, which proved of an unfavourable sort. On the eleventh day she was brought-to-bed, and safely delivered of a male child : on the fourteenth she died. On the fourth day following, the infant was seized with convulsions, the forerunner of the eruption, which appeared on that same day, and he died in the evening.”

The inoculated disease was found also equally dangerous.

“ A physician at Winchester informs me,” says Dr. Kirkpatrick in his *Analysis of Inoculation*, “ that in the several towns of Hampshire, Sussex, and Surrey, there have been inoculated 2000, of whom *two* only died, both pregnant women, who admitted this operation contrary to the opinion of their physician.”

6th. *That it precludes the poor person inoculated following his usual avocation.*

The majority of mankind are destined to procure their daily subsistence by the sweat of their brow. The earnings of industry too frequently are found inadequate to the support of a family, so that any thing can be laid up for a rainy day ; hence the total inability of the poor to sustain the heavy calamity of a whole family suffering under the inoculated small-pox. The mother can ill af-

ford even the attentions required for a sick family, and the honest peasant is unable to lose the time requisite under this disease, even should the inoculation, and medicines required, be given gratis.

7th. *The many individuals that, from humours and other causes, are considered unfit subjects for inoculation.*

I should tire the reader were I to quote, from Sutton on Inoculation, three long pages descriptive of persons esteemed unfit to receive inoculation: even very fat children, although otherwise healthy, are included among that class.

It must be acknowledged that the *most dreadful diseases* in certain habits, often difficult to distinguish, are *called forth* by inoculation; hence the vulgar prejudice of other diseases, especially the king's-evil, being actually ingrafted with the small-pox.

The learned Dr. Mead took the pains first to counteract this vulgar error.

“Some,” says he, “would attempt to dissuade us from inoculation, by affirming that there is danger left, together with the small-pox, some other infectious disease, inherent in the blood and humours of the sick person, should be transmitted into the sound body: all contagion being very subtle, and wonderfully active. And it is indeed not improbable, that some other distempers, besides those which are cutaneous, may, by such a way as this, get admittance into the skin: and such perhaps are scrophulous swellings, and the venereal

nereal disease. Yet I can hardly believe that it ever happens, that the seed of one distemper should bring along with it, mixed, the procreative matter of another, of a nature quite different from it. However it be, it would be madness in a physician, without any choice, to take the morbid matter for this purpose out of sick bodies, without distinction. The most proper subjects are infants or children, sound in all other respects, as far as can be judged, and born of healthy parents. Besides, it is in my opinion more material, into what kind of a body the venom be infused, than out of what it be taken. And this I the rather mention, because I have more than once known rash and unwary surgeons to implant the disease into bodies weak, and of an ill habit, with a fatal event."

"I cannot however," he adds, "but think, that boils, and swellings under the ears and in the arm-pits, arise *more frequently* after the distemper procured by art, than after that which comes of its own accord; for this reason, as I suppose, that the venomous matter is pushed forward with less force, which disadvantage nature makes amends for this way. Therefore, all possible means are to be used to ripen such tumours, of whatever kind they are: if this cannot be done, they must be opened by incision; and when all the matter is drawn out, the body must be purged by proper medicines, which
are

are to be *oftener repeated* in this than in the natural disease."

Thus arose the practice of preparing before and physicking after inoculation, of making issues in both arms, inserting a deep pledget with the small-pox matter on it, or setons, to make a great outlet for the escape of the peccant humour: but all this is now laid aside, as being unavailing; for the body being once completely poisoned, the blood corrupted, and the solids enfeebled, nothing of this kind avails; and hence many physicians have justly suspected the propriety of purges after the small-pox, and even abandoned the practice as pernicious.

8th. *But above all, and lastly, although an individual advantage may be obtained, yet, as extending the disease by infection far and wide, it became on that account a public nuisance.*

This circumstance soon struck the discerning mind of Baron Dimsdale, who had the honour of being selected from among the Faculty here, and went from England in order to inoculate the Empress of all the Russias; which succeeding, besides a pension, he was made a counsellor of state, and body physician to her Imperial Majesty.

Although every inducement led him to conceal the fact, yet, actuated by the love of truth, and patriotism towards a country to which he owed his promotion in life, he came forward to sound the alarm,

alarm, and shew how a seeming blessing was an actual evil to the state.

“Although the loss,” says he, “under inoculation is very inconsiderable, *almost the whole* of those that are inoculated recovering, yet by spreading the disease, a greater proportion take it in the *natural* way: *more lives* are now forfeited in London than *before inoculation commenced*, and the community at large sustains a *greater loss*: the practice therefore is *more detrimental* than *beneficial* to society. In the last four years preceding 1776, the London bills from the small-pox arose at a medium to two thousand five hundred and forty-four: this increase is truly alarming. The disease by inoculation at the different public charities throughout London, would spread by visitors, strangers, washerwomen, doctors, and inoculators; by means of hackney coaches, in which the sick are to be sent out to take the air, or by sound persons approaching them in the streets.”

“The poor in London are miserably lodged; their habitations are in close alleys, courts, lanes, and old dirty houses: they are often in want of necessaries, even of bedding. The fathers and mothers are employed out constantly in laborious occupations and cannot attend the inoculated sick; should they neglect their occupations, food and necessaries would be deficient, and the medicines ordered by the physicians would not be regularly complied with. The air in their houses is impure: they have neither areas, gardens, nor *carriages* for the
the

the convenience of ventilation, and taking fresh air."

"Sailors and sea-faring people, many of whose lodgings are miserable in the little houses bordering on the river, would be liable to catch the distemper, and either to fall sick there without friends or assistants, or perhaps being infected on shore, to carry it to sea in their contaminated cloaths, and afterwards falling sick without care or attendance, might spread the disease in foreign climates."

"Country people coming to town for markets, visits, or pleasure, would all be subject to the danger of infection. Persons coming from the sick to public charities, for medicines or advice, by intermixing in the streets, the *public* danger from their infected apparel would be *great* and inevitable: the whole neighbourhood would be exposed, and in imminent danger, by having the small-pox brought to their doors. The gossiping disposition of the poor will spread it further; and after the sick recover, falling forth in their infected cloaths is certain to add to the mischief. The children who are able to run about will intermingle in the streets, immediately upon their recovery, with their playfellows; the success therefore derived from inoculation must be beneficial to a *few* only, but involve a great number of others in danger, to which they would otherwise be less exposed."

Dr. Heberden observes, "that the poor form the largest part of mankind, and only consider the present

present moment; and their prejudices are strong, and not to be overcome by reason. Hence, while the inoculation of the wealthy keeps up a perpetual source of infection, those who either do not choose, or cannot afford expence, are more exposed to this distemper. The danger also is increased by the custom of sending persons into the open air in every stage of the disease. Hence, while *inoculation* may be justly esteemed as one of the greatest improvements ever introduced into the medical art, it occasions a greater sacrifice of life by what has been distinguished by the appellation of the *natural* small-pox."

As a proof of this position, we have the following record from a most diligent and careful observer of facts, Dr. Willan, in his account of the diseases in London.

"A child having been inoculated in a court (whose parent kept a chandlers-shop) consisting of twenty houses; the consequence was, that in this court seventeen persons took the natural small-pox, although the season was kind (April); and *eight* of these died.

They in their turn became the focus of fresh infection, and thus a private good was converted into a public evil."

The author of this treatise has had abundant opportunity to see the same repeatedly verified in his practice as physician to the Mary-le-bone Dispensary.

CONCLUSION.

Hence it would appear, that inoculation has done a great injury to society at large, and the difficulty of extending it *generally*, so as to convert it truly into a public benefit, is attended with almost insuperable objections: For to make it into a law, that inoculation shall be general and periodic, appears both cruel and arbitrary, where security of life cannot be given to all, and is what no government, grounded on the basis of general liberty, would venture to adopt.

Hence the laws in our West India plantations, not to encourage, but *against*, capricious inoculation; hence the entire prohibition in America of this practice; and, as we shall presently prove, the necessity of the same steps from our Legislature, when once the advantages of *vaccine inoculation* (the Cow-pock) shall be clearly ascertained, which we hope to be able to accomplish in the ensuing pages.

PART II.

ON THE
N A T U R A L
AND
I N O C U L A T E D
COW-POCK.

THE HISTORY OF THE
CITY OF BOSTON
FROM THE FIRST SETTLEMENT
TO THE PRESENT TIME
IN TWO VOLUMES
PART II
BY NATHANIEL BENTLEY
OF THE BARR

IN TWO VOLUMES
PART I
BY NATHANIEL BENTLEY
OF THE BARR
INOCULATED
COW-POCK

SECT. VI.

ON THE NATURAL COW-POX AND ITS
FREEDOM FROM DANGER.

Pock, in old English, means a pustule, and where more than one appears, the plural is used; and hence the vulgar appellation of *Cow-pox*, to designate a pustular disease originating in the cow.

The first notice we have of such a distemper among these domesticated animals is from Dr. JENNER, a physician of great estimation in Gloucestershire, whose penetrating genius did not fail to notice and examine into its *supposed extraordinary power* OF PREVENTING THE SMALL-POX.

From this distinguished physician, we were first informed of the symptoms of this disease.

“It appears on the teats of the cow, in the form of irregular pustules. At their first appearance they are commonly of a palish blue, or rather of a colour somewhat approaching to livid, and are surrounded by inflammation. The animals become indisposed, are off their food, and the milk is considerably diminished. *The death of the animal never follows the disease.* The cow-

pox is soon communicated to those employed in the dairy, and spreads through the farm until most of the cattle and domestics feel its unpleasant consequences."

The symptoms of having taken this disease in the *human subject*, are

1. "Inflamed spots, appearing on different parts of the hands of those engaged in milking and sometimes on the wrists, which run on to suppuration, first assuming the appearance of small vesications produced by a burn."
2. "Most commonly they appear about the joints of the fingers, and at their extremities; but whatever parts are affected, if the situation will admit, these superficial suppurations put on a circular form, with their edges more elevated than their centre, and of a colour distantly approaching to blue."
3. "Absorption next takes place, and tumours appear under each axilla."

The system then becomes affected.

4. "The pulse is quickened."
5. "Shiverings are succeeded by heat."
6. "General lassitude, and"
7. "Pain about the loins and limbs, with"
8. "Vomiting, and"
9. "The head is painful, and the patient is now and then affected with delirium."

These

These symptoms varying in their degrees of violence, generally continue from one day to three or four, leaving”

10. “Ulcerated sores about the hands, which heal slowly, and frequently become phagedænic.”

“No eruption arises from the absorption of the virus.”

The *cow-pox* being a disease chiefly falling among a poor class of people, and confined to certain districts, and *never proving fatal*, it was long unnoticed, and probably had continued in obscurity to this day, unless it had possessed the wonderful power of SECURING FROM THE SMALL-POX; *for a person* (as will be soon proved) *having once had the cow-pox, cannot be afterwards infected either by exposure to the small-pox, or by the actual insertion of the matter under the skin*, as Dr. JENNER first, and others have since demonstrated.

The cow-pox is *now* known to exist in Gloucestershire, which gave origin to its clear investigation; in the counties of Dorset, Somerset, Devon, Hants, Middlesex, Norfolk, Bucks, Oxford, Leicester, Stafford. It has been also traced in Ireland, Italy, and other parts of the continent.

SECT. VII.

PROOFS THAT THOSE WHO HAVE HAD THE NATURAL COW-POX ARE EVER AFTER SECURE FROM TAKING THE SMALL-POX, EITHER NATURALLY OR BY INOCULATION.

THE first cases ever laid before the public on this interesting subject are those by Dr. JENNER.

Proof I.*

JOSEPH MERRET, now under-gardener to the Earl of Berkeley, living with a farmer at Berkeley, had the *cow-pox* in 1770.

In 1795, a general inoculation took place, and Merret with his family, not knowing the preventive power of the *cow-pox*, was inoculated with the rest.

The inoculator finding that Merret's arm did not rise, inserted the matter repeatedly *but without effect*.

* Proofs I. to V. are extracted from a work, dedicated by permission to his Majesty, entitled, "*An Inquiry into the Causes and Effects of the Cow-pox*", by EDWARD JENNER, M. D." which was the first publication on this subject; a work which will live in the grateful remembrance of posterity, until time shall be no more!!!

Neither

Neither did he take the small-pox, although he continued with his family, all of whom had the small-pox, and some of them very fully.

Here is a proof at least of 25 years preservative power from the small-pox from the *cow-pox*.

Proof II.

SARAH PORTLOCK, of Berkeley, had the *cow-pox*, when servant to a farmer in the neighbourhood, 27 years ago.

Last year her child caught the *natural small-pox*, whom she nursed throughout the disease.

Fearful of taking the small-pox she was also *inoculated*.

But she was insusceptible of the small pox in either way.

Proof III.

JOHN PHILIPS, a tradesman of Berkeley, had the *cow-pox* when nine years old.

At 62, Dr. Jenner inoculated him; *but it produced no effect on the system.*

Here is a proof of the preservative power of the *cow-pox* for more than FIFTY years.

Proof IV.

The poor of the village of Tortworth, in Gloucestershire, were inoculated by Mr. HENRY JENNER in the year 1795.

Upon inquiring among these, *eight* persons acknowledged they had had the cow-pox.

Upon trial all were found to have taken the small-pox who were inoculated, except these *eight*; *neither did they take the small-pox from associating with those labouring under this disease.*

Equally convincing are all the other facts adduced to prove the efficacy of the *cow-pox*, in preserving us from the *small-pox*, brought forward by Dr. JENNER, in "An Inquiry into the Causes and Effects of the Cow-pox;" to which we refer the reader desirous of further information, and we proceed with the most respectable CORROBORATING TESTIMONIES in support of this *wonderful property* in the *cow-pox*.

Proof V.

JEOPFFRY TREDWELL, a reputable farmer, and a tenant of mine *, about fourteen years ago had the mortification, as he thought, to find the cow-

* Proofs V. to VII. are extracted from a pamphlet entitled "*Reflections on the Cow-pox, illustrated by Cases to prove it an absolute Security against the Small-pox*, by WILLIAM FEEMOR, Esq." The able production of a gentleman of large landed property, residing at his seat at Tusmore in Northamptonshire; a gentleman endowed with the greatest urbanity of manners, and possessing a mind stored with classic lore, and replete with the warmest glowings of philanthropy.

pox in the farm he then occupied, at Chesterton, in this neighbourhood.

His brother WILLIAM TREDWELL, being employed in milking the cows, was infected with the *cow-pox*, and had the disease severely in his hands and fingers.

Jeoffry not being so engaged, did not receive the infection.

About three years after, these two brothers were inoculated with variolous matter, by Mr. Lister, of Charlbury, an eminent practitioner, at a house appropriated for that purpose. WILLIAM TREDWELL, who had undergone the *cow-pox*, *could not receive the infection*, though he was inoculated several times, and remained in the house with the other patients.

Jeoffry, who had not been infected with it, *had a very full small-pox eruption.*

Proof VI.

ALBAN COLLINGRIDGE had the *cow-pox* about five or six and twenty years ago, at his father's farm, at Poodle, which affected his fingers in a violent degree.

About four years after, he was three times inoculated for the small-pox by Mr. Lister, *without effect.*

Two of his brothers, who had never had the *cow-pox*, *received the variolous infection.*

He slept with them in order to take it, *but no consequence ensued.*

He has frequently since been exposed to its contagion, and has very lately inoculated his children with the SMALL-POX, *without being in any shape infected with it himself.*

Proof VII.

MR. HENRY COLLINGRIDGE, of Godington, a reputable farmer, and a tenant of mine, received the *cow-pox* infection by milking, when he was fourteen or fifteen years of age.

Ten years after he was three times inoculated for the small-pox, *without effect.*

After an interval of ten years more, he had another child inoculated; *but, though fully and frequently exposed to the contagion, he was not in any degree affected by it.*

Proof VIII.*

On conversing with Sir GEORGE BAKER, Bart. President of the Royal College of Physicians, and

The following proofs VIII. to XIII. are extracted from a work entitled, "*An Inquiry concerning the History of the Cow-pox, principally with a view to supersede and extinguish the Small-pox; by Dr. PEARSON, physician to St. George's Hospital;*" one of the brightest luminaries of medical and chemical erudition; who has ever shewn himself the active inquirer after *new truths*, by whose accurate tests we stand or fall; and who, not in one, but in very numerous instances, has himself extended the vast empire of discovery.

physician

physician to his Majesty, concerning the extraordinary circumstance of the cow-pox rendering people unsusceptible of the small-pox, Sir George observed, "he had been long since informed of the fact in some papers communicated to him many years back by his relation the Rev. HERMAN DREWE, of Abbots; but not finding any credit given to the statement, which seemed so much to border on the *marvellous*, they were withdrawn from publication*." I accordingly wrote, says Dr. Pearson, a letter to this

* Thus was withheld, for a time, from mankind, the benefit of the knowledge of this marvellous fact; and the Rev. Mr. DREWE, removing to another part of the country, relinquished all further investigation of a subject which had once arrested and occupied his attention; and thus *he* lost for ever the acquisition of the proudest laurel that could have decorated the brow of man!!

When this *truth* was first announced to the public by Dr. JENNER, my emphatic friend Dr. MOSELEY, the able writer on "*Tropical Diseases*," in his "*Miscellaneous Medical Observations*," after giving a long string of strange wonders recorded by men of gravity, relates the following anecdote: "The virtues of the COW-POX are said to be an AMULET AGAINST THE SMALL-POX; and this *charming*, this *excellent*, this *delectable* malady, is reported as equally *mild* and *innocent*, and *communicable* with *safety* by *inoculation*."

"*Wonderful things* do certainly appear in *all ages*. The great ERASMUS relates, that there was one PHALARIO, an Italian, who in Holland was very much afflicted with *worms*, and, while the worms were in his body, he spoke the *Dutch Language*.—The worms being *cured*, away went his knowledge, and he could not then speak one word of *Dutch*!"

clergyman,

clergyman, who then resided in Dorsetshire, from whom I obtained the following information.

“ That the cow-pox was a disease known in Devonshire, Dorsetshire, and Somersetshire ; and an opinion prevailed, that this afforded a security against the small-pox. Accordingly, when Mr. BRAGG, surgeon of Axminster, inoculated my parish, he rejoiced with me in having an opportunity of clearly ascertaining this fact.

“ He found, out of 53 patients, *three* women who declared they had had the cow pox, but not the small-pox ; and these were charged with superabundance of small-pox matter.

“ *All the others took the infection but the three women, who were not in the least disordered ; nor did they catch the small-pox by associating with those who laboured under it.*

“ In my neighbourhood there were *thirteen* similar examples of the same kind.”

Proof IX.

The Rev. Mr. HERMAN DREWE mentioned that he also obtained a further confirmation of the truth of this opinion from the experience of Mr. DOWNE, surgeon of Bridport.

“ This surgeon having inoculated from between six or seven hundred persons at one season, found only *two* who could not be infected ; and upon inquiry he learnt that they had had the *cow-pox*.”

His

His other source of information was from Mr. Barnes, of Colyton, since dead.

Proof X.

"Happening, with Mr. Lucas, apothecary, to be called on professional business to Willan's farm, adjoining the New Road, Mary-le-bone, which contains from 800 to 1000 milch cows; I availed myself (says Dr. PEARSON) of this opportunity to make some inquiries about the cow-pox.

"I was informed that this disease was not unfrequent; and in January last more than 200 out of this number of cows had been affected with this disorder.

"Three of the milkers whom I met with there, professed having had the cow-pox, but never the small-pox, and they consented to my inoculating them. Two other men, who had never had either the cow-pox, or small-pox, agreed also to be inoculated with variolous (small-pox) matter."

The cases of the three first are as follows.

Case 1.

THOMAS EDINBURGH, aged 26, had lived servant at Willan's farm the last seven years.

The first year of his coming there he took the *cow-pox* with others.

He had eruptions on the palms of his hands, which left a cicatrix, and were so painful that he was obliged to desist from his employ.

A fever

A fever coming on, and tumours arising under the axillæ, which were very sore to the touch, he went into a public hospital, where he was dismissed cured.

Case 2.

THOMAS GRIMSHAW, aged 30, had the cow-pox at the same time as Thomas Edinburgh, but with somewhat milder symptoms.

Case 3.

JOHN CLARKE, aged 26, had the cow-pox at Abingdon, ten years back, and was under a surgeon of that place.

These three were inoculated with the small-pox matter by the surgeon at the small-pox hospital, from a patient in a proper state to take the matter.

It may be proper for readers not conversant with the small-pox inoculation, to relate the usual progress of infection:

A small particle of variolous (small-pox) matter being applied by a superficial puncture of the skin, usually produces, in the course of three or four days, or sooner, a little *elevation* of the punctured part, discoverable by the touch, and a *red speck* distinguishable by the eye.

From this time the *redness* advances in a *circular form*, more or less rapidly, according to the constitutional circumstances of the patient; and the first effect of this superficial inflammation is the
6
formation

formation of a *vesicle* upon its centre, which usually appears between the fourth and seventh day after the inoculation.

The extent of this vesicle is generally found to bear some proportion to the intensity of the inflammation; and contains a *limpid fluid*, by the absorption of which the small-pox is produced.

The vesicle soon bursts, and the central part of the puncture becomes depressed, and often of a *dark hue*; which appearances, together with the *marginal inflammation*, continue to increase till the eruptive symptoms subside, when the edges of the depressed part begin to swell with a *purulent fluid*, and the inflammation gradually recedes.

The subsequent fever usually proves on or about the eighth day.

The two men, who had neither the cow-pox or small-pox, exhibited, upon inoculation, the appearances above stated, and Kent had 30 pustules, the other 12.

In the others, for instance, in the case of Thomas EDINBURGH,

A *slight elevation* appeared in the parts inoculated.

The *red speck* and *marginal inflammation* seemed too rapid for the small-pox infection.

In less than four days the *part inoculated* on the right arm looked more like a *gnat-bite*.

On the left there was a *little scab*, which was rubbed off, and left only a scarcely visible red mark.

There

There was no *constitutional affection*, or any complaint whatever.

The same thing nearly occurred with Thomas GRIMSHAW.

It was somewhat different with JOHN CLARKE.

He was inoculated in both arms at the small-pox hospital.

On the *third day* there was an inflammation, and a fluid in the parts inoculated: but these appearances were judged to be *premature* as far as respects the small-pox.

On the *sixth day* these appearances wholly deserted the left arm.

On the *eighth day* there was inflammation on the right arm.

No signs of sickening, or any eruption, or indisposition.

He was inoculated again, but *without effect*.

It should also be remarked, that the three patients abovementioned, who did not take the infection on *inoculation*, had their children afterwards inoculated, who all had the small-pox. These men lived in the same apartment with their children during the illness of the small-pox, *but not one of them was infected*.

Proof XI.

Mr. ROLF, who was colleague of Mr. GROVE of Thornbury, a famous inoculator for upwards of
1
forty

forty years, in a letter published by Dr. Beddoes *, dated June 10th 1795, communicated the following observations :

Speaking of a man who could not be infected, although he was repeatedly inoculated for the small-pox, and although he lived in the same room with another man who died of the small-pox, Mr. ROLF says, " it is worthy of remark, that this man had, some years before, a complaint incident to cows, commonly called the *cow-pox*; a malady more *unpleasant* than *dangerous*, for there is no instance of any one dying of the cow-pox. It is received by contact in milking, usually from chops in the hands.

" In the human being, the complaint is sometimes *local*, at other times *absorption* takes place, and the glands in the course of the absorbents become indurated and painful. In either case, *I have learned*, from my own multiplied observations and the testimony of the oldest practitioners of inoculation, THAT SUSCEPTIBILITY TO THE SMALL-POX IS DESTROYED. Some advantage may probably, *in time*, be derived from *this fact*."

* Vide "*Queries*" of this great physician "*on Inoculation*," subjoined to a translation of Gimbernat's New Method, &c. The obligations mankind owe to Dr. BEDDOES are incalculable; his high merits are superior to my feeble praise. At some future period his extensive views will be fully understood; and *then* he will be rightly, and not till *then* rightly appreciated.

Proof

Proof XII.

Abstract of a letter from Mr. FEWSTER, surgeon in Thornbury, dated October 11th, 1798, to Mr. ROLPH. "In the spring of the year 1768 I came to live at Thornbury, where I have resided ever since. In that very year, from the following occurrence, I became well acquainted with the disease called the *cow-pox*. The late Mr. GROVE and MYSELF formed a connection with Mr. SUTTON *, the celebrated inoculator; and, to inoculate

* Mr. ROBERT SUTTON, the first of this name who acquired celebrity as an inoculator, resided at Debenham, in Suffolk, where he practised surgery and pharmacy. He began to inoculate in February, 1757, from which year to 1767 the number of persons inoculated by him was 2,514.

Two of his sons, ROBERT and DANIEL, designing to follow the profession of their father, were employed in the dispensing of medicines, and in assisting him during the three first years of his practice of inoculation: after which, Robert, the elder brother, removed to Bury St. Edmund's, where he became an established inoculator; while Daniel acted as assistant to Mr. Bumstead, a surgeon and apothecary at Oxford.—The latter, on his return to Debenham in the year 1763, suggested to his father (as I was informed by him) a NEW PLAN of inoculation, in which he proposed to *shorten the time of preparation to a few days, and not to confine the inoculated patients to the house, but to oblige them to be in the open air as much as possible during the whole progress of the distemper.*

To reduce the process preparatory to inoculation, from a month, which was then the usual time, to eight or ten days,

late for the small-pox, we took conjointly a house at Buckover: *We found in this practice, that a great number of patients could not be infected with the small-pox, notwithstanding they were inoculated and exposed*

days, was to obviate the objections that many persons had made to inoculation, from the great length of time it required. This, therefore, might be thought a measure of expediency, to bring a greater number of patients; but obliging those under inoculation to walk out in the *cold air*, during the eruptive fever, seems to have been a practice derived from Sydenham, and confirmed by experience. However, Mr. Sutton, the father, could not be persuaded to adopt any *innovation* in his practice of inoculation, and would not hear of his son's *new scheme*, which he *condemned* as not only *rash* and *absurd*, but as *extremely dangerous*. Daniel soon afterwards, however, availed himself of repeated opportunities of carrying it into effect, and found it to answer his utmost expectations. The advantages of this *new plan* were soon perceived by the *patients*, who now began to manifest a desire of being solely under the direction of Mr. D. Sutton. This preference gave occasion to a dispute between the father and the son, about the end of the year 1763, when the latter determined to practise inoculation uncontrolled by parental authority; and for this purpose he opened a house in the neighbourhood of Ingatestone, in Essex. Here the young adventurous inoculator, by public advertisements and hand-bills, proposed to inoculate upon an *improved method*, peculiar to himself; and also hinted, that, by the *use of certain medicines*, he could always render the *small-pox* an *innocent* and *tractable disease*. Three months elapsed before he profited by his new situation: but he afterwards succeeded so well, that at the close of the first year his profession produced him 2000 *guineas*: and in the second year, which he says was the most profitable of any that he

F

experienced,

exposed to the strongest contagion of the small-pox. This excited in *us* much surprize, and *we* were not able to account for the circumstance, until a farmer mentioned, that he had had the *cow-pox* lately, and wished to know, whether our failure of repeated inoculation in him did not originate from this cause. His expression was, as well as I recollect, "*I have had the cow-pox lately to a violent degree, if that's any odds *.*" We took the hint, and, on inquiry, found, that all those who were not to be

experienced, his fees amounted to more than *treble this sum*. His *fame* was now spread to the most distant parts of the kingdom; and the numbers that resorted to him for inoculation constantly filled the village of Ingatestone, so that it was with great difficulty lodgings could be procured for the purpose. His practice in Kent being also very extensive, he was under the necessity of employing several medical assistants. He also established other connections over the kingdom; and he is reported, by the Rev. Mr. Houlton, chaplain to the Earl of Ilchester, (vide a sermon on Inoculation, preached at Ingatestone, Oct. 12, 1766,) along with his assistants, to have inoculated within three years upwards of 20,000 persons.

* This circumstance should have led to VACCINE INOCULATION; but the time was not yet come, the honour being reserved by Providence for another. Had D. SUTTON, or his colleagues, instituted VACCINE INOCULATION in lieu of the small-pox inoculation, they would have *still more* earned the plaudits of mankind. To them most assuredly we owe the extirpation of the *sweating practice* in the small-pox, and the preferable adoption of the *cool regimen*, as recommended by the great Sydenham.

infected,

infected, had *all* undergone the *cow-pox*. I communicated this extraordinary fact to a medical society of which I was a member, and ever after paid a very particular attention to the circumstance; and am now so convinced of this truth, that I can affirm, that I have not been able to produce the SMALL-POX, *in a single instance, among persons who have had the COW-POX.*"

He adds, "This fact was lately clearly ascertained by me, when I inoculated upwards of two thousand persons for the small-pox."

Proof XIII.

About twenty years ago*, when Dr. ARCHER was the physician of the hospital for inoculation, CATHARINE WILKINS, now Titchenor, from Cricklade in Wiltshire, who had the cow-pox in consequence of milking cows, came to her brother in London, (where she is now resident,) who, being de-

* This curious fact is extracted from a pamphlet intitled "*Observations on the Cow-pox* by JOHN COAKLEY LETT-SOM, M.D." a physician of great repute, whose quaker appearance would bespeak him a man of sentences, but in whose writings are to be found all the graces of diction, and fascination of eloquence. (Vide motto to this book.) His strong appeal to parents, guardians, and the clergy, on the subject of *vaccine inoculation*, can scarcely fail of producing its desired effect; and the *shades* of Jenner, Pearson, and Woodville, with which he has embellished his work, must be an acceptable acquisition to his less opulent brethren, admirers of the benefactors of mankind.

firous of ascertaining whether this circumstance could be depended upon as a preventive of the small-pox, sent her to the hospital for inoculation, when she received the variolous matter from Dr. Archer; against which, however, she was proof, and the small-pox of course could not be communicated; but *no advantage was derived from this fact* *.

* ARCHER was a prudent, cautious, and rather timid practitioner, and he advanced much by his attentions to the hospital for inoculation at Pancras; but he neither possessed the spirit of inquiry of a Woodville, nor the genius of discovery of that Man who was destined to form a new æra in medical practice; so that the boon offered him by Providence dropt from between his hands!

It is somewhat mortifying to human nature to think, that, from such *palpable hints*, men, bred to the profession of physic, and more particularly conversant with the small-pox, should not have drawn out an *useful inference*.

SECT. VIII.

THE ANTIQUITY OF THE COW-POX, AND THE KNOWLEDGE, THAT IT WAS A SECURITY AGAINST THE SMALL-POX; AND OF SOME RUDE ATTEMPTS FORMERLY MADE OF ACQUIRING THIS DISEASE.

PURSUING the same conduct in this disquisition, as in that of the *small-pox*, we shall find that the knowledge of the security which the cow-pox gave over the small-pox had long prevailed in many parts of England; and the untutored sense of mankind even led to the adopting the practice of *taking this disease*, as a security against the small-pox.

PROOF I. The Rev. JOHN SMITH of Wendover, to whom (says Dr. Pearson) I owe many thanks for very willingly, at my request, taking upon himself the trouble of making inquiries in his neighbourhood, informs me, "that the high land of his parish does not admit of dairying upon it, and the dairy farmers here know nothing of the cow-pox. But Mr. HENDERSON, the surgeon in the parish, whose practice takes him a little into the vale, tells me, that he has met with the disease; and that, a few years ago, he three times endeavoured to inoculate a lad,

who had been used to milking, but could only excite inflammation upon the arm, without any pustulous appearance ; and, upon inquiry, he found the lad had previously been affected with the cow-pox. Mr. WOODMAN, a surgeon at Aylesbury, had met with the disease among the cow-boys in the vale. Mr. GREY, a surgeon of Buckingham, says, the disorder is common among the milkers in his neighbourhood. He had not been led to consider, particularly, the effects of the disease ; but he remembers *one boy possessed of the idea that he could not take the SMALL-POX by inoculation, because he had had the cow-POX ; and that he could only excite redness upon the boy's arm.*"

2. On calling at Mr. RHODES' milk farm on the Hampstead Road, where there is a very large stock of cows, I found the cow-pox, says Dr. Pearson, had not fallen under his observation ; but two of the male servants were well acquainted with some parts of its history. It appeared, also, on inquiry, "that one of the cows had really laboured under the disease two months before, namely, in May last ; but the milker was not infected, because he said there were no cuts on his hands, or abrasion of the cuticle. It was described very clearly to be a different disease from the common inflammations and eruptions which produce scabbed nipples. One of the male servants had often seen the disease in Wiltshire and Gloucestershire. The milkers, he said, were sometimes so ill, as to lie in bed for several days, and
there

there was a fever at the beginning, as in the small-pox, but that *no one ever died of it*. He had known *many persons* who had laboured under the *cow-pox*, but who had never suffered the *small-pox*, although it prevailed in their own families; except in *one instance* in which he was told that the person who took the small-pox, had gone through the cow-pox when a child. The same servant said it was a *common opinion*, that people who have been affected with the cow-pox, to use his own words, are "*hard to take the small-pox.*"

3. A male servant of Mr. FRANCIS, who keeps a farm for milch cows on the road to Somers' Town, who appears to be a very intelligent man, and is said to be a man of veracity, and had lived in dairy farms all his life, stated, "that he had seen the cow-pox 35 years ago at King's Wood in Somersetshire, and frequently there, and in London, since that time. The disease, he said, was then vulgarly called the cow-pox; it appeared on their teats and udders with fiery or flame-like eruptions—was very infectious among the cows and the milkers; but never knew *either human creature or beast die of it*. It affects the hands and arms of the milkers with painful sores, as large as a sixpence, which last for a month or more, so as to disable the sufferers from continuing their employment. The disease breaks out especially in the spring, but occasionally at other times of the year. Most of the cows in his master's (Mr. Francis's) farm were

infected three years ago in the spring, at which time many of the milkers were also infected. A new cow is very liable to take the disease.—He had *always understood that a person who had had the COW-POX, could not take the SMALL-POX, and never knew in the course of his life an instance of the small-pox in such persons.*”

4. Dr. WALL, professor of physic at Oxford, writes: “A servant who has kept the cows of a considerable dairy-farm in this neighbourhood a great many years, told me, that he had had the cow-pox early in life. Yet about six or seven years ago he wished, for security, to be inoculated for the small-pox.—The operation was performed three several times, but no disorder nor eruption ensued. The *surgeon*, a gentleman of *great eminence in this place*, asked him if *he had ever had the cow-pox*; upon his answering *yes*, the *surgeon* replied, ‘*Then it is useless to make any farther trial.*’ This servant, the next year, had several children inoculated by Sutton. He was with them all the time till their recovery, but did not receive the infection.”

5. Dr. CROFT tells me, that, in Staffordshire, to his knowledge, *the fact has been long known*, “*of the cow-pox, which prevails in that county, affording an exemption to the human subject from the small-pox.*”

6. “My honourable friend, Mr. EDWARD HOWARD,” says Dr. Pearson, “has been assured, on very good authority, that of a relation, who is an officer in the Oxfordshire militia, that it is a *received opinion*

opinion among the foldiers, that it is unnecessary to be inoculated for the small-pox if they have already laboured under the cow-pox, as many of them have done."

7. *Extraét of a letter from Dr. FOWLER to Dr. PEARSON, dated Sarum, October 24, 1798.*

" My dear Sir,

" The disease called cow-pox is known in this neighbourhood only to a few farmers, *but they understand that it is a preservative from the small-pox.* This morning, *Ann Francis*, a servant girl, aged 26 years, was brought to me. She informs me, that some years ago bluish pustules arose on her hands, from milking cows diseased by the cow-pox. These pustules soon became scabs, which, falling off, discovered ulcerating and were very painful, which were treated by a cow-doctor, and were long in healing. Some milk from one of the diseased cows having spurted on the cheek of her sister, and on the breast of her mistress, produced, on these parts of both persons, pustules and sores, similar to her own on her hands. None of these three had suffered the small-pox, nor have they gone through it since that time, although they have been much exposed to the infection; and the sister abovementioned has been inoculated three times for the small-pox. The cow-doctor who attended these three women said, *" he would forfeit his life if any of them should afterwards have the small-pox."*

" With

"With sincerest good wishes for the success of your inquiries, and all your other undertakings,

"I am, &c. &c.

"R. FOWLER."

8. Dr. PULTENEY, physician at Blandford, informs me, "that a very respectable practitioner acquainted him that of *seven* children whom he had inoculated for the small-pox, *five* had been previously infected with the cow-pox purposely, by being made to handle the teats and udders of infected cows; in consequence of which, they suffered the distemper. These *five*, after inoculation for the small-pox, did not sicken; the other *two* took the small-pox."

9. Dr. BARRY, a very distinguished physician in the North of Ireland, relates, among other cases, the following:

"We have a woman here, *who*, 37 years ago, was brought with a *number of other children* to a dairy, for the express purpose of being infected with a disorder incident to cows, called by the Irish SHINACH; which, according to the *general belief*, would for ever secure those so affected from the small-pox."

"She was afterwards twice inoculated for the small-pox, but without effect; and the inoculator declined repeating the operation, alledging, *that there was*

was not the smallest chance of her catching the small-pox, as he could aver from frequent experience."

"She has since that period been often exposed to the small-pox, and even slept with her own children in the height of the eruption, but could not take the disease."

We are next favoured by Dr. BARRY with the extract from a letter received, which more fully confirms this former sentiment.

"It is full thirty years since my *mother* had the cow-pox. She recollects having had two pustules on the hand, which were much inflamed, looked livid, and afterwards went on to suppuration. She was inoculated since, and exposed to the infection of the small-pox repeatedly, but without taking this disease, which has been *attributed to her having had the cow-pox*, known universally among our farmers by the name of SHINACH."

"I was last night speaking to my *grandmother* on this subject. She had the cow-pox fifty years ago. At the time she had the disease, she was told there was scarcely a spring but this disorder appeared in some of the farms among the cows; and *it was universally believed, that those who took it were ever after exempted from the small-pox, and that people exposed themselves to it as much as possible.*"

"My grandmother, who is more than eighty years old, declares, that the opinion of the SHINACH affording security from the small-pox *always prevailed*

in that part of the country, as long as she can remember any thing."*

In Gloucestershire, where Dr. Jenner resided, the opinion "that the Cow-pox *prevented the SMALL-POX*" was indeed admitted by some: but the subject was extremely *doubtful* from the *difficulties* hereafter to be explained, which were soon cleared away by the bright emanations of a JENNER!

* These curious facts, which came out *after* the establishment of *vaccine inoculation* by the illustrious Dr. JENNER, are derived chiefly from the laudable activity of Dr. PEARSON in his "*Inquiry*;" or are to be met with in the "*Physical Journal*," a medical magazine, which has gained the approbation of its numerous readers by the very candid manner it has conducted the extended information received respecting the *Cow-pox*, and the judicious remarks occasionally introduced on this important discovery by its learned editors Drs. BRADLEY and BATTY.

SECT. IX.

THE DISCOVERIES OF DR. JENNER RESPECTING
THE COW-POX.

AFTER the perusal of some parts of the two last sections, it might appear surprising to many, that the *cow-pox* was not *long ago* made a subject of general attention, and, by an apparently easy transition, introduced as a substitute for variolous inoculation.—But when we consider how few there are who dare quit the trammels of education, and depart from the beaten track; how few that have activity of mind sufficient, and resolution, to investigate a subject involved in much obscurity; and, indeed, how seldom fortunate the searchers into difficult subjects are, so as to unravel the whole perplexity, and force conviction upon a world, fearful of becoming the dupes of visionary schemes, and adverse to the receiving of novelties; no one will, after such a consideration, refuse his assent to the merit ascribed to Dr. JENNER.

Instead of being dazzled at the newness of this subject, and overwhelmed with the grandeur of one conception; instead of being satisfied with the single and important discovery, that the *vaccine inoculation* could be made a substitute for the *variolous* (the *cow-pox* for the *small-pox*); “a discovery

covery so salutary to the human race," and seemingly sufficient to satiate the fullest ambition; this great physician patiently laboured throughout the whole subject, and traced *also* the origin of the cow-pox, its several stages, its discrimination from other pustular diseases with which it might be confounded, and conducted this arduous investigation with a penetration and modesty the most admirable!

The cold statue-like insensibility of some; the affected indifference of others; the sneer uttered by this man; the irritable self-love of the other; the attachment of mankind for the practice of their fathers; the hatred of novelty; all the low and vulgar prejudices*; with falsehoods abundantly forged,

* Among these can we refrain from reckoning the Queries made by Dr. MOSELEY in his "*Medical Observations*."

"The small-pox (says this writer) is undoubtedly an *evil*; but we understand the *extent* of that ill, which we *had better bear*

"Than fly to others we *know not of*."

"The subject respecting the distempers arising from the brute creation, of which we know *but little* at present, has not been overlooked by the learned and curious, nor is history destitute of *many instances* of their *fatal effects* to the human race."

"Who knows what ideas may not arise in the course of time from a *brutal fever* having excited its incongruous impressions on the brain?"

"Who knows, also, but that the *human character* may undergo

forged *, and mistaken facts, assailed Dr. JENNER,
as

dergo *strange mutation* from quadrupedan sympathy, and that some modern PASIPHAE may rival the fables of old ?”

“ I write this,” adds Dr. Moseley, “ to stop the hurry of public *credulity*, and guard parents against suffering their children becoming *victims* to experiment.”

“ I am truly sorry,” says Dr. LETTSOM, “ to find my friend Dr. MOSELEY, whose learning and extensive practice must have great influence on the public opinion, should have conceived very *false notions* of VACCINE INOCULATION, and oppose it on account of its *origin*, and even venture so far as to brand the *promoters* of the discovery of Dr. JENNER, as persons *infected* with *Cow-mania*.” Vide note at page 110.

* “ It has been asserted, that persons have had the small-pox after having been affected with the cow-pox; and some facts have been published with a view to show that instances of this kind have actually happened. But all these, as far as I have seen, have been very defective in not affording sufficient proof, that the affection, supposed to have been the cow-pox, was in *reality* that disease.” WOODVILLE.

For a full detection of numerous forgeries and errors, vide an elaborate Treatise on the Cow-Pox, in two volumes octavo, 500 pages in each volume, containing “ *the History of VACCINE INOCULATION, and an Account of the various publications which have appeared on the subject, in Great Britain, and other parts of the world.* By JOHN RING, Member of the Royal College of Surgeons in London.”

“ The practice of inoculating with vaccine matter is introduced,” says this laborious and energetic author, “ under the most happy auspices. It was first ushered into the world by a physician, endowed *with every accomplishment that can adorn his profession*; it has since been adopted by others, *who have distinguished themselves in similar pursuits.*”

“ There

as they did our immortal HARVEY, at the onset; but he stood like a rock immoveable :

Ille—velut rupes, vastum quæ prodit in æquor,
Obvia ventorum furiis, expostaque ponto,
Vim cunctam atque minas perfert cœlique marisque,
Ipsa immota manens.

VIRGIL.

and

“ There are, however, some persons, equally hostile to all excellence, and to all improvement, who declare open war against this *new light*; like the bat, which cannot endure the face of day. One of them intimates, in the *Gentleman's Magazine*, “ that he is determined to go to church through the same dirty road where his ancestors trudged before him; that if his ancestors had worshipped Belzebub, he would have worshipped Belzebub also; that he wishes to practise physic, as he always has practised it; and that he is a sworn enemy to all *INNOVATION*, in *religion, politics, and physic*.”

“ If innovation in the practice of physic is to be excluded, adieu to all improvement! It is therefore to be hoped, that those who entertain the same sentiments, already practise it in perfection!”

“ For the sake of others, who have not attained that consummate excellence, so devoutly to be wished,—who consider medicine as in a progressive state,—and, with HIPPOCRATES, deem it an art only to be matured by length of time,—I shall extend my researches; and endeavour to collect, from every quarter, the *testimonies* advanced in favour of this practice, and the *objections* urged against it.”

“ To those who have perused all that has been written in its behalf, and seen the diseases under the mild aspect which it now assumes, any farther attempt to recommend it may appear like a waste of argument; but, having con-
sidered

and patiently listening to, and answering all objections *, he evinced himself both the philosopher and the gentleman.

1. *Respecting the origin of the Cow-pox* Dr. JENNER offers the following conjecture :

He remarks " that, the active quality of the virus from the horses' heels is greatly increased after it has acted on the nipples of the cow, as it *rarely* happens that the horse affects the dresser with sores, and as rarely that a milk-maid *escapes* the infection when she milks infected cows. It is most active *at the commencement of the disease*, even before it has acquired a pus-like appearance; indeed I am not confident whether this property in the matter does not entirely cease as soon as it is secreted in the form of pus. I am induced to think it does cease, and

considered the *prejudices that still prevail, owing to ignorance and misrepresentation*, I esteem it a SACRED DUTY to try to *dispel the mist, and free the mind from delusion.*"

" Oh ! while adown the stream of time thy name

" Expanded flies, and gathers all its fame, —

" Say, shall *my little bark* attendant sail,

" Pursue the triumph, and partake the gale !" POPE.

Certainly it will ; and the name of RING will pass down the current of time, as one of the most active and able champions of the fame of Dr. JENNER ; and his work will be esteemed as a most faithful mirror of the various sentiments excited by, and the progress of, this immortal discovery !

* Vide further observations on the Variolæ Vaccinæ, or Cow-pox, by E. Jenner, M.D. F.R.S. being a vindication of his former opinions, with additional remarks.

that it is the thin darkish-looking fluid *only*, oozing from the *newly-formed cracks in the heels* *, similar to what sometimes appears from erysipelatous blisters, which *gives the disease*. Nor am I certain that the nipples of the cows are at *all times* in a state to receive the infection. The appearance of the disease in the spring and early part of the summer, when they are disposed to be affected with spontaneous eruptions so much more frequently than at other seasons, induces me to think, that the virus from the horse must be received upon them when they are in this state, in order to produce effects: experiments, however, must determine these points. But it is clear that when the cow-pox virus is once generated, that the cows cannot resist the contagion, in whatever state their nipples may chance to be, if they are milked with an infected hand."

He goes on to say, "whether the cow-pox is a *spontaneous* disease in the cow, or is to be attributed to matter conveyed to the animal, as I have conceived, from *the horse*, is a question, which, though I shall not attempt now fully to discuss, yet I shall digress so far as to adduce some observations, and give my reasons for taking up an opinion that to some has appeared extremely *fanciful*. The aggregate of these observations, though not amounting to positive proof, forms *presumptive evidence* of so forcible a kind, that I imagine it might on any

* This observation should be carefully considered by experimenters.

other person have made the same impression it did on me, without fixing the imputation of *credulity**."

"FIRST.

* Relative to Dr. WOODVILLE's opposition to Dr. JENNER as to the origin of the Cow-pox, who represents Dr. Jenner as "*mifled*," (Dr. W— not succeeding in producing the *cow-pox* from the grease in horses,) all we dare at present say is,—"

"Humanum est errare." HOR.

a motto which may be as a salvo applied to either party. And we would wish the reader to reflect, that, as long as the *Cow-pock matter* is to be procured with facility for inoculation, this subject may be deemed *speculative*; and concerning the *pre-judice* of taking a disease from so useful an animal as a *horse*, or so sweet an animal as a *cow*, is certainly a point *immaterial*. The head-ache yields as readily to *black* leeches, as if they were beautifully variegated; and the *shining splendour* of the Spanish flies is of little consideration to one smarting under a blister, or labouring under strangury. The reader should look only to *facts*; for, whether the *axe* is silver or iron, the stroke is the same.

Dr. Pearson says "that Dr. PARR (not the Rev.) is the only learned man whom he knew opposed to the cow-pox." The only eminent author whom I know, who at once conceived a violent prejudice against *vaccine inoculation*, is the learned Dr. MOSELEY, so often mentioned in the notes. Like a counsellor he took advantage of the difference of opinion betwixt Dr. Jenner and Dr. Woodville "*as to the origin of the cow pox*;" and thus humourously treated a subject too grave and too important for "serious trifling."

"The *cow-pox*," says this writer, "has lately appeared in England. This is a *new star* in the *ÆSCULAPIAN* system. It was first observed from the provinces. It is so luminous there, that the *greasy-heeled* hind feet of PEGASUS are visible to the naked eye; the *hidden parts* of that constellation, which have puzzled astronomers, as to the *sex* of Pegasus, and which HIPPARCHUS, TYCHO, HEVELIUS, FLAMSTEAD, and

"FIRST. I conceived this was its source, from observing that where the cow-pox had appeared among the dairies here (unless it could be traced to the introduction of an infected cow or servant), it had been preceded at the farm by a horse diseased in the manner already described, which horse had been attended by some of the milkers."

"SECONDLY. From its being a popular opinion throughout this great dairy country, and from its being insisted on by those who here attend sick cattle."

"THIRDLY. From the total absence of the disease in those countries where the men servants are not employed in the dairies."

"FOURTHLY. From having observed that morbid matter generated by the horse frequently com-

HERSCHEL, could never discover. The reason now is evident. The medical PYTHONISSAS are divided in their opinions respecting this phenomenon."

But, to do justice to my friend Dr. MOSELEY, after this display of *deep-reading*, and *queries too ludicrous* to be delivered, I think, in earnest, he concludes, "I wish it to be understood, I mean no *disrespect* to the *ingenious*, nor to *discourage inquiry*; THE OBJECT WELL DESERVES IT:—all I desire is, that *this subject* may undergo a *deep, calm, and dispassionate* scrutiny. *In the mean time*, I would guard parents against suffering their children becoming *victims to experiment*." The language used, however, as might be expected, gave universal offence; and what was said half in joke, was supposed to be meant in gravity; and it was imagined that such opinions might stifle the inquiry; but, according to an old adage, "*Magna est veritatis potentia, et prævalebit.*"—

municates,

municates, in a casual way, a disease to the human subject so like the cow-pox, that in many cases it would be difficult to make the distinction between one and the other."

"FIFTHLY. From being induced to suppose, from experiments, that some of those who had been thus affected from the horse resisted the small-pox."

"SIXTHLY. From the progress and general appearance of the pustule on the arm of the boy whom I inoculated with matter taken from the hand of a man infected by a horse; and from the similarity to the cow-pox of the general constitutional symptoms which followed."

"One instance has lately occurred to me," adds Dr. JENNER, "of the system being affected from the matter issuing from the heels of horses, and of the person remaining afterwards unsusceptible of the variolous contagion; and another, where the small-pox appeared obscurely."

"THOMAS PEARCE is the son of a smith and farrier near to this place. He never had the cow-pox; but, in consequence of dressing horses with *fore heels* at his father's, when a lad, he had sores on his fingers which suppurated, and which occasioned a pretty severe indisposition. Six years afterwards I inserted variolous matter into his arm repeatedly, without being able to produce any thing more than slight inflammation, which appeared very soon after the matter was applied, and

afterwards I exposed him to the contagion of the small-pox with as little effect."

"Mr. JAMES COLE, a farmer in this parish, had a disease from the *same source* as related in the preceding case, and some years after was inoculated with variolous matter. He had a little pain in the axilla, and felt a slight indisposition for three or four hours. A few eruptions shewed themselves on the forehead, but they very soon disappeared without advancing to maturation."

"It is a remarkable fact, and well known to many, that we are frequently foiled in our endeavours to communicate the small-pox by inoculation to blacksmiths, who in the country are farriers. They often, as in the above instance, either resist the contagion entirely, or have the disease anomalously. Shall we not be able *now* to account for this on some rational principle?"

"I fear it would be trespassing too far on the patience of my readers to adduce the *general testimony* of our farmers in support of this opinion; yet I beg leave to introduce an extract of a letter on this subject from the Rev. Mr. Moore, of Chalford Hill, in this county."

"In the month of November, 1797, my horse had diseased heels, which was certainly termed the *grease*; and at a short subsequent period my cow was also affected with what a neighbouring farmer (who was conversant with the complaints of cattle) pronounced to be the *cow-pox*, which he at the
same

same time observed my servant would be infected with: and this proved to be the case; for he had eruptions on his hands, face, and many parts of the body, the pustules appearing large, and not much unlike the small-pox, for which he had been inoculated a year and a half before, and had then a very heavy burthen. The pustules on the face might arise from contact with his hands, as he had a habit of rubbing his forehead, where the sores were the largest and thickest."

"The boy associated with the farmer's sons during the continuance of the disease, neither of whom had had the small-pox, but they felt no ill effects whatever. He was not much indisposed, as the disease did not prevent him from following his occupations as usual. No other person attended the horse or milked the cow, but the lad above mentioned. I am firmly of opinion that the disease in the heels of the horse, which was a *virulent grease*, was the cause of the servant's and the cow's malady."

"The origin of the cow-pox," says Mr. RING, the very able advocate of Dr. Jenner, in a letter he published in the London Medical Review, "is *now* clearly ascertained. Dr. Jenner lately sent me some matter which Mr. TANNER, of Rockhampton in Gloucestershire, produced by inoculating a cow from *the heel of a horse*; and also from the dairy-maid who milked the cow. The former, being taken at a very late period of the disease, failed; but the

latter took place, and the *true vaccine pustule* has been excited by it four or five times successively."

"When Dr. MARSHALL, of Stonehouse, was consulted about the dairy-maid of a farmer in his neighbourhood, he perceived four or five pustules on the back of her hand. Upon inquiry, it was found that the cow-pox was in the farm; and that the farmer's son, one morning when he had been dressing *the heels of a horse*, milked the cow in which the disease afterwards broke out, because she was too unmanageable for the milk-maid."

"Mr. RANKIN, an eminent surgeon, of East-bourn, lately sent me a case of a disease, occasioned by matter from *the horse's heel*, greatly resembling the cow-pox; and I am informed by good authority, that Sir Christopher Pegge is possessed of evidence, to prove the truth of the opinion advanced by Dr. Jenner."

In the Medical Journal for November, we have the pleasure, as hinted above, to find a letter from Sir CHRISTOPHER PEGGE, the learned reader on anatomy in the university of Oxford, concerning the origin of the vaccine virus.

In this letter Sir Christopher Pegge relates a series of facts, tending to establish Dr. Jenner's opinion, that the cow-pox is originally produced by the matter of *grease*. These facts were communicated to Sir Christopher Pegge by Mr. Lupton, surgeon, of Thame.

Sir Christopher Pegge says, "the attention of
Mr.

Mr. LUPTON was first drawn to the present subject in March last ; when the son of Mr. WRAY, farmer, of Ichford, applied to him on account of a complaint in his hand, attended with ulcerations very much resembling the cow-pox. There was evidently a very great derangement of the system, and the symptoms plainly indicated an absorption of the morbid matter ; as the case was also attended with considerable swelling of the hand and arm, an enlargement of the axillary glands, rigors, pain in the head and back, together with a greatly increased quickness of the circulation."

" He could only account for these complaints, from his having washed *the ulcerated heels of a horse* ; having had no previous communication with the cows."

" These circumstances led Mr. LUPTON to conceive, that there might be a disease incident to the horse, analogous to the cow-pox, and communicable to the cow ; and, upon repeated inquiry, he was satisfied, that it was not the common grease to which horses are liable, that had produced the above effects."

" Mr. Lupton was so good as to communicate this information to me at the time ; treating it as a matter of curiosity rather than of *serious* investigation ; and I heard no more of him on this subject, till the 8th of April, when I received the following letter :"

" Dear

" Dear Sir,

" Since my last letter respecting Mr. WRAY's son, I have had another case of infection communicated to the human subject; owing to matter absorbed from the *ulcerated heels of a horse*. The person is RICHARD HUNT, a servant of Mr. Randolph, of Thame-Park Farm; whose first symptoms were stiffness and uneasiness of the arm, swelling of the axillary glands, succeeded by pustules on the hand, and a very painful suppuration of the middle finger; which had that blue appearance described by Dr. Jenner, as indicating the *true vaccine disease*. These were accompanied with rigors frequently recurring, attended with great heat, anxiety, giddiness, pain in the head and back, sickness and vomiting."

" Such were the appearances when I first saw him, which was on Sunday, March 30. On the 31st, he had a very bad night, and had been slightly delirious; the other arm growing stiff and painful. April 1st, he was much better in every respect, except the painful state of the finger, and the inflammation of the hand and arm. The course of the lymphatics was at this time beautifully marked with streaks of a vivid red colour, extending from the wrist to the axilla. April 2d, he continued better. April 3d, he had a bad night, from the pain of the finger. A puncture was now made, and about two tea-spoonfuls of a dark brown coloured fluid were discharged."

" April

" April 4th, the cuticle was removed; and discovered a shining red ulcerated surface, in the middle of which was a spot of a sloughy appearance, of the size of a silver penny. This was covered with the red nitrate of quicksilver. The inflammation, pain, and swelling of the hand and arm, were now considerably abated; and in other respects he was much relieved. April 6th, the finger was much better: the pustules of the hand had a *dark-coloured depression in the centre, surrounded with an elevated margin of matter*. From this time he had no complaint. It must be particularly remarked, that this man has not milked any cow since last Michaelmas."

We are then informed, "that on the 9th of April, JOHN WATSON, another servant of Mr. Randolph, applied to Mr. Lupton, with symptoms similar to those of the former; in consequence of having assisted Hunt in dressing *the heels of the horse*. WATSON was employed in milking the cows. Previous to the appearance of ulceration on his hands, the cows had been infected more than a week; and there can be no doubt that the cows had received infection from the horse, through the medium of this man."

"Whether the ulceration in his hands was the immediate effect of matter received from the heels of the horse, or of that which had undergone a modification in the teats of the cow," Sir Christopher PEGGE observes, "it is not easy to decide; but he
has

has no doubt that the virus was conveyed by this man from the heels of the horse to the teats of the cow."

On the 18th of May Sir Christopher PEGGE happened to be at Thame, and was informed by Mr. Lupton, "that a *third* servant of Mr. Randolph was affected in a similar manner; and it was evident he had received the infection *from the cows*; as he had never assisted in dressing the heels of the horse. The disorder from which this virus originates, we are told by Sir Christopher Pegge, is termed by farriers a *scratchy heel*; and considered as widely different from common grease."

From the last of these men, Mr. Lupton inoculated several children; whom Sir Christopher Pegge saw on the eighth day after inoculation, with the most decided appearance of *true cow-pox* upon them. "This appearance (he says) he could not mistake, after having witnessed so many instances of it at his friend's, (Mr. FERMOR's) of Tusmore; whose benevolent and disinterested exertions have contributed so largely to the stock of facts in support of a discovery which promises to be of the greatest benefit to mankind."

"In all the children who were inoculated with this matter, the disease terminated favourably; and as neither of them has had the small-pox, Mr. Lupton inoculated them with variolous matter, but *without effect*."

As the *origin* of the cow-pox appears to be of
the

the utmost importance, as *the grease* of the horse can produce the cow-pox at pleasure, or, if not the cow-pox, might itself be used as a substitute for it; I shall beg leave to trespass a little longer on my readers, and adduce a fresh authority of considerable weight.

A young man, a butcher at Middleton near Pickering in Yorkshire, applied to Dr. Lox on account of painful sores on both hands.

These shewed a surrounding inflammation, and formed themselves into vesicles.

A tumour arose also under the arm-pits, which soon after dispersed.

A considerable degree of fever accompanied for a time the disease.

The patient could not account for it otherwise than from applying remedies to the heels of a horse affected with the *grease*.

Two experiments with different cows were immediately commenced.

Experiment I.

In the *one* the fluid limpid matter immediately issuing from the *grease* of the horse was inserted into the teat of a cow.

On the *fifth* day the wound appeared rather elevated, and a faintish redness succeeded.

In a few days a vesicle formed containing a large quantity

quantity of watery fluid, of a purple tinge, as in the cow-pox.

Experiment II.

In the *other* cow, the matter was taken from the hand of the patient mentioned above, and inserted into the udder.

On the *ninth* day there presented itself a vesicle surrounded by a rose-coloured rim.

The udder to a considerable extent was hard and painful, so that the animal would hardly suffer it to be handled.

The vesication continued to spread for several days, until it scabbed, and healed without any remedy.

Experiments III. & IV.

From *both these cows* on the *ninth day* matter was taken, and inserted into the arms of two different patients.

The progress of the inoculation was closely watched, and the vesication, inflammation, and scabbing, was found *exactly* to correspond with the appearances presented by a mild inoculated cow-pox.

Both these children were afterwards plentifully inoculated with the small-pox virus, *but without producing the disease.*

Experiment

Experiment V.

Dr. Lox's next experiment was with the fluid of the greafe itself not modified by being ingrafted in the cow.

On the *third* day after the insertion a small inflammation surrounded the incision.

On the *fourth* the inoculated part was much elevated, and a vesicle, of a purple colour, was completed on the *fifth*.

On the *sixth* and *seventh* the vesicle increased, and the inflammation extended, and became of a deeper colour.

Then arose the feverish symptoms, as heat, pain in the head, difficulty of breathing, quick pulse, tongue white, thirst, sickness, vomiting, which continued from the *seventh* to the *ninth* day.

This patient was inoculated with the small-pox virus, but without its producing the disease.

Experiment VI.

From this patient, but one remove from the horse, on the *sixth* day matter was taken, and five children were inoculated, which succeeded in each, and took on the character of the mild cow-pock.

On the *tenth* day they were each inoculated with the small-pox, but nothing appeared from the insertion of the variolous matter, except a very small degree

degree of inflammation, which vanished on the fifth day*.

2. Dr. JENNER *distinguishes the spurious from the real cow-pox.*

"In the course of the investigation of this subject," says this accurate Examiner into nature, "which, like all others of a complex and intricate nature, presented many difficulties, I found that some of those *who seemed to have undergone the cow-pox*, nevertheless, on inoculation with the small-pox, felt its influence just the same as if no disease had been communicated to them from the cow. This occurrence led me to inquire among the medical practitioners in the country around me, who all agreed in this sentiment, that the cow-pox was not to be relied upon as a *certain* preventive of the small-pox. This for awhile damped, but did not extinguish, my ardour; for, as I proceeded, I had the satisfaction to learn that the cow was subject to some varieties of spontaneous eruptions upon her teats; that they were all capable of communicating sores to the hands of the milkers; and that whatever sore was derived from the animal, was called in the dairy the cow-pox. Thus I surmounted a great

* Vide "*An Account of some experiments on the origin of the Cow-pox* by JOHN LOY, M.D." A very ingenious pamphlet, which we would recommend to the careful perusal of those who wish to make experiments on this subject; as *the grease*, from other trials, is proved in the same book incapable, in every instance, of producing the disease required.

obstacle, and, in consequence, was led to form a distinction between these diseases, one of which only I have denominated the *true*, the others the *spurious* *, cow-pox, as the latter possess no specific power of guarding the constitution.”

“ This impediment to my progress was not long removed, before another, of far greater magnitude in its appearance, started up. There were not wanting instances to prove, that when the *true* cow-pox broke out among the cattle at a dairy, a person who had milked an infected animal, and had thereby apparently gone through the disease in common

* One of the chief objects, then, of our pursuit, as I have observed, should be, to learn how to *distinguish* with accuracy between that peculiar pustule which is the *true* cow-pock, and that which is *spurious*. Until experience has determined this, we view our object through a mist. Let us for instance suppose, that the small-pox and the chicken-pox were at the same time to spread among the inhabitants of a country which had never been visited by either of these distempers, and where they were quite unknown before ; what confusion would arise ! The *resemblance* between the symptoms of the eruptive fever and between the pustules in either case would be so striking, that a patient, who had gone through the chicken-pox to any extent, would feel equally easy with regard to his future security from the small-pox, as the person who had actually passed through that disease.—As far as I could learn, the *spurious* pustules are of a much milder nature than those which arise from that contagion which constitutes the *true* cow-pox. They are always free from the *bluish* or *livid* tint, so conspicuous in the pustules of that disease. No erysipelas attends them, nor do they shew any phagedenic disposition as in the other case ; but *quickly terminate in a scab*, without creating any apparent disorder in the cow. JENNER.

with others, was liable to receive the small-pox afterwards. This, like the former obstacle, gave a painful check to my fond and aspiring hopes: but reflecting that the operations of nature are generally uniform, and that it was not probable the human constitution (having undergone the cow-pox) should in some instances be perfectly *shielded* from the small-pox, and in many others remain *unprotected*, I resumed my labours with redoubled ardour. The result was fortunate; for I now discovered that the virus of the cow-pox was liable to undergo *progressive changes* *; and that, when it was applied to the human skin in its degenerate state, it would produce the ulcerative effects in as great a degree

* This observation will fully explain the *fertile source* of those errors which have been committed by many inoculators of the cow-pox. Conceiving the whole process to be so extremely simple, as not to admit of a mistake, they have been heedless about the *state* of the vaccine virus; and finding it limpid, as part of it will be, even in an *advanced stage* of the pustule, when the greater portion has been converted into a scab, they have felt an improper confidence, and sometimes mistaken a *spurious pustule*, which the vaccine fluid in this state is capable of exciting, for that which possesses the perfect character. After the *ninth* day it is uncertain, whether the *genuine* cow-pock will be produced. Another source of the *spurious* disease has arisen also from the *true early* matter of the cow-pock being taken on a lancet; this has corroded the iron, and the matter then will only produce a *common ulcerating sore*, having none of the *genuine* characters of the cow-pock.—Holding the matter before the fire to dry it will immediately take away its specific virtue. The heat of the body has produced the same effect. JENNER.

as when it was not decomposed, and sometimes far greater; but, having lost *its specific properties*, it was incapable of producing that change upon the human frame which is requisite to render it unsusceptible of the variolous contagion: so that it became evident a person might milk a cow *one day*, and, having caught the disease, be for ever secure; while another person, milking the same cow the *next day*, might feel the influence of the virus in such a way as to produce a sore or sores, and in consequence of this might experience an indisposition to a considerable extent; yet, as has been observed, the *specific* quality being lost, the constitution would receive no change so as to render it secure from the small-pox."

3. Dr. JENNER *first attempts the regular inoculation of the cow-pox.*

"During the investigation of the casual cow-pox, I was struck," continues the great Dr. JENNER, "with the idea that it might be practicable to propagate the disease by *inoculation*, after the manner of the small-pox, first from the cow, and finally from one human being to another. I anxiously waited some time for an opportunity of putting this theory to the test. At length the period arrived."

CASE I.

The first experiment was made upon a lad of the name of PHIPPS, in whose arm a little vaccine virus

was inserted, taken from a pustule on the hand of a dairymaid* who was infected by her master's cows, and it was inserted on the 14th of May, 1796, by means of two superficial incisions, barely penetrating the cutis. By the *fourth* day a pustule† appeared. On the *seventh* he complained of uneasiness in the axilla, and on the *ninth* he became a little chilly, lost his appetite, and had a slight head-ache. During the whole of this day he was perceptibly indisposed, and spent the night with some degree of restlessness, but on the day following he was *perfectly well*.

The appearance of the incisions in their progress to a state of maturation were much the same as when produced in a similar manner by variolous matter. The only difference which I perceived was, in the state of the *limpid fluid* arising from the action of the virus, which assumed rather a darker hue, and in that of the efflorescence spreading round the incisions, which had more of an *erysipelatous look* than we commonly perceive when variolous matter has been made use of in the same manner; but the whole died away (leaving on the

* From the fore on the hand of Sarah Nelmes.—See the preceding case and plate, page 28, of Jenner's Inquiry.

† This appearance was in a great measure new to me, and I ever shall recollect the pleasing sensations it excited; as, from its similarity to the pustule produced by variolous inoculation, it incontestibly pointed out the close connexion between the two diseases, and almost anticipated the result of my future experiments. JENNER.

inoculated

inoculated parts *scabs* and subsequent *ischars*) without giving me or my patient the least trouble.

This case inspired me with confidence; and, as soon as I could again furnish myself with virus from the cow *, I made an arrangement for a series of inoculations. A number of children were inoculated in succession, one from the other; and after several months had elapsed, they were exposed to the infection of the small-pox; some by inoculation, others by variolous effluvia, and some in both ways; *but they all resisted it*, as will be shewn hereafter.

CASE II.

WILLIAM SUMMERS, a child of five years and a half old, was inoculated the same day with Baker, with matter taken from the nipples of one of the infected cows, at the farm alluded to in note below.

He

* My researches were interrupted till the spring of the year 1797, when, from the wetness of the early part of the season, many of the farmers' horses in this neighbourhood were affected with *fore heels* (the grease in its first stage) in consequence of which the *cow-pox* broke out among several of our dairies, which afforded me an opportunity of making further observations upon this curious disease.

A mare, the property of a person who keeps a dairy in a neighbouring parish, began to have fore heels the latter end of the month of February 1798, which were occasionally washed by the servantmen of the farm, THOMAS VIRGOE, WILLIAM WHERRET, and WILLIAM HAYNES, who, in con-

He became indisposed on the *sixth* day, vomited once, and felt the usual slight symptoms till the *eighth* day, when he appeared perfectly well.

CASE III.

From William Summers the disease was transferred to WILLIAM PEAD, a boy of eight years old, who was inoculated March 28th.

On the *sixth* day he complained of pain in the axilla, and on the *seventh* was affected with the common symptoms of a patient sickening with the small-pox from inoculation, which did not terminate till the *third* day after the seizure.

The *efflorescent blush* around the part punctured in the boy's arm was truly characteristic of that which appears on variolous inoculation.

CASE IV.

April 5th, *several children and adults* were inoculated from the arm of William Pead.

sequence, became affected with sores in their hands, followed by inflamed lymphatic glands in the arms and axilla, shiverings succeeded by heat, lassitude and general pains in the limbs. A single paroxysm terminated the disease; for within twenty-four hours they were free from general indisposition, nothing remaining but the sores on their hands. HAYNES was daily employed as one of the milkers at the farm, and the disease began to shew itself among *the cows* about ten days after he first assisted in washing the mare's heels. Their nipples became sore in the usual way, with *bluish* pustules. JENNER.

HANNAH

HANNAH EXCELL, an healthy girl seven years old, and one of the patients abovementioned, received the infection from the insertion of the virus under the cuticle of the arm in three distinct points *. The pustules which arose in consequence, so much resembled, on the *ninth day*, those appearing from the insertion of variolous matter, that an experienced inoculator would scarcely have discovered a shade of difference at that period. Experience now tells me that almost the only variation which follows consists in the pustulous fluids remaining *limpid* nearly to the time of its total disappearance; and not, as in the direct small-pox, becoming *purulent*.

CASE V.

From this girl's arm matter was taken and transferred to that of J. BARGE, a boy of seven years old.

He sickened on the *eighth day*, went through the disease with the *usual slight symptoms*, and without any inflammation on the arm beyond the common efflorescence surrounding the pustule, an appearance so often seen in inoculated small-pox.

* This was not done intentionally, but from the accidental touch of the point of the lancet, one puncture being always sufficient. JENNER.

Proofs that these having had the cow-pock were rendered insusceptible of the small-pox.

“ In order to ascertain whether my first patient PHIPPS, after feeling so slight an affection of the system from the cow-pox virus, was secure from the contagion of the small-pox, he was inoculated the 1st of July following with variolous matter, immediately taken from a pustule.”

“ Several slight punctures and incisions were made on both his arms, and the matter was carefully inserted, *but no disease followed.*”

“ The same appearances were observable on the arms as we commonly see when a patient has had variolous matter applied, after having either the cow-pox or the small-pox.”

“ Several months afterwards he was again inoculated with variolous matter, *but no sensible effect was produced.*”

“ It did not appear necessary, nor was it convenient to me, to inoculate the whole of those who had been the subjects of these late trials; yet I thought it right to see the effects of variolous matter on some of them, particularly WILLIAM SUMMERS, (vide Case III.) the first of these patients who had been infected with matter taken from the cow.”

“ He was therefore inoculated with variolous matter from a fresh pustule; but, as in the preceding cases, *the system did not feel the effects of it in the smallest degree.*”

“ I had

"I had an opportunity also of having BARGE (Case V.) and WILLIAM PEAD (Case III.) inoculated by my nephew, Mr. Henry Jenner, whose report to me is as follows: "I have inoculated PEAD and BARGE, two of the boys whom you lately infected with the cow-pox. On the *second* day the incisions were inflamed, and there was a pale inflammatory stain around them. On the *third* day these appearances were still increasing and their arms itched considerably. On the *fourth* day the inflammation was evidently subsiding, and on the *sixth* it was scarcely perceptible. *No symptom of indisposition followed.*"

"To convince myself that the variolous matter made use of was in a perfect state, I at the same time inoculated a patient with some of it who had never gone through the cow-pox, and it produced the *small-pox* in the usual regular manner."

"These experiments," says Dr. JENNER, "afforded me much satisfaction; they proved that the matter in passing from one human subject to another, through five gradations, lost none of its original properties, J. BARGE being the *fifth* who received the infection successively from WILLIAM SUMMERS, the boy to whom it was communicated from the cow."

These cases of vaccine inoculation, added to a more extended experience, led to the FOLLOWING CONCLUSIONS.

FIRST

FIRST CONCLUSION.

Those who have had the cow-pox, either naturally, or by inoculation, are ever after insusceptible of the small-pox.

Both these positions were before proved by Dr. JENNER, and indeed the natural and inoculated cow-pox resemble each other so much, except in the parts * affected, that we should be surprised, if they were found to differ in their properties. They therefore illustrate each other.

When inoculation of the *small pox* was first introduced, there was a dispute whether or not these two diseases were one and the same. "In the first place," says the learned MEAD, "there are some, who insist upon it, that the eruptions produced by inoculation are not the genuine small-pox, and con-

* The author of this pamphlet has inoculated in the arms, legs, neck, fingers, and different parts of the body, without finding a material difference with respect to the disease. It is so uniformly mild, that the shades of difference from the parts infected seem unimportant. The leg in female infants has been, however, preferred, and in boys the lower part of the arm, as being parts farthest removed from the fountain of circulation, and hence less subject to active inflammation, the chief or only consideration in this disease which is often unaccompanied with any constitutional affection.

frequently

frequently that they cannot secure any one from having the disease *hereafter* *. Moreover, they take pains to bring testimonies of patients, who, after having undergone the artificial distemper, have nevertheless been *afterwards* seized with the "true one." "Now," continues Mead, "I own, I cannot understand how contagion, that is, the very seed of the disease, should produce, not its own proper distemper, but another of a quite different kind. Neither certainly does it matter, by which

* We had not been so diffuse in this part, more than the subject indeed merits, unless the objection against the cow-pox had been frequently urged, "that it only secures *for a time*."

"In this *cow mania*," says my learned friend Dr. MOSELEY, (who, it is to *me* most extraordinary should have been the *first* to conceive and propagate the most glaring errors respecting vaccine inoculation), "it is not," says this *προφητεῖς κακῶν*, "enough for reason to conclude, that the cow-pox may lessen *for a time* the disposition of the habit to receive the infection of the small-pox. All cutaneous determinations, catarrhal fevers, and every disease of the lymphatics, and medicines tending to what Sydenham would call depurating the system, *do the same*." Again, "Who can foretell what misery, from this cause, may not be brought on a family after *many years* of IMAGINARY SECURITY!"—Such, with more weight, were the arguments, as we see, urged against *various* inoculation at its *introduction*, which apply certainly much less to the cow-pox, as this disease is only taken by contact of the virus with an abraded cuticle, and therefore is, in fact, an *inoculation*; and Dr. JENNER with others have given us *certain* proofs of SIXTY-THREE YEARS *security* arising from the *natural*, or *casual*, *cow-pox*.

way the infection is received, provided it brings forth manifest marks of the disease. And as to those, who, after having been inoculated with success, are, notwithstanding this, said to have suffered the small-pox ; I must protest, that, after the most diligent inquiry, I have not been able to find out one convincing proof of this kind. I very well know, that *a story* is spread abroad, particularly by a late author, of a boy, upon whom, about three years after he had contracted the disease by inoculation, it broke out again. But I am well assured, that this narration is of doubtful credit ; and that there were some of the family who affirmed, that no small-pox appeared upon the inoculation ; that the parents (as we easily believe what we wish) and that the byestanders did not care to take away from them this pleasing mistake."

"But, to speak plainly, if such a thing happened once, why do we not see it come to pass oftener ? Or what can a single example, supposing it to be true and certain, avail, when innumerable experiments have produced nothing like it ? However, some men are infected with an incurable itch of writing, and take great pleasure in contradicting others, to whom they bear envy. Let us therefore give them leave to applaud themselves, and enjoy their own vain glory."

SECOND CONCLUSION.

Those who are labouring under the natural, or inoculated cow-pox, cannot communicate this disease by contagion.

The only admission of the *cow-pox* is by actual meeting of the vaccine fluid with an abraded surface, as some sore, scratch, chop, or crack of the cuticle; for the sound flesh, and likewise the breath, denies an avenue to this glorious *antidote*, the true *Mithridate*, of one of the most tremendous of the animal poisons, which has laws *peculiar* to itself, little known, and deserving attention.

When the *small-pox* invades a village or town, terror and dismay are spread in every direction. Supposing the air to be infected, some people carry their fears so far that they will not come even within a mile of the infected place; and to pass the door of the house where the *small-pox* is contained would be esteemed an act of the greatest hardihood. In order that we may know how far our fears are grounded, we must have recourse to experiments actually made by inquiring physicians.

“Having tried many fruitless experiments, I concluded,” says Dr. O’Ryan, “that the children, the objects of them, could not have escaped infection, but because the variolous matter had lost that spring, and that degree of energy, which, perhaps,
it

it may possess on arising immediately from the human body, I therefore placed a person, in the eruptive fever of the small-pox by inoculation, at the distance of about half a yard from four children properly prepared; each exposure continued one hour, and was repeated daily for a fortnight, reckoning from the commencement of the fever till the pustules were become perfectly dry: not one of the four received the infection. Two months afterwards I inoculated three of these children: they had the distemper in the usual mild manner, and recovered without difficulty."

"I can," says Dr. Currie, "bring many facts, to prove that the contagion has spread a very little way into the atmosphere in situations where many patients have been confined together, and consequently the quantity of effluvia greatly multiplied. These are chiefly from the accounts of our Guinea voyages, in which the small-pox used formerly to make, at times, dreadful havoc among the slaves. The practice, however, of late years has been, immediately on the appearance of the casual disease on shipboard, to inoculate the whole cargo; and nothing can speak more forcibly the safety of inoculation, than the complete success with which it has generally been attended on persons of all ages, entirely unprepared, and under circumstances every way unfavourable. As, however, a general inoculation, under such circumstances, is always followed by unpleasant, and sometimes by destructive consequences,

sequences, it is not now uncommon to separate the diseased persons, and to trust to means of prevention for the safety of the rest. These frequently, perhaps, I might say generally, succeed, provided the voyage is performed with light and favourable winds, which is necessary to enable them to make the separation complete. An instance of this has just occurred in a Guineaman, called the *Golden Age*. Soon after she left the coast of Africa the small-pox appeared, and, before the disease was known, eight persons were affected; the whole were immediately brought on deck, their apartments washed and ventilated with the greatest care, and the eight persons ill were placed in the main-top about twenty feet from the deck, where they regularly passed through the disease. Before coming down, they were washed, the contagion was extinguished, and the whole cargo, as well as crew, arrived in perfect health in the West Indies. During all this time, the slaves, as is usual, passed the day near them; but, though all were supposed liable to the disease, not one of two hundred and upwards thus exposed received the infection. My friend Mr. Beg, formerly surgeon, afterwards master, of a Guineaman, and now a considerable merchant here, informs me, that, in one of his voyages, he practised the same method of stopping the contagion of this disease, and with the same success. He acquaints me also, that twice, when the small-pox appeared among the slaves, while they were at anchor on the coast, he put the infected persons in
a boat

a boat a-stern of the ship, and effectually secured the people on board from the contagion."

I relate these facts to shew how far the power of our worst enemy reaches, for, like a lion confined in a den, we may approach the railing to a certain distance with safety: but unfortunately the poison may be, and is often, put up in the clothes, and thus widely spreads its baneful influence around.

The *cow-pox* patient, on the contrary, may be approached, as near as we please, and the apparel does not imbibe one particle of infectious matter to propagate this distemper.

"Many instances," says Dr. Jenner, "have come under my observation, which justify the assertion that the disease cannot be propagated by effluvia. The first boy whom I inoculated with the matter of cow-pox, slept in a bed, while the experiment was going forward, with two children who never had gone through either that disease or the small-pox, *without infecting either of them.*"

"A young woman who had the cow-pox to a great extent, several sores which matured having appeared on the hands and wrists, slept in the same bed, with a fellow dairy-maid who never had been infected with either the cow-pox or the small-pox, *but no indisposition followed.*"

"Another instance has occurred of a young woman on whose hands were several large suppurations from the cow-pox, who was at the same time a daily nurse to an infant, *but the complaint was not communicated to the child.*"

THIRD CONCLUSION.

None die of the Cow-pox either taken naturally or from inoculation.

The cow-pox never kills, the natural and inoculated small-pox not unfrequently.—If the whole merit of the cause of *vaccine inoculation* depended on this single point, it might rest secure as the greatest discovery ever made. *The cow-pox never destroys life!*—Glorious tidings!—Happy annunciation!—I who have lost by *variolous inoculation* my first-born child; a boy, who, not alone in his parent's eye, but to all who knew him, promised the fulfilment of every wish, have a just right to exult in the present fortunate discovery of Dr. JENNER. How was his lovely form defaced, and what were his sufferings, before death snatched him to an early tomb, has been drawn by me with a trembling hand, when I wrote my section on the symptoms and ravages of the small-pox!—So faithful is the portrait that I have often witnessed tears to flow in abundance, when this section has been read by others, as bringing to recollection many a similar distressing scene exhibited by some favourite child, or by some friend's or relation's child.—My tears are now wiped away, and may *theirs* be also, by the *pleasing view* of the *present ameliorated condition of humanity!*

FOURTH CONCLUSION.

The Cow-pox never disfigures the countenance.

To all who have the refined sentiment of taste, and contemplate the human form as the master-piece of creative power, and acknowledge, that female charms are destined by the ALMIGHTY as the zest of otherwise a vapid existence, must grant every praise to the *Jennerian discovery*, which is never known to disfigure (as does often the natural and inoculated small-pox) “the human face divine.”—Although external appearances are not of themselves solely to be desired, I ask, where is the parent, who does not wish for her daughters to possess a pure unblemished heart in an elegant and pleasing person? For often at the very first glance the soul takes fire, and soon after joins in holy bands of wedlock, the two sexes destined by PROVIDENCE to make each other happy. But, when the features are all changed, the nose drawn inward, a speck perhaps in both eyes, and horrid seams pervade the pallid cheek, the mind of sensibility revolts at the ruins of fair nature, and marriage is prevented unless for the sake of sordid pelf!—I shall here beg leave to make a quotation from Dr. Beddoes’s

“*Hygeia.*”

"*Hygeia* *." "What impression," says this sagacious writer, "does not a fallow unwholesome complexion, *seams from the small-pox*, scrophulous scars, and those marks which debauchery is apt to stamp upon the face, make upon the spectator? Is he not in general disposed to turn away in disgust from these appearances? or, if politeness forbid him to give way to his feelings, do they not rise to a greater height for being suppressed?—And in what manner does the mind of those who perceive themselves to be objects of aversion react?—Instead of going for an answer to the theory, which explains how our habits are formed, I shall bring one of the most sagacious of self-observers to speak for himself. The late professor, J. GEORGE BUSCH, whose memory the city of Hamburgh is at this moment employed in honouring, tells of his having had the *small-pox* at nine years old, and, though they were attended with no imminent danger, they left him *badly marked*. "I was afterwards informed," says this philosopher, "that previously to this affliction I had a comely appearance. For myself, I had never attended to the point. But one thing I know well. After this time, I perceived that those who visited my parents, universally withheld from me that kindness of attention, which with

* "*Hygeia, or a series of Essays on the means of avoiding habitual sickness, and premature mortality, on a plan entirely popular, by THOMAS BEDDOES, M. D.*" A work admirably conceived, and likely to be productive of the greatest benefit to the human race!

a child is the first motive to render himself agreeable, though they shewed it to my well-looking brothers and sisters, all the pranks that I, poor *pock-pitted* boy, to whose feet no dancing-master had given the right position, or drawn the head from between the shoulders, played in my vivacity, might indeed have been performed with an ill grace."

"This too, I should observe, was the period when the chief art of education consisted in hard words and blows. On me reproaches rained from all quarters. When my parents, who alone treated me with any degree of sense, carried me to Haarb-
burg, my grandmother and a brisk grand-aunt so *maltreated* poor George, that my father and mother were extremely unwilling I should repeat the visit. In my grandfather's favour I stood all the higher, for he was stock-blind; so could not judge of me by my exterior."—From his subsequent history—particularly from the hypochondriacal complaint into which he afterwards fell—it should seem that this man, wise and useful as he proved, never entirely recovered of the wound inflicted on his tender mind. What then can be hoped where fewer resources exist, and fewer favourable circumstances concur in riper years?

FIFTH CONCLUSION.

The Cow-pox never deprives any one of sight.

There scarce needs a comment on the advantage of the *cow-pox* over the *small-pox*, as here stated.

stated.—The blessing of vision, so often destroyed by a *small-pox pustule* settling on the eye, is but too obvious to be much insisted on. How feelingly does MILTON deplore this loss!

———— Thus with the year
Seasons return ; but not to me returns
 Day, or the sweet approach of ev'n or morn,
 Or sight of vernal bloom, or summer's rose,
 Or flocks, or herds, or human face divine;
 But cloud instead, and ever-during dark,
 Surrounds me,—from the cheerful ways of men
 Cut off,—and for the book of knowledge fair
 Presented with an universal blank
 Of nature's works, to me expung'd and raz'd,
 And wisdom at one entrance quite shut out.

SIXTH CONCLUSION.

The Cow-pox does not leave any bad humours after it.

The *small-pox* has been justly accused of often leaving the body in that state of wretched debility, as to make life afterwards only a continued series of excruciating affliction. Besides other horrid disfigurements of the person, *scrophula*, or the king's-evil, not unfrequently follows the natural or inoculated *small-pox*. The insertion of the humour of a brute into the human body in *vulgar* conception led *a priori* to the expectation of a loathsome distemper. But fortunately for the human race a more benign disease than the *small-pox* was the consequence, and

one only similar to it, in having a somewhat resembling pustule *, and in the property, of ever after securing from that fatal and loathsome distemper.

“ Every practitioner in medicine,” says Dr. Jenner, “ who has extensively inoculated with the *small-pox*, or has attended many of those who have had the distemper in the natural way, must acknowledge that he has frequently seen scrophulous affections, in some form or another, sometimes rather quickly shewing themselves after the recovery of the patients. Conceiving this fact to be admitted, as I presume it must be by all who have carefully attended to the subject, may I not ask, whether it does not appear probable that the general introduction of the *small-pox* into Europe has not been among the least conducive means in exciting that formidable foe to health? Having attentively watched the effects of the *cow-pox* in this respect, I am happy in being able to declare, that the disease does not appear to have the least tendency to produce this destructive malady.”

* In the *small-pox* the inoculated pustule is angulated, and numerous pustules surround it; in the *cow-pox*, the pustule has its edges regularly circumscribed, and stands solitary; the *small-pox* pustule contains first a fluid, then opaque matter, the *cow-pox* pustule a gelatinous fluid, which never becomes converted into pus; the edges of the *one* is more elevated, in the *other* more depressed; the scab is also much darker and harder in the *cow-pox*. JENNER.

SEVENTH CONCLUSION.

The Cow-pox may be inoculated under all circumstances.

In our introductory remarks, when giving our reasons why the inoculation with the *small-pox* could not be made *general*, we enumerated, and explained the ground of those *exceptions*, which have been justly made against *variolous inoculation*; as, *early infancy, time of teething, humours in the body, pregnancy, and old age; the danger of spreading the natural disease, &c.*—Now NONE OF THESE OBJECTIONS apply to *vaccine inoculation*. Experience hath taught that it may be employed in all *seasons*, and under *every circumstance*, even the most *adverse* to the *small-pox inoculation*.

1. *Early infancy*.—Dr. JENNER relates, “that he caused an infant, but twenty hours old, to be inoculated for the cow-pox by his nephew HENRY JENNER; and this little stranger, so newly ushered into life, felt but a very slight disease; and, being afterwards inoculated for the small-pox, and exposed to its contagion, *resisted* all attempts to communicate the small-pox.”

2. *Time of teething*.—We may adduce here the authority of Dr. DENMAN, one of the most eminent

accoucheurs in London, in confirmation of the experience of Dr. JENNER. "It became now the duty," says Dr. DENMAN, writing in the *Physical Journal* for April 1800, "of medical men, especially of those who are much engaged in the practice of inoculating for the small-pox, or who are much consulted in *infantile diseases*, to declare their experience about vaccine inoculation, and examine into it with the greatest possible care. For my own part, I can affirm, that I have seen inoculated with the cow-pox through my son-in-law, Mr. CROFT, a great many children *at all ages*, and they went through the disease without the least sign of danger, and even without much fever or indisposition."

3. *Humours in the body, and other diseases*.—As *scrophula* does not appear to be called into action by the cow-pox (vide Sixth Conclusion, p. 133.); but, on the contrary, there are cases where this cruel disorder has been found to be not only mitigated by vaccine inoculation, but also wholly removed, the dread of the subject being *humoury* is unimportant. Fat and lean children do equally well.—In my experience at Lowther the reader will find a case of *tinia capitis*, which was not at all increased under inoculation. Dr. Pearson has recorded two cases of *psora* (itch), which, being unknown to me at the time, were inoculated; and from the pustule, which was broken, vaccine matter was conveyed to different parts of the body, producing a very severe disease, which
appeared

appeared *pustular* solely from this cause. The *psora*, therefore, must be allowed to be a ground of exclusion to this, or any other inoculation: the only exception I am at present acquainted with.

“More than a thousand subjects,” says Mr. Dunning, surgeon at Plymouth Dock, “have been *vaccinated* in this neighbourhood during the last year. Some hundreds of them have fallen to my share. Complete success has been invariable in every case, where the vaccine character has been unequivocally expressed. With a very few exceptions, the disposition has been none at all, or the least imaginable, and I know of no shade of accident that can fairly be attributed to the new practice. In one child a very general and obstinate cutaneous complaint, which had previously resisted much external and internal medicine, very soon *disappeared* after vaccination. *Health* and *firminess* have shortly succeeded it in several weakly children, under my own observation, and I have heard of many similar occurrences; this has so *often* and so *strikingly happened*, that it has more than once been proposed to me to vaccinate *sickly* children.”

Besides *humours* which militate against the small-pox inoculation, *there are variety of diseases*, which, if they attack at the same time the child labouring under the *small-pox*, or soon after, usually prove fatal: a combination, however, not found to become aggravated by, or increase, the *cow-pox*.

“Miss R—,

“Miss R——, a young lady about five years old, was seized, on the evening of the eighth day after inoculation with vaccine virus, with such symptoms as commonly denote the accession of violent fever. Her throat was also a little sore, and there were some uneasy sensations about the muscles of the neck. The day following a rash was perceptible on her face and neck, so much resembling the efflorescence of the *scarlatina anginosa*, that I was induced to ask whether Miss R—— had been exposed to the contagion of that disease. An answer in the affirmative, and the rapid spreading of the redness over the skin, at once relieved me from much anxiety respecting the nature of the malady, which went through its course in the ordinary way, but not without symptoms which were alarming, both to myself and Mr. Lyford, who attended with me. There was no apparent deviation in the ordinary progress of the pustule to a state of maturity, from what we see in general; yet there was a total suspension of the *areola*, or florid discolouration around it, until the *scarlatina* had retired from the constitution. As soon as the patient was freed from this disease, this appearance advanced in the usual way.”

“The case of Miss H—— R—— is not less interesting than that of her sister above related. She was exposed to the contagion of the *scarlatina* at the same time, and sickened almost at the same hour. The symptoms continued severe about twelve hours, when the scarlatine rash shewed itself faintly

faintly upon her face, and partly upon her neck. After remaining two or three hours it suddenly disappeared, and she became perfectly free from every complaint. My surprise at this sudden transition from extreme sickness to health, in great measure ceased, when I observed that the inoculated pustule had occasioned, in this case, the common efflorescent appearance around it, and that as it approached the centre, it was nearly in an erysipelatous state. But the most remarkable part of this history is, that, on the fourth day afterwards, as the efflorescence began to die away upon the arm, and the pustule to dry up, the *scarlatina* again appeared, her throat became sore, the rash spread all over her. She went fairly through the disease, with its common symptoms."

"That these were actually cases of *scarlatina* was rendered certain by two servants in the family falling ill at the same time with the distemper, who had been exposed to the infection with the young ladies *."

I had a similar case of scarlet fever and cow-pox in the child of Mr. White, coachman, Adams Mews. The efflorescent areola was arrested, but became visible after the scarlet fever ceased.

"I have met with," says Mr. Ring, "three cases of the co-existence of cow-pox and measles within the last six months. The first was in the child of Mr. Shepherd, in Phoenix-yard, Oxford-street. The

* From Jenner's Inquiry.

second was the child of ——— Hardey, No. 45, Peter-street, Westminster. This case I shewed to Dr. Jenner and his friend Dr. Marshall of Gloucestershire. It was also seen by Mr. Missiter. The third case was in the child of ——— Groom, World's-end-passage, Newington-causeway."

"Mr. H. Jenner lately met with a similar case.— In these different instances, the periods of the respective eruptions were various. In the first that occurred to me, the measles appeared on the second day, and went through their regular course; yet in no degree retarded the progress of the vaccine pustule. In the second instance the measles appeared on the eighth day; and in the third instance on the fourth day; yet neither distemper interrupted the other. In the case which occurred to Mr. H. Jenner, the measles appeared the eighth day, without checking the progress of the pustule. In those cases which I have seen, the areola surrounding the pustule was perfect. This was also remarked by Dr. Jenner, in the case which I shewed him. Dr. Marshall assured me, that nothing but ocular demonstration of such a case, could have convinced him of the possibility of its existence."

"I have had," says Dr. Jenner, "an opportunity of trying the effects of the cow-pox matter on a boy who, the day preceding its insertion, sickened with the measles. The eruption of the measles, attended with cough, a little pain in the chest, and the usual symptoms accompanying that disease, appeared

peared on the third day, and spread all over him. The disease went through its course without any deviation from its usual habits; and, notwithstanding this, the cow-pox virus excited its common appearances, both on the arm and on the constitution, without any sensible interruption; on the sixth day there was a vesicle.

“ 8th. Pain in the axilla, chilly, and affected with head-ache.

“ 9th. Nearly well.

“ 12th. The pustule spread to the size of a large split pea, but without any surrounding efflorescence. It soon afterwards scabbed, and the boy recovered his general health rapidly. But it should be observed, that, before it scabbed, the efflorescence, which had suffered a temporary suspension, advanced in the usual manner.

“ Here we see a deviation from the ordinary habits of the small-pox; as it has been observed, that the presence of the measles suspends the action of variolous matter. However, the suspension of the efflorescence is worthy of observation.”

“ A case of co-existence of the cow-pox and the chicken-pox, which occurred to Mr. Little of Plymouth, is published by Mr. Dunning in his Observations on Vaccination. In that case the chicken-pox appeared on the tenth day of vaccine inoculation. The vaccine pustule was at that time arrived at its height of inflammation, and maintained its specific character.”

A most

A most remarkable case occurred to me. A girl, aged about nine, living with the Dowager the Countess of C——, fell from the balustrade of the stair-case, from the height of above 40 feet, and pitched on her skull on the stone landing-place. The fracture was extensive, and the largest piece of bone ever remembered was taken away by Mr. Heaviside, which is to be seen in his invaluable museum. A silver plate now defends the brain. This child was cautiously watched in order that she might not catch the natural small-pox; and Dr. TURTON and Mr. HEAVISIDE were justly apprehensive of inoculation. Their good sense at once, however, coincided that she should be inoculated by me with *vaccine matter*, and she passed through the disease without one day's illness, with only the slight inconvenience of the pustule on the arm.

4. *Pregnancy*.—"I have inoculated," says Dr. MARSHALL, "a great number of females at different periods of pregnancy, and never observed their cases to differ in any respect from those of my other patients. Indeed the disease is so mild, that it seems as if it might at all times be communicated with the most perfect safety*." The same success is recorded by HENRY JENNER, who relates

* From Jenner's Inquiry, p. 161. Second Edition.

a café, where he inoculated a person a week previous to the accouchment*.

5. *Old age* no exception.—For confirmation of the truth of his position, I shall give the Report of the Committee of Vaccine Inoculation† at Paris, instituted by order of government.

“REPORT. The vaccine affection appears to us to be of a nature the most benign, and which hardly deserves to be called a malady; not so much as one accident occurred to the hundred and fifty subjects who have been inoculated.”

“The vaccine inoculation is no less practicable than exempt from accidents, *whatever be the age of the persons* on whom it is performed. Infants have been inoculated in the arms of their nurses; others at the age of one, two, and three years to fifteen. Persons of the age of forty, and even fifty to seventy years, have also been inoculated, and always with the same success.”

“Nineteen subjects, submitting to the operation, have been inoculated with fresh pus, taken every time from a variolous infant present. The commit-

* Vide Jenner's Inquiry, p. 174.

† The most distinguished physicians at Paris were selected for this purpose; as,

THOURET, Director of the School of Medicine.

PINEL, Professor of Physic in the School of Medicine.

LEROUX, Clinical Professor.

PARFAIT, Inspector of the Military Hospitals, &c. &c.

tee, for the purpose of rendering the experiments more decisive, employed in many of the subjects very deep incisions, such as, according to the inoculations, necessarily occasion pustules. In fourteen the incisions were soon obliterated without any symptom of complaint. In the remaining five the effect can be considered in no other light than as the effect of local irritation, produced by the puncture of the skin."

EIGHTH CONCLUSION.

The inoculated Cow-pox does not hinder the patient from following his daily avocations.

The several objections that are to be urged against the *small-pox inoculation* have no force against the *cow-pox inoculation*. These two diseases, as experience proves, are, *toto cælo*, different*, except in

* That this is the case is learnt from a full acquaintance with this important investigation; and to effect this, we have been obliged to say a good deal on the small-pox, and chiefly in apposition, the one being as a foil to set forth the advantages of the other.—That these are different diseases is proved from the following fact.—It is in vain you try to inoculate the cow with the *small pox*. No brute, as John Hunter ascertained by repeated experiments, could be thus infected. But no sooner is the vaccine matter, even taken from a human subject under vaccination, inserted, than the *cow-pox* immediately succeeds, and this may be passed repeatedly from the one to the other.

the property of securing from the small-pox the person who has had either of the two. The *cow-pox* caught in the natural way proves sometimes severe from the number of inoculated places in the hands (vide note, in page 147); but the inoculated cow-pox has one pustule; hence this disease has oftener gone by the appellation of **THE COW-POCK**, than by the term *cow-pox*. Some writers call that the *cow-pox*, which is immediately derived from the cow; and the *cow-pock*, the inoculated disease.—Both terms have been indiscriminately used by us to express either disease, although the term *cow-pock* was adopted in the title, and in our humble estimation deserves the preference.

The inoculated cow-pox being then only a local disease, and not accompanied with a fever to confine any one to bed, hence the cause of the strong testimony of the brave commander of the *Endymion*, on board which ship Dr. Marshall was, who declared, “that he would not fear to meet the enemy, with his whole crew, under vaccine inoculation.”

4. Dr. JENNER *establishes with the method of inoculation, the medical treatment when required.*

The mode of inoculation, as done by Dr. JENNER, is extremely simple. The lancet being held upright is made to puncture the pustule on the sixth, seventh, or eighth day. Soon there issues a globule of the aqueous cow-pock fluid, which keeps rising

on the surface gradually. The point of the lancet held nearly horizontal is immersed in this fluid, and in the same direction, without raising blood, inserted between the cutis and the cutis vera, the two skins, and the lancet being withdrawn is wiped over the inoculated part *.

The cow-pock being a local disease, usually without much constitutional affection, and this fever being the product of the local irritation produced †, there

* As the fluid of the *cow-pox* is a less active matter than that of the *small-pox*, this inoculation is very apt to fail; and to perform the insertion of the vaccine matter in that delicate manner I have witnessed Dr. Jenner do it, requires both attention and practice. Children are also made with difficulty to remain quiet; and if blood is fetched, as it flows it is apt to carry out the inserted virus. As a less frightful instrument of inoculation, and as producing the desired effect with more certainty, I employ for children a common pin of a moderate size, and twirling it round horizontally, it penetrates without pain the two skins, even to some extent, and when drawn out leaves an opening devoid of blood. The pin being struck with a hammer, and immersed in the cow-pock fluid, is then introduced into the same aperture, and the matter is with ease lodged in the hollow. The cow-pock fluid is also deposited at the orifice, and thus the inoculation is secured, without exciting the least alarm. A moderate-sized needle will serve equally the same purpose.

† As the cases of inoculation multiply, I am more and more convinced of the extreme mildness of the symptoms arising merely from the primary action of the virus on the constitution, and that those symptoms which (as in the accidental cow pox) affect the patient with severity, are entirely secondary, *excited* by the irritating processes of inflammation
and

there is seldom required any medical attention, and that only as far as regards the pustule.

“In the early part of this inquiry,” says Dr. JENNER, “I felt far more anxious respecting the inflammation of the inoculated arm than at present; yet that this affection will go on to a greater extent than could be wished, is a circumstance sometimes to be expected. As this can be *checked*, or even *entirely subdued* by very simple means, I see no reason why the patient should feel an uneasy moment, and in general an application may not be absolutely necessary. About the tenth or eleventh day, if the pustule has proceeded regularly, the appearance of the arm will almost to a certainty indicate whether this is to be expected or not. Should it happen, no-

and ulceration; and it appears to me that this singular virus possesses an irritating quality of a peculiar kind; but as a single cow-pox pustule is all that is necessary to render the variolous virus ineffectual, and as we possess the means of allaying the irritation, should any arise, it becomes of little or no consequence.

It appears then (as far as inference can be drawn from the present progress of cow-pox inoculation) that it is an accidental circumstance only which can render this a *violent* disease, and a circumstance of that nature, which fortunately it is in the power of almost every one to avoid. I allude to the communication of the disease from cows. In this case, should the hands of the milker be affected with little accidental sores to any extent, every sore would become the *nidus* of infection, and feel the influence of the virus; and the degree of violence in the constitutional symptoms would be in proportion to the number and to the state of these local affections. JENNER.

thing more need be done than to apply a single drop of the *Aqua Lythargyr. Acetati* upon the pustule, and having suffered it to remain two or three minutes, to cover the efflorescence surrounding the pustule with a piece of linen dipped in the *Aqua Lythargyr. Compos.* The former may be repeated twice or thrice during the day; the latter as often as it may feel agreeable to the patient."

"When the scab is prematurely rubbed off, (a circumstance not unfrequent among children and working people,) the application of a little *Aqua Lythargyri Acet.* to the part, immediately coagulates the surface, which supplies its place, and prevents a sore."

"The *scepticism*," says Dr. JENNER, "that appeared even among the most enlightened of medical men, when my sentiments on the important subject of the cow-pox were first promulgated, was highly *laudable**. To have admitted the truth of a doctrine, at once so novel and so unlike any thing that had ever appeared in the annals of medicine,

* How remarkable this moderation! May we not now call *supineness* and *medical scepticism* a base dereliction of our duty, a crime against the state, and against humanity?

without the test of the most rigid scrutiny, would have bordered upon temerity; but now, when that scrutiny has taken place, not only among ourselves, but in the first professional circles in Europe, and when it has been uniformly found in such abundant instances, that the human frame, when once it has felt the influence of the genuine cow-pox in the way that has been described, is never afterwards, at any period of its existence, assailable by the small-pox, may I not with perfect confidence congratulate my country and society at large on their beholding, in the mild form of the cow-pox, an antidote that is capable of extirpating from the earth a disease which is every hour devouring its victims; a disease that has ever been considered as the severest scourge of the human race!"

Well may this great and philanthropic physician exclaim—

Jamque opus exegi, quod nec Jovis ira, nec ignis,
Nec poterit ferrum, nec edax abolere vetustas.
Cum volet illa dies, quæ nil nisi corporis hujus
Jus habet, incerti spatium mihi finiat ævi:
Parte tamen meliore mei super alta perennis
Astra ferar, nomenque erit indelebile nostrum.

We now hasten to a *confirmation* of *these discoveries*, by adducing the most respectable corroborating testimonies, and my own experience, especially those decisive experiments I made at Lowther in the North of England, when under the roof of the Earl of LONSDALE.

SECT. X.

THE EXPERIENCE OF HENRY JENNER, SURGEON.

There is not, perhaps, in the annals of medicine, to be found, an example of an experiment, or rather inquiry, where the life and health of such numbers already born, and of all to be born, were implicated, that has been taken up *more generally*, received *more candidly*, or conducted *more prudently*, than this concerning the Cow-pox.

From *Dr. Bradley's Medical Journal*.

"I TRUST," says this able vindicator of the discoveries of his uncle, "that the importance of the subject will be a sufficient apology for making this (I hope my final) appeal to the candour and good sense of the public. Confident of the strength of the foundation on which I stand, I fear not the blasts of baseless detraction. Conscious of no motives which an honest and a feeling mind would blush to avow, I would wish seriously to impress the *importance* of VACCINE INOCULATION.

"I shall commence, according to the mode adopted by Dr. JENNER, by fairly stating, in the way of comparison, the peculiar differences which mark the small-pox and cow-pox; at the same time premising, that I can with the utmost confidence affirm, that the statement is in every particular confirmed by very extensive experience."

SMALL POX.

1. VERY frequently calls *latent diseases into action*; in these are included the various species of *scrofula*.

2. Is *contagious* and communicable by *effluvia*.

3. Cannot be communicated with safety to *children* when *cutting teeth*.

4. In *sickenings* with the small pox, children are frequently afflicted with *alarming fits*; and when their constitutions are delicate, they *suffer materially in their health during life*.

5. Is oftentimes *fatal*.

6. Is attended with eruptions, and very often *disfigures* the countenance.

COW-POX.

WE may safely conclude, from a long and careful observation of this disease, as communicated from the cow, and from no limited experience in its inoculation, that it excites no disposition to other complaints. It is a pure disease, proceeding from the healthiest and the most cleanly of all animals, the heifer.—Nor is that animal ever subject to *scrofula*.

Numerous experiments testify, that this never happens in the cow-pox.

This circumstance forms no objection to inoculate with vaccine matter.—Numerous experiments justify the assertion.

Nothing of this kind has ever appeared in this disease; and the constitutions of children have been improved by its communication.

No instance of the kind has ever occurred.

In this disease (even in the natural way) I never observed any pustules.

SMALL-POX.

7. Persons afflicted with this disease cannot mingle with those who have never been affected by it.

8. *Medicines* are necessary to be administered.

9. Notwithstanding the present improved state of inoculation, parents and friends must feel a considerable degree of *anxiety* for the safety of relatives, &c.

10. Requires often a *nurse*.

COW-POX.

This objection does not apply to the cow-pox, as it is neither contagious, nor communicable by effluvia.

Here no medicines are required.

Little anxiety can be felt in this disorder, as it is never attended with the least danger.

This disease does not.

“ The above comparison of the advantages which are to be derived from the substitution of the *vaccine disease* for the *small pox*, is founded upon principles which experience has proved to be fixed upon the solid basis of truth. I am certainly entitled to speak with confidence on the subject; as, in conjunction with my uncle, Dr. JENNER (who, with indefatigable industry, has completely investigated the nature of the cow-pox), I have had a very extensive acquaintance in this part, of medical practice; but *prejudice* and *illiberality* will ever be on the watch to stop the progress of improvement, and to overturn the edifice of well-earned fame. The history of the advancement of science exhibits this truth in every page; but the same detail will inform us that succeeding ages have never failed

failed to place in its proper nook, in the temple of renown, the discoverer of any thing beneficial to human kind. Ignorant as we are what place may be consigned to Dr. JENNER by the *present age*, he may confidently appeal, by the justice of his claims, to an unprejudiced, impartial *posterity*."

The author concludes this able pamphlet * as follows: "Were it necessary, I could produce volumes of evidence and clouds of witnesses to prove the truth of the facts which I have adduced concerning the cow-pox and small-pox. I could refer the public to medical gentlemen of the first charac-

* Vide a pamphlet, entitled, "*An Address to the Public on the Advantages of Vaccine Inoculation, with the Objections to it refuted*;" by HENRY JENNER, Surgeon, F.L.S. This distinguished surgeon, who practises at Berkeley in Gloucestershire, might be supposed to be influenced by partiality in favour of his uncle's discovery, and his evidence would of course be admitted by many with some caution; but, when we consider the respectability of the parties, and their education, and the certainty of their sentiments meeting with a minute examination, the evidence must then be allowed its due weight. Mr. JENNER has much merit in the able concentration he has made of the comparative advantages of the two diseases, and has successfully proved, by the most certain characters, that all the cases published in the different magazines and newspapers in opposition to his uncle's facts, were examples of *spurious cow-pox*; which, instead of making against *the fact*, only shewed the *ignorance* on the subject of the publishers, who appear to have been wholly unacquainted with *the causes*, and those *signs of discrimination* of the *true* and *spurious cow-pox* pointed out by Dr. JENNER in his works.

ter and highest eminence in their profession, who would corroborate my assertions respecting the *peculiar* properties of the *vaccine disease*. But, waving this for the present, I cannot avoid observing that I should consider myself as the grand enemy of society if I were to recommend the general introduction of a practice, if experience, the test of theory, and the only sure guide of conduct, did not fully warrant its *highest commendation*. Nay, in what light should I consider myself as a professional man, and I trust an honest member of society, if I were to enforce a practice which involves in itself the dearest interests of society; which comprehends in its influence the healths and *lives* of my fellow creatures; if I were not assured of its *inevitable safety*, and its *numerous advantages*."

"These advantages will doubtless be embraced by the serious and reflecting. The mind of feeling, anxious for the health and safety of relatives and friends, will pause and consider before the *small-pox* be admitted, while *so mild* and *so efficacious a substitute* is offered. The imminent danger, the disfigured skin, the subsequent scrofula of the one will be contrasted with the unmarked countenance and perfect safety of the other. But, if *prejudice* should still continue to operate on the general mind, I am confident a time will come when those who have neglected to take advantage of the present opportunity will lament their conduct, and possibly lament it with unavailing sorrow; for sorrow must be

be unavailable for breathless friends : nor can " flattery sooth the dull cold ear of death."

Conscious as I equally am of the *purity of my intentions*, and of the *truth of my assertions*, I leave these remarks with the candid judgment of the public."

" ————— 'Tis EVIDENCE * so full—

If the last trumpet sounded in my ear,
Undaunted I should meet the saints half way,
And in the face of Heav'n maintain the fact."

DRYDEN.

* His brother, the Rev. Mr. JENNER, who has been not less engaged in the vaccine inoculation, had he favoured the public with his sentiments, instead of quoting from a poet, would have given us this text from heavenly writ: " If they believe not Moses and the prophets, neither would they believe though one rose from the dead,"

SECT. XI.

DR. MARSHALL'S EXPERIENCE*.

First Letter to Dr. Jenner.

“ DEAR SIR,

“ MY neighbour, Mr. Hicks, having mentioned your wish to be informed of the progress of the inoculation here for the cow-pox, and he also having taken the trouble to transmit to you my minutes of the cases which have fallen under my care, I hope you will pardon the further trouble I now give you

* Dr. MARSHALL has been indefatigable in the important investigation of the Cow-pox. When *great truths* are brought forward, they cannot fail to rouse the active powers of men; and hence we find this physician, accompanied by Dr. WALKER, who was inspired with an equal zeal, leaving the comforts of home, and an extensive business, to communicate the benefits of *Vaccine Inoculation* to other parts of the habitable globe. They accordingly set out in July 1800, for the glorious purpose of inoculating, under a burning sun, (which they accomplished with the happiest events,) the *soldiers* and *sailors* contending for us gentlemen at ease; securing them ever after from an enemy which no bravery can surmount, the natural small-pox, whose fatality is truly dreadful

you in stating the observations I have made upon the subject."

"When first informed of it, having two children who had not had the small pox, I determined to inoculate them for the *cow pox* whenever I should be so fortunate as to procure matter proper for the

ful when it assails an encamped army, or a number of sailors, cooped up, from necessity, in a rocking cabin.

Dr. MARSHALL was kindly received at Gibraltar, by General O'Hara, who set the example to the garrison, by having first his own son inoculated;—from thence he went to *Minorca*, and returning, was conveyed by Admiral Lord Keith to *Malta*, where the governor, Sir Alexander Ball, established an hospital for the gratuitous inoculation of the inhabitants under the name of the JENNERIAN INSTITUTION. From *Malta* this indefatigable philanthropist sailed to *Sicily*, and reached *Palermo* in March 1802, where the King of *Sicily* and *Sardinia* immediately established an institution similar to the one mentioned above, under the same title. Arriving at *Naples*, the same institution for gratuitous vaccine inoculation was established there, and surgeons were desired to bring children from every quarter of the Island, and returning in every direction, the rich treasure being contained in the pustule, vaccine inoculation was diffused like the rays of the sun, and thus extended its benign influence to every quarter; and each inoculation being the focus of a lesser circle, the rapidity of the inoculation of the island of *Sicily* was amazing, and in a few weeks reached to the remotest corners. Previous to Dr. MARSHALL's leaving *Sicily* to return to England, after two years devoted to this service of benevolence, his SICILIAN MAJESTY presented him with an elegant gold medal, and appointed him his physician extraordinary.

purpose.

purpose. I was therefore particularly happy when I was informed that I could procure matter from some of those whom you had inoculated."

"In the first instance, I had no intention of extending the disease further than my own *family*; but the very extensive influence which the conviction of its efficacy in resisting the small-pox has had upon the minds of the people in general, has rendered that intention *nugatory*, as you will perceive by the continuation of my cases inclosed in this letter, the detail of which would be superfluous; by which it will appear, that since the 22d of March I have inoculated *an hundred and seven* persons; which, considering the retired situation I reside in, is a very great number."

"There are also other considerations which, besides that of its influence in resisting the small-pox, appear to have had their weight; namely, the peculiar mildness of the disease, the known safety of it, and its not having in any instance prevented the patient from following his ordinary business."

"In all the cases under my care, there have only occurred two or three which required any application, owing to erysipelatous inflammation on the arm, and they immediately yielded to it. In the remainder the constitutional illness has been slight, but sufficiently marked, and considerably less than I ever observed in the same number inoculated with the small-pox."

"Neither

“Neither does there appear in the cow-pox to be the least exciting cause to any other disease, which in the small-pox has been frequently observed; the constitution remaining in as full health and vigour after the termination of the disease as before the infection.”

“Another important consideration appears to be, the impossibility of the disease being communicated, except by the actual contact of the matter of the pustule; and consequently the perfect safety of the remaining part of the family, supposing only one or two should wish to be inoculated at the same time.”

“Upon the whole, it appears evident to me, the Cow-pox is a *pleasanter, shorter, and infinitely more safe disease* than *the inoculated small-pox*, when conducted in the most careful and approved manner; neither is the local affection of the inoculated part, or the constitutional illness, near so violent. I speak with confidence on the subject, having had an opportunity of observing its effects upon a variety of constitutions, from *three months old* to *sixty years*; and to which I have paid particular attention.”

“In the cases alluded to here you will observe, that the removal from the original source of the matter has made no alteration or change in the nature or appearance of the disease, and that it may be continued, *ad infinitum*, (I imagine,) from one
 I person

person to another, (if care be observed in taking the matter at a *proper period*,) without any necessity of recurring to the original matter of the cow."

"I should be happy if any endeavours of mine could tend further to elucidate the subject, and shall be much gratified in sending you any further observations I may be enabled to make."

"I have the pleasure to subscribe myself,

"Dear Sir, &c.

Edlington, Gloucestershire, "JOSEPH H. MARSHALL."
April 26th, 1799.

"The gentleman who favoured me with the above account," says Dr. JENNER, "has continued to prosecute his inquiries with unremitting industry, and has communicated the result in another letter, which, at his request, I lay before the public."

Dr. Marshall's Second Letter.

"DEAR SIR,

"Since the date of my former letter, I have continued to inoculate with the cow-pox virus. Including the cases before enumerated, the number now amounts to *four hundred and twenty-three*. It would

would be tedious and useless to detail the progress of the disease in each individual—it is sufficient to observe, that I noticed no deviation in any respect from the cases I formerly adduced.”

“The general appearances of the arm exactly corresponded with the account given in your first publication.”

“When they were disposed to become troublesome by erysipelatous inflammation, an application of equal parts of vinegar and water always answered the desired intention.”

“I have already subjected *two hundred and eleven* of my patients to the action of variolous matter, *but every one resisted it.*”

“The result of my experiments (which were made with every requisite caution) has fully convinced me *that the true Cow-pox is a safe and infallible preventive from the small-pox; that in no case which has fallen under my observation has it been in any considerable degree troublesome, much less have I seen any thing like danger; for in no instance were the patients prevented from following their ordinary employments.*”

“I cannot now entertain a doubt that the *inoculated cow-pox* must *quickly supersede* that of the *small-pox.*”

“If the many important advantages which must result from the new practice are duly considered, we may reasonably infer that public benefit, the sure test of the real merit of discoveries, will render it *generally extensive.*”

"To you, Sir, as the *discoverer* of this highly beneficial practice, mankind are under the highest obligations. As a private individual, I participate in the general feeling; more particularly as you have afforded me an opportunity of noticing the effects of a singular disease, and of viewing the progress of the most curious experiment that ever was recorded in the history of physic.

"I remain, Dear Sir, &c.

"JOSEPH H. MARSHALL.

"P.S. I should have observed, that of the patients I inoculated and enumerated in my letter, one hundred and twenty-seven were inoculated with the matter you sent me from the London cow. I discovered no dissimilarity of symptoms in these cases, from those which I inoculated from matter procured in this county."

"No pustules have occurred, except in one or two cases, where a single one appeared on the inoculated arm."

"No difference was apparent in the local inflammation."

"There was no suspension of ordinary employment among the labouring people, nor was any medicine required."

"I have frequently inoculated one or two in a family, and the remaining part of it some weeks afterwards.

afterwards. The uninfected have slept with the infected during the whole course of the disease without feeling it; so that I am fully convinced the disease cannot be taken but by actual contact with the matter."

"I had nearly omitted mentioning another great advantage that now occurs to me in the inoculated cow-pox; I mean the safety with which pregnant women may have the disease communicated to them. I have inoculated a great number of females in that situation, and never observed their cases to differ in any respect from those of my other patients."

Indeed the disease is so mild, that it seems as if it might at all times be communicated with the most perfect safety."

SECT. XII.

DR. WOODVILLE'S EXPERIENCE.

NEXT in time and highest in rank comes the experience of Dr. WOODVILLE.—It was not to be expected that the physician of the small-pox hospital would be an inactive spectator of the great scenes that were performing; accordingly we find the learned and sagacious Dr. Woodville early turning his thoughts to the important revolution about to be established, and the small-pox hospital was converted into a place of experimental inquiry, and it brought to light some hidden properties in the cow-pox wholly unexpected.

In the two first cases, those of MARY and ELIZABETH PAYNE, “there was only the *inoculated pock*, and no eruption. The disease took its usual progress, and terminated favourably.”

“These children were after this inoculated plentifully with small-pox matter, *but without its producing the disease.*”

“They were also brought to the bedside of a person labouring under a severe natural small-pox, and handled and kissed by the patient, *but both were found to be secure from the infection of the small-pox.*”

In the third case, on the 7th day, in the evening, Dr. WOODVILLE observed "two pustules * appear exactly

* Vide "*Reports of a series of inoculations for the variolæ vaccinae, or cow-pox, with remarks and observations on this disease, considered as a substitute for the small-pox by WILLIAM WOODVILLE, M. D. Physician to the Small-pox Hospital.*"—The authority of Dr. Woodville being the highest possible; and his work, which was eagerly read by all ranks of people, the result of a learned candid ingenuous mind; although a faithful transcript of *facts*; it gave some check to the progress of *vaccine inoculation*: for it was suspected that these eruptive examples *reported* were real cases of cow-pox; and Dr. Jenner's assertion "of its being always a disease of a *single pustule*, where the matter was inserted, and never accompanied, like the small-pox, with a crop of engendered pustules," was for a time called in question, until Dr. JENNER took up the pen, and attributed with all the temper imaginable this difference of opinion to a contamination of the cow-pox matter with the small-pox virus, producing in consequence an *hybrid disease*.—This produced an answer from Dr. Woodville with the following very extraordinary dedication.

TO EDWARD JENNER, M. D. F. R. S. F. L. S. &c.

"Sir,

"That the vaccine matter, with which the inoculations have been carried on in the hospital, was contaminated with that of the variolous, and that a *hybrid* disease has in consequence been propagated, not only by me, but also by others, who have been supplied with that matter, is a *charge* which I know to be *unfounded*, and which it is my duty to refute."

"The performance of this task has, however, been very painful to me, from being unable to avoid a certain de-

exactly resembling the small-pox, on the 11th day there were nine, on the 13th nine others, on the 14th six more, making in all twenty-four."

From

gree of *recrimination*, which attaches to a *man*, for whom I have long entertained a friendly regard, and to whom the public is under the great obligation by having been made acquainted with a discovery which promises the most important benefits to society.

" I am,

" Sir,

" Your obedient servant,

" W. WOODVILLE."

Ely-Place, July 1st, 1800.

" I feel myself," says Dr. WOODVILLE, " impelled to address the public a second time on the subject of the inoculation for the cow-pock, not only because an enlarged experience of it has now enabled me to produce more decisive evidence of its *advantages*, but because some remarks upon my practice of this new inoculation have lately been made, which call upon me for an immediate reply."

" I trust it will be generally acknowledged, that the observations and opinions formerly adduced by me on this subject, are strictly impartial and unprejudiced; also, that the facts on which they are founded, have been related without the least reserve, and with the most scrupulous fidelity: notwithstanding, my conclusions in respect to a point of considerable importance have been opposed in a manner which I deem wholly *unwarrantable*. I allude to the pustular eruptions which appeared on more than half the patients first inoculated for the cow-pock, under my direction; Dr. Jenner, in a late publication, having maintained that those pustules could *only* proceed

From a great many trials of vaccine inoculation in this place, before wholly dedicated to the small-

ceed from variolous matter, introduced by inoculation into the constitution along with that of the vaccine. That objections would be made to this effect might be foreseen, and they were accordingly anticipated in my *reports*, where several facts and arguments are brought forward to prove, that all the cases which I had represented as cases of cow-pox, were produced from the inoculation of the matter of that disease, uncontaminated with any other. Having done this in a manner which has generally been deemed satisfactory, I did not now expect that any gentleman would publicly attempt to subvert my conclusion, without first doing me the justice to show, that the reasons on which it was founded were defective or fallacious. Although I have been disappointed in this expectation, yet as I have no other object in view than a discovery of the truth, I will fully state all the reasons which the ingenious inventor of the new inoculation has advanced in support of a contrary opinion. He first enters upon the consideration of *pustules* at page 7, where he says, ' When I consider the great number of cases of casual inoculation immediately from cows, which have from time to time presented themselves to my observation, and the many similar instances which have been communicated to me by medical gentlemen in this neighbourhood ; when I consider too, that the matter with which my inoculations were conducted in the years 1797, 1798, 1799, was taken from different cows, and that in no instance any thing like a variolous pustule appeared ; I cannot feel disposed to imagine that eruptions, similar to those described by Dr. Woodville, have ever been produced by the *pure uncontaminated cow-pox virus* : on the contrary, I do suppose, that those which the Doctor speaks of *originated* in the action of variolous matter which crept into the constitution with the vaccine: and this, I *presume*, happened from the inoculation of a great number of the patients with a variolous matter,

pox, it turned out, that the vaccinated patients became also infected with the contagion of the small-pox; and hence the appearance of both diseases at the same time on the same person. For example :

“About two months ago,” says Dr. WOODVILLE, “a girl, eleven years of age, was admitted into the inoculation hospital, where she was inoculated with vaccine matter. Five days afterwards she was seized with all the symptoms of small-pox, and an eruption of pustules (about 200) took place. On the 10th day of the inoculation, one of the variolous pustules appeared distinctly within the margin of the vaccine tumour. I charged a lancet with matter taken from the centre of the tumour, and with it inoculated a child in whom it produced a regular case of cow-pock. Mr. Wachsel, the apothecary to the hospital, who inoculated three children with matter taken from the pustule in the vaccine humour, found that it communicated the cow-pox to all of them.”

The discovery which this led to, as alluded to above, was, that, although the inoculated cow-pox did not supersede the small-pox, yet the latter was

(some on the third, others on the fifth day,) after the vaccine had been applied; and it should be observed, that the matter thus propagated became the source of future inoculations in the hands of many medical gentlemen, who appear to have been previously unacquainted with the nature of the real genuine cow-pox.” “NON NOSTRUM INTER VOS TANTAS COMPOSERE LITES.”

rendered,

rendered, although taken in the natural way, even more mild than the inoculated small-pox usually turns out, and the *pustular* cases *diminishing*, at length *wholly disappeared*, and the *cow-pox* reared its TRIUMPHANT STANDARD in the house consecrated to the *small-pox*, and now reigns there alone.

Dr. WOODVILLE's *public report* is

"It was not to be expected that a disease originating in brutes should be recommended as a substitute for the small-pox, and for this purpose be transferred to the human race, without exciting much obloquy and opposition: indeed, several of the most valuable discoveries in medicine have met with a similar reception; among these may be included inoculation of the small-pox, against which the clamour became so considerable, that it fell into disuse for several years. To regulate the disputes which the introduction of that practice into this country occasioned, and to direct the controversy to the true points at issue, Dr. JURIN, then secretary to the Royal Society, judiciously stated, that the fate of inoculation depended upon the decision of the two following questions:"

"*First*, 'Whether the distemper, given by inoculation, be an *effectual security* to the patient against his having the small-pox afterwards in the natural way?"

"*Secondly*, 'Whether the *hazard* of the inoculation

tion be considerably *less* than that of the natural small-pox?"

"The application of these remarks to our inquiries into the merits of the vaccine, compared with those of the variolous, inoculation, is too obvious to require being pointed out. Now, if by distemper in the first query we understand that of the cow-pox, and if in the second we add new immediately before inoculation, and substitute inoculated for natural, I would answer both questions in the affirmative, presuming that the facts already brought forward on the subject clearly decide the cow-pox inoculation to be *preferable* to that of the small-pox."

"An opinion has been propagated, and with several persons has had considerable influence, that the power of resisting the infection of the small-pox, which the constitution derives from the vaccine disease, will continue only for a few years: but this is mere conjecture, contradicted by facts of casual cases of cow-pox, and contrary to analogy."

"In regard to the comparative mildness of the vaccine and variolous diseases, as produced from inoculation, I have been enabled to give a very different report from that which I published last year. The reason why several of the cow-pox cases then at the hospital proved severe, like those of the inoculated small-pox, has already been sufficiently explained, and will, I trust, have the effect of placing the cow-pock inoculation in a more advantageous

tageous point of view than my former reports presented."

"I have before observed, that of the last 2000 cases of cow-pox under my care, not a single alarming symptom was excited; and I may now add, that during the last eight months I have not met with one instance of the vaccine disease, which has not been as favourable as the mildest cases of variolous inoculation. I have no doubt, therefore, that the inoculated cow-pox is *as much milder* than the inoculated small-pox, as the latter disease is milder than the casual small-pox: nay, it seems to me from the very benign form in which the vaccine pock has of late invariably appeared, that it may be considered as a disease perfectly *harmless* in its effects.—Indeed, upon this consideration, several persons have been persuaded to have their children inoculated for the disease, although they were very doubtful of the reality of its antivariolous power: for, if it proved a security to the children against the infection of the small-pox, the object would be attained by the safest means: if it did not, no harm would arise from the experiment, since it was tried merely as a preliminary expedient to the inoculation for the small-pox. The result, however, has constantly furnished additional evidence in favour of the new inoculation, and of course has tended greatly to promote the adoption of it in London."

"Another considerable consideration, highly important to the community is, that as the cow-pox, unless

unless from the adventitious circumstances before-mentioned, very rarely, *if ever*, appears with variolous-like pustules, it would seem incapable of propagating itself by effluvia. Hence by the substitution of the vaccine for the variolous inoculation, the casual spreading of the small-pox from the inoculated, a circumstance which has greatly contributed to swell the bills of mortality for the metropolis, and of which the public has *long justly complained*, is completely avoided. Nor is it unreasonable to conclude, that if the new inoculation were to be *universally* adopted, the variolous disease, in process of time, may be *wholly extinguished*."

The French nation, then at war with this country, could not but behold this great discovery with an eye of astonishment, and became eager to ascertain the fact, and participate in the blessing.

Dr. WOODVILLE was accordingly induced to visit France for this express purpose. Our Government on that occasion shewed it carried on war not with a spirit of mortal animosity, but with that high honour "which makes ambition virtue;" a passport was granted, and he arrived in France as a GUARDIAN ANGEL come to stay the pestilence.

He began the vaccine inoculation upon three children at Boulogne, where he first landed on his way to Paris, and placed them under the care of Dr. Nowell, an English physician, who was desired to send vaccine matter upon lancets to Paris, as soon
as

as the arms of those children produced a sufficient quantity for the purpose. This precaution proved to be very fortunate; for, five days afterwards, when the matter of the same pock was tried at Paris, it produced no effect whatever; and the cow-pock, which Dr. Thouret had received from Geneva, and which had not been longer than four or five days upon the thread, was found to be equally incapable of producing the disease.

The disappointment from the above trials was not, however, of long continuance. The inoculation at Boulogne succeeded; and from them Dr. WOODVILLE was supplied with matter at Paris, which fully answered his expectation. Dr. COLON's only child was the first person inoculated in this city; and other medical men, in order to testify the confidence they placed in the new inoculation, followed the example; so that Dr. Woodville had the satisfaction to see the practice extended, not only amongst the children in different hospitals, but also in private families in Paris, where, no doubt, it will soon become general*.

The

* For an account of the progress of vaccine inoculation in France, and I may add throughout the habitable globe, vide the elaborate work of Mr. RING, entitled, "*A Treatise on the Cow-pox, or History of Vaccine Inoculation.*" I shall, therefore, just inform my readers, and in the way of note, as my work is intended as a popular production, only comprehending the most prominent facts respecting vaccine

The number inoculated by Dr. Woodville at the present time amounts to upwards of 7000 persons, and out of these more than 3000 have been inoculated with the small-pox matter, and a considerable number exposed to the contagion of the small-pox; but in every instance they have *resisted* the small-pox, being rendered by the cow-pox insusceptible of its influence.

cine inoculation, and its early domestic triumphs, that not long after the arrival of Woodville at Paris, Dr. COLON prepared for the press, and published a pamphlet on the cow-pox.

“First, having pointed out the advantages of vaccine inoculation, Dr. Colon proceeds to answer the different objections urged against the practice. It is the lot, says he, of all useful discoveries, to have to combat, at their commencement, all that the spirit of *party*, or of *interest*, can invent, to arrest their progress. He observes, that the vaccine experiments were scarcely commenced, when certain persons raised an outcry, about the danger of introducing into the human body matter taken from a brute. These apprehensions, too violent and premature, as Dr. Colon remarks, to be sincere, were spread with great industry. They are not, however, confirmed by experience; for our author tells us, he himself has inoculated above a hundred children with the cow-pox; of whom not one had any serious indisposition. It is proved, in a satisfactory manner, by the experience of Dr. Colon, and since by all the other practitioners in France, that the vaccine virus does not degenerate, by repeated transmissions, in the human subject. The learned author refutes the absurd arguments advanced against this practice. He contends, that it ought to be adopted as a substitute for the small-pox; which is so highly dangerous to pregnant women, and children in a state of dentition; and that every partial inoculation of the

6

small-

small-pox, in a populous neighbourhood, becomes a new focus of infection. Dr. Colon informs us, that before he had absolute proofs of the benefit of this new method, he had formed an establishment for the inoculation of the cow-pox, at his house at Vaugirard; but now, since it is proved to demonstration that it is so innoxious both to the individuals who are subjected to the operation, and to the public, he is returned to Paris, in order to inoculate at their own houses all those who put themselves under his care. Such is the report of the success of vaccine inoculation, presented to the world by an eminent physician of one of the most enlightened nations in Europe. If any thing can add to the well-deserved fame which this inestimable practice has already acquired, this transplanting must ensure its triumph, and complete its glory." RING.

SECT. XIII.

DR. PEARSON'S EXPERIENCE.

It also could not be expected that the active mind of the learned Dr. PEARSON would be unengaged by the grand revolution now so publicly announced; accordingly we find this able physician, next in time to Dr. Woodville, took up the inquiry; and, besides the accession of fresh information * on the subject, corroborating the discoveries of Dr. Jenner, he established a PUBLIC INSTITUTION, for the cow-pock inoculation, under the patronage of His Royal Highness the Duke of YORK, conceiving it the best plan imaginable to spread information among such as were unacquainted with this practice; for determining all doubtful points relative to it; and for discovering the cause of failures if such existed; since every case was to be registered, and every new trial to be made under the medical establishment belonging to that institution; and the results of the practice to be reported to the governors who were both numerous and respectable, paying a small sum annually to the institution. A far-

* Vide note *, page 92.

ther considerable public benefit arose from a stock of vaccine matter being always ready for the public use.

THE REPORT WITH DIRECTIONS.

“ 1. The vaccine pock matter being generally, when first taken from the vesicle, a thin limpid fluid, it becomes, when dried, scarcely visible, either on *glass*, or on the end of a *lancet*, even on a quite new one. If the matter be taken on thread, it will be perceived by the stiffness of it when dried.”

“ 2. If the matter is not used immediately on its being taken from the vaccine pock, it will of course be *dry*; and when employed, it should be softened by the smallest particle of hot water; and to avoid too great dilution, that should be done by a particle of hot water hanging on the extremity of a needle.”

“ 3. The inoculation must be performed in the same manner as for the small-pox; but it may be useful to recommend, that,

“ 4. Matter may be inserted in one place only in each arm, by a very small scratch or puncture of the skin.”

“ 5. One armed lancet should be used for only one, or at most two punctures.”

M

“ 6. If

" 6. If the infection take, there will be seen in the inoculated part, in *four* days, or less, a red spot, like a small gnat-bite.—In *six* days there will be generally a very small vesicle.—In *nine* days, a circular vesicle appears, as large as a pea, often surrounded by a small red areola.—In *twelve* days, the red areola will generally surround the vesicle, which then begins to dry, and turn black in the middle."

" Between the *eighth* and *eleventh* day, a slight fever often takes place."

" By the *fourteenth* day, the vesicle is usually changed into a circular dark brown scab, which should by no means be removed, but left to fall off, which it will do in two or three weeks, leaving a pit."

" If in four days the *gnat-bite* appearance be not manifest, the inoculation should be repeated."

" 7. Of above four thousand persons who have had the inoculated cow-pock, not one has died."

" 8. Not a single well-attested instance has been produced, among more than 4000 of the above persons known to have had the inoculated vaccine-pock, and who were subsequently inoculated for the small-pox, of this disease being subsequently taken; although many of these were also exposed to the infectious effluvia of the natural small-pox: and traditionally, this fact has been established time immemorial, with regard to the casual cow-pock."

" 9. It

" 9. It may now safely be affirmed, that the inoculated cow-pock is generally a *much slighter* disease than the inoculated small-pox; and that the proportion of severe cases in the latter is to the former at least ten to one."

" 10. It does not appear that the genuine vaccine inoculation can be propagated like the small-pox, by effluvia from persons labouring under it. Hence, if the vaccine inoculation should be *universally* instituted in place of the small-pox, it is reasonable to conclude, that this most loathsome and fatal malady will be eradicated; and, like the sweating sickness, plague, certain kinds of leprosy, &c. be known in this country only by name."

" 11. It does not appear that the vaccine virus, like that of the small-pox, can be conveyed so as to produce the disease indirectly from diseased persons, by adhering to clothes, furniture, bedding, letters, &c. Hence no danger of its propagation in these channels is to be apprehended from the *universal* practice of the inoculation of the cow-pock."

" 12. It has been found that a person, whose constitution has distinctly undergone the vaccine disease, is in future unsusceptible of the same disorder. Hence no objection can be made to the new inoculation, as was once urged, on account of its being imagined that, by the commutation of the small-pox for the vaccine pock, an eruptive disease would be introduced, to which the same person would be repeatedly liable."

" 13. It does not appear that those who have already gone through the small-pox are susceptible of the vaccine disease, as was formerly thought *. Hence no objection can be urged on the score of persons who have already gone through the small-pox being liable to a new infectious disease, by the introduction of the vaccine inoculation."

" 14. Experience shews, that there is no reason to apprehend the smallest chance of deformities of the skin from the vaccine inoculation."

" 15. The extensive practice of the vaccine inoculation in the present year, and the accounts of the disease in the casual way, do not show that any other disease will be excited subsequently, which is peculiarly imputable to the old practice."

" 16. CONCLUSION.—From the above comparative statement it is manifest that it is highly to the interest of the British public to adopt *universally* the inoculation of the vaccine pock in the place of small-pox."

* These two last positions (12 and 13) Dr. PEARSON lays the claim of having discovered.

SECT. XIV.

THE EXPERIENCE OF WILLIAM FERMOR, ESQ.

IT is fortunate for science, when gentlemen, not of the profession, take the trouble to investigate subjects whose establishment is of the utmost importance to society. The world listens with attention to their statement, as they can have no self-interest to serve, and when fortune smiles on the author, as in the present instance, all he says is heard with that attention which the present writer so amply merits.

“Although the original virulence of the small-pox,” says Mr. FERMOR*, “and its fatal effects have of late years been considerably diminished by the modern practice of inoculation, it does not appear that its contagious influence has been much abated; on the contrary, its universality has certainly been much extended. Hence it has compelled almost

* This extract is made from a small pamphlet, entitled, “*Reflections on the Cow-pox*,” &c. The judicious writer has the following motto, descriptive of his own conviction:

Segnius irritant Animos demissa per Aurem,
Quam quæ sunt oculis Subjecta fidelibus.

HORACE.

For a further account of this work, vide note, * page 70.

every individual to submit to inoculation, notwithstanding constitutional habits and family complaints may have rendered its good effects *precarious*. Nay, how few parents are there who have not had many anxious moments on account of the result, notwithstanding they have employed the most eminent in the profession and the coolest mode of treatment."

"How necessary it is likewise to chuse a sequestered spot for its communication, detached from places inhabited by the commonalty, who, from prejudice or disinclination, refuse to avail themselves of the salubrious effects of this important discovery! What an expence has the Government of the country incurred by inoculating the army alone, and how have the military contributed to spread the disease, by communicating it to the inhabitants of the places they passed through, as well as to those amongst whom they afterwards resided."

"What an absence from duty was necessary for the foldier, during its progress, and what a diminution of bodily strength, even under its most favourable appearances! What considerable danger frequently arose from the intemperance and misconduct of the patient; and how many lives were often lost by their fatal consequences!"

"Let us now review the *nature* of the cow-pox, and its *effects*. The disorder requires no previous or subsequent regimen. No infection attends it; the complaint is in general merely local; and no absence from ordinary employments, nor is any medicine

dicine necessary. In a national and civil light, what an important discovery!"

These *conclusions* were the result from an experience of 326 persons, who were inoculated by, or in the presence of, this gentleman, of whom 136 were re-inoculated for the small-pox, but were found *proof* against this disease *.

"I am happy," says Mr. Fermor, "to say, that my experiments have been made with the most liberal concurrence, and under the inspection of many of the most respectable and learned professors of the University of Oxford, and the most noted practitioners of its environs, whose names will appear in the annexed account; and who, from motives of humanity, and principles truly patriotic, have been so kind as to give up much of their time and attention to this very interesting subject."

"Amongst the rest, I feel myself particularly indebted to Dr. WALL, of distinguished professional abilities, and clinical professor in that university; to Sir CHRISTOPHER PEGG, the public reader in anatomy there; to Dr. WILLIAMS, the regius professor of botany; who have not only encouraged me in this undertaking, but have been witnesses of its salubrious effects. I feel myself likewise under particular obligations to Mr. GROSVENOR, a very eminent surgeon there; who had been so kind

* Vide Mr. Fermor's excellent pamphlet, in which will be found the names and parishes of each individual inoculated.

as to inoculate some of our patients afterwards with variolous matter, and to give up much of his time to the inspection of them after their inoculations. I am happy in having this opportunity of acknowledging likewise my obligations to Messrs. DAVIS, surgeons of eminence at Bicester; to Mr. BRAINE, surgeon, of the same place; to Mr. OLLEY, of known professional skill, at Brackley; and to Mr. WATSON, surgeon, at Aynho; who have been so good as to inoculate, with variolous matter, the patients I had previously inoculated here with the cow-pox."

"During the course of these experiments, upon so considerable a number of different subjects of all ages, from *eleven days* to *seventy-five years*, no pustule appeared on any of them, but on the inoculated part, except in two instances; a single pustule on the forehead of one, and one upon the arm of another. No sickness of any consequence ensued, nor any loss of time from ordinary avocations. The disorder was not communicated by contagion to any who refused to submit to its inoculation. The symptoms which generally occurred were, a pain in the axilla, or in the head, sometimes in both; but no sickness, or, one may say, much constitutional illness. Indeed, some of them were entirely free from all the above complaints. An efflorescence generally appeared about the punctured part, and sometimes extended, though without pain, down the fore-arm, and up to the shoulder. But
this

this happened very seldom. No medicine of any sort was administered, nor had any of them any inflammation on their arms that could create much uneasiness."

"It is not necessary for me to say more on this truly interesting subject. I leave the impartial reader to his natural reflections; but I think, in consequence of the above premises, I may venture to say, that he will *now* be of opinion that the *genuine COW-POX is mild in its effects, congenial with every situation and employment of life, totally void of contagion, and a certain preservative against the baneful influence of the small-pox. And that no constitutional or family complaint can interfere with its effects, or prevent its adoption.*"

SECT. XV.

MR. KELSON'S EXPERIENCE.

FROM the observations of Mr. KELSON, of Seven-oaks, published in the Medical and Physical Journal for July 1800, it appears "that the vaccine virus may be intermixed with the variolous, without being chemically combined with it. Hence two sorts of eruptions were produced; one of pink, fiery-looking *blisters* *, the other of *pustules*. Those who were inoculated from the former, had the cow-pox ;

* This appearance is thus described by Dr. Pearson. " Sometimes, but *in very few instances*, I have found, after inoculation for the cow-pock, moderate sized pimples, but containing little or no limp, and never any pus, to arise, and this chiefly about the arm, where the original vaccine pustule has been rubbed off, or in irritable habits has gone on unkindly, and likewise after the disease has gone through its progress; these spots, so unlike the small-pox," he continues, " gave no trouble, and were of short duration, and according to Dr. Jenner are unworthy of medical consideration." I mention this fact here, from observing that such pimply eruptions have sometimes excited uneasiness in parents, and that they may arise *occasionally*, especially with children about the teeth, where there has been no exposure to the small-pox. —In the case of Mr. Squib's child, inoculated for the cow-pock by me whilst the sister laboured under a very bad confluent sort of natural small-pox, there was a number of these
pimples,

pox; those who were inoculated from the latter, had the small-pox; and where the cow-pock and small-pox pustules interfered with each other, matter being taken from this, produced the two diseases, with the two kinds of eruptions."

"In one of Mr. Kelson's first cases the vaccine disease appeared in the mildest form possible. The matter taken from this patient, Mr. Kelson soon learnt to prefer. From this *no eruptions* occurred, in upwards of a *hundred* patients, whom he inoculated, from *two weeks* old to *eighty years*. In the autumn he received a fresh supply of matter from Dr. Pearson; with which he inoculated as many more, without having *one eruptive case*."

Mr. Kelson is of opinion, "that the vaccine disease, when unattended with eruptions similar to variolous, *is a thousand times more trifling than the small-pox*; he scarcely had a patient sufficiently ill to prevent amusement or labour." He says, "the local inflammation is not to be dreaded; only requiring a singed rag, when the pustule happens to be rubbed off,—and that it is not an infectious disease."

"To determine this last point, he selected about forty people in the workhouse, and inoculated half of them, some in both arms, and fixed them to sleep with those who had not had the disorder; but

pimples, which appeared on the face only, and the patient escaped the small-pox, no variolous pustules having taken place.

in no instance was it communicated to the others. He broke the pustules, and frequently made them smell the parts; but to no effect."

"After giving the disease to the remainder, the following experiments were made, in order to ascertain whether it was a security against the small-pox. *First*, he inoculated the whole party with the most virulent matter he could procure; but nothing ensued, except local superficial inflammation for the first six or seven days.—He *then* introduced a wretched family, just recovered from a very bad small-pox, their dirty clothes unchanged, and divided these in different beds among them; but to no purpose."

"He after this inoculated with the cow-pox an infant, and as soon as he was satisfied that infection had taken place, had it put into the bed with its sister, who had the most dreadful confluent small-pox; but no inconvenience ensued."

"The greater part of these patients Mr. Kelson has *since* inoculated again, both with vaccine and variolous matter; but without effect. Most of the others whom he inoculated, have had variolous matter inserted afterwards, for the satisfaction of themselves or friends."

"He never knew an instance of its occasioning scrophula, or any cutaneous disease; and has never given a single dose of physic, either before or after inoculation."

SECT. XVI.

MY OWN EXPERIENCE.

AFTER so much has been presented to the public on the *cow-pox*, it might appear superfluous in me to say any thing on this subject; but considering the question of the utmost importance to society and the comfort of families, and believing that the inoculation of the village of Lowther, and the proofs that were manifested there, of the *cow-pock* affording an absolute security from the small-pox, must have equal weight here, as in the northern counties; and knowing also that prejudices yet exist against this salutary improvement; I am induced to add my testimony to the mass of evidence already brought forward; taking up this question, indeed, from no personal motives, but for the interests of humanity, and to settle, as far as my humble ability will permit, the public mind, and to solicit, from the rulers of a generous nation, that reward to which so extraordinary a discovery is in justice entitled to.

The *first* PUBLIC INSTITUTION where the *cow-pock* was introduced was that over which I have the honour to preside as physician, and the vaccine inoculation, as daily performed by me *gratis*
to

to every applicant at the ST. MARY-LE-BONE GENERAL DISPENSARY, was advertised at my expence frequently in the public papers, and otherwise made known by printed accounts and oral communications, so that the mass of evidence derived from this source is very considerable: but I have rather preferred relating to the public *my experience in one spot*, as the evidence is in *a quarter* where the facts are concentrated, their authenticity easily ascertained, the conclusions from the number sufficiently satisfactory, and as tending to shew, that the *general inoculation* of the *cow-pock* is not a *chimerical idea*, and the *extirpation* of the *small-pox* an *improbable event*.—Whenever I contemplate this interesting subject, I always smile within myself, by thinking, that as other wise men have found out interpretations for other hieroglyphicks, that in this I behold fulfilled the story of ST. GEORGE, our tutular saint, *fighting*, and *overcoming* the DRAGON.

From visiting the Marquis of Exeter at Burghley, near Stamford, I proceeded on professional duty, to Raby castle, in the North Riding of Yorkshire, the seat of the Earl of Darlington, and from thence went to the Earl of Lonsdale's at Lowther, in Westmoreland. In this excursion I found the cow-pox was a disease equally unknown to professional men as to the inhabitants of those quarters; and the following circumstance led to its first establishment in the Northern Counties.

Soon after my arrival at *Lowther*, after having
first

first had the honour of being shewn by his Lordship the wonderful prospects surrounding this old illustrious seat of great and distinguished characters, I was taken to *Lowther-town* to see the manufactories established there by his Lordship. Here I was shewn carpets, worth from three to four hundred pounds, which excel in taste and workmanship the Brussels; and here it is, that more than an hundred orphans taken out, and apprenticed to his Lordship, from the Foundling Hospitals of London and York, have found a peaceful protection, and are instructed in labour by the superintendent Mr. Bloom, who is furnished by his Lordship with all the materials for these useful and ornamental labours, and has a yearly salary affixed for conducting the whole, and a piece of ground allotted for the cultivation of flowers, in order that the embellishments of these elegant productions of art may be faithful transcripts from nature, with permission also to keep a few cows in his Lordship's park.—A manufactory of woollen stockings of exquisite workmanship is likewise carried on in the same place by Mrs. Bloom.

Being myself a parent, I could not fail to notice at the manufactory a lovely little boy, who with native sweet simplicity seemed "unheeding" of the company he was in, and was in all kinds of antics. This child appeared to be, and was in fact, a very great favourite of his grandfather and grandmother, the superintendents of the manufactory, and he was the more endeared to Mrs. Mason, his
fond

fond and virtuous mother, from having a constitution naturally weak from his birth, and as being the first and only pledge of her husband, who had been then absent from her (from causes I have neither inclination, or wish, to inquire into, or unfold) for upwards of three years.

The anxious thought of the whole family was how they could secure this favourite child from the natural small-pox; hence he was always kept in sight, nor would they have ventured with him to the village of Lowther, or any of the neighbouring towns, for the world: nor, indeed, were such apprehensions altogether groundless; for, not many years back, the small-pox had broken out in *Lowther-town*, when the blacksmith, his sister, and two servants of his Lordship, and the son of the park-keeper, were swept off by that dreadful pestilence, one only out of six surviving!

His Lordship, knowing the apprehension entertained by these people, proposed to me that Master Mason should be inoculated with the cow-pock, and, with his Lordship's natural condescension and goodness, explained in a clear manner the difference between the two species of inoculation, and the superiority of the one over the other.

The proposal was gladly embraced, and I was desired by his Lordship to send for vaccine matter from London, and through the favour of Mr. Ring, who with the most laudable zeal has been indefatigable not only in propagating himself this inoculation,

tion, but in furnishing opportunity for others to do the same, by freely supplying medical gentlemen with vaccine matter to all parts of the world, I soon procured from him on several lancets the means of carrying this intention into execution. Accordingly, October 4, 1800, I inoculated DANIEL JAMES BLOOM in both arms.

As Mr. Bloom is a very intelligent man, I requested him to remark the symptoms arising from the cow-pock, and to draw up a statement of particulars, which he did as follows.

“ The EARL OF LONSDALE accompanied by Dr. Thornton, as they were going out an airing, honoured me with their presence, when the NOBLE EARL witnessed the first inoculation of the cow-pock in this country, which was performed by two punctures just piercing the skin, so as to fetch no blood, the end of the lancets being first moistened with saliva, and the cow-pock matter mixed with it by means of the two lancets being rubbed at the points against each other. At the end of two days there appeared a little redness where the cow-pock matter was inserted, and on the third day there was a pimple like a flea-bite, which increased in size until it lost its pimple-like appearance, which was about the eighth day, and became like a pustule of the small-pox, the sides distending, and the top flattening, when a red circle of inflammation, resembling the burr of the moon in a misty night, appeared, and the flesh around the pustule was as hard as any
N boil

boil whatever, and seemingly as much distended, and inflamed. On the ninth day I became rather alarmed, the child began to droop in the evening, his eyes looked heavy, he felt sick, but could not vomit, complained of head-ach, grew to be very hot, was very restless, and passed a feverish night. The symptoms abated towards morning, but returned the following evening, but much slighter; and on the following day he was cheerful and as well as ever. The pustule had turned, it became a hard brown scab, commencing in the middle, and so extending itself over the whole pustule. The florid inflammation was converted into a faint purple. The skin by the thirteenth day surrounding the pustule became white, and next peeled off. The tension and hardness of the arm diminished, and the pain and small swelling under one arm-pit by the fifteenth day was quite gone.—The inoculation only took place in one arm, and when the scab came away it left a deep-pit, as with those inoculated for the small-pox.”

The following queries were made to Mr. Bloom.

Qu. What is the age of your grandson?

Ans. Four years and a half.

Qu. Is he healthy?

Ans. On the contrary; he is a very sickly child.

Qu. Did the inoculation produce pustules?

Ans. None, except the one on the arm.

Qu. Had he fever in consequence?

Ans. A considerable degree of fever.

Qu. On

Qu. On what day after inoculation did this fever come on?

Ans. On the ninth day.

Qu. Had he any tumour under the axilla?

Ans. Stiffness and pain in that part, and a gland was felt there enlarged to the size of a pea.

Qu. Was his health impaired?

Ans. He appeared not in the least to have suffered from the inoculation.

Qu. Was he inoculated since?

Ans. Being so certain that he was secure from the small-pox by the vaccine inoculation from what I saw, I refused to have him inoculated for the small-pox, as I could not see it would answer any useful purpose, the evidence of the fact from the inoculation at the village of Lowther being sufficient to convince every reasonable mind.

The mistress of the inn at Crackenthorpe, having heard of his Lordship's kindness to Mr. Bloom's family, and wishing to avail herself of a similar advantage, petitioned his Lordship, whose tenant she was, to have her children likewise inoculated with the cow-pock, being seven in number, and they were accordingly all inoculated from Master Mason.

I had the following answer to the queries by an apothecary, who carefully watched the symptoms.

CHARLOTTE IVES, æt. 9.

Qu. How many pustules?

Ans. One.

Qu. Any fever?

Ans. Very slight.

Qu. What were the symptoms?

Ans. A Degree of heat on the skin, and want of appetite, with a sense of weariness.

Qu. How long did this continue?

Ans. One night, and the following day.

Qu. At what period after inoculation did it come on?

Ans. On the ninth day.

SOPHIA, æt. 6.

Qu. How many pustules?

Ans. One.

Qu. Any fever?

Ans. Very slight.

Qu. What were the symptoms?

Ans. As the other, but with some thirst.

Qu. On what day after inoculation?

Ans. On the ninth, but rather earlier in the day than her sister, more restless at night, but the next day was as well as ever.

Qu. Any swelling under the arms?

Ans. None.

LYDIA, æt. 2 years.

Qu. How many pustules?

Ans. One.

Qu. Any

Qu. Any fever?

Ans. None.

HENRY, æt. 1 year.

Qu. How many pustules?

Ans. One.

Qu. Any fever?

Ans. No complaint whatever.

JOHN, æt. 10.

Qu. How many pustules?

Ans. One.

Qu. Any fever?

Ans. A considerable degree, which came on the eighth day, aggravating a severe cold caught at this time; complained of great head-ach, and he had a troublesome cough which continued a fortnight, but he got well of this, and was as well afterwards as before inoculation.

Qu. Any swelling under the axilla?

Ans. None.

JAMES, æt. $7\frac{1}{2}$.

Qu. How many pustules?

Ans. One where the inoculation was, and a smaller one that rose regularly about two inches from the other.

Qu. Any fever?

Ans. The fever seemed to be much in his head; he had thirst, great lassitude, and this continued for two days and two nights.

Qu. On what day after inoculation did this come on?

Ans. The tenth day.

Qu. Any swelling under the axilla?

Ans. One, the size of a pigeon's egg, under the right arm-pit, which appeared on the ninth day, increased for three days, then gradually diminished, and, at the end of the week, dispersed.

Qu. Was this tumour painful?

Ans. It produced a stiffness, and gave, upon motion, some uneasiness.

OBSERVATIONS.—In these *eight* cases the reader has the common phænomena of the cow pock inoculation. Two out of eight were free from fever. The fever, however, was rather more considerable than usually arises from the vaccine inoculation, the period of its arrival was from the eighth to the tenth day, but, as being unaccompanied with danger, it claims, as the tooth-ache, little regard with the medical practitioner. There was no general eruption in any of these cases. The solitary pustule near the inoculated one in a single instance is a circumstance that may, perhaps, occur once in several hundred trials. Two patients had an affection under the axilla, a gland there being enlarged. This circumstance is not unusual; but as being unattended

tended with danger, and only a temporary uneasiness, is of trifling consideration. In the *first case*, a sickly child, much affected with worms, was inoculated with the cow-pock. He is rendered thereby secure from the small-pox ever after. All the parents' fears about the child were instantly dispersed. The probability in this case, had he been inoculated with the small-pox, is, judging from example, (but to such inoculation the parents I am persuaded never would have consented,) that he would have died, or his constitution been so much impoverished, that he would have lingered out a very painful existence.--In the *other instances*, I need not state, what would be the distress at an inn from so many labouring under the small-pox, the anxiety it must have created, the trouble, and the suspension for a time of part of the business of the house. The supposition of death with these patients, and other miseries, will not here enter our calculation.

INOCULATION OF THE VILLAGE OF LOWTHER.

We hasten now with pleasure to the inoculation of the *Village of Lowther*. This is a most pleasant picturesque village, situated two hundred and eighty miles from London, seven miles from Penrith, and a mile from the ancient famous mansion of Lowther, and was built by the present Earl of Lonsdale, in the Italian taste, is regularly fashed, contiguous, from two to three stories high, each house being of stone,

and, without doubt, is the most tasty village in the kingdom. It contains about four hundred inhabitants.

His Lordship, observing, with great acumen, the cause of the prosperity of the North of Ireland, after having built in this delightful spot a village unique of its kind, sufficient to contain five hundred inhabitants, sent over to Ireland for manufacturers of cloth to set the example of the true welfare of a nation. Here it is all his Lordship's linen, as table-cloths of damask, napkins of the same, towels, sheeting, and long-cloth, in short, every article of linen in use, have been fabricated, and no other is at present employed either at his Lordship's establishment in London, or at Lowther. Besides these manufacturers, all his Lordship's labourers reside here, rent free, and are paid a regular stipend both summer and winter, and, however old, are paid equally as when they could exert their youthful strength. It was with pleasure that I witnessed, in the winter, potatoes given as usual, meat, and bread; and when any of the wives are near their time to be brought-to-bed, they send to Lowther for linen, and are allowed beer-caudle during the month. The villagers indeed generally lament that there is no public-house throughout the whole place; but his Lordship no less regards their temporal than their eternal welfare.

Agricolæ

O fortunati nimium sua si bona norint!

VIRG.

Hence

Hence it is that the village of Lowther exhibits what should be the pride of English nobility, a fine healthy industrious peasantry, supported by, and contiguous to, a rich domain.

Let the reader of sensibility contemplate the difference between that pride of nobility, which desolates a country to extend a park, and that patriotic spirit, which, at a considerable expence, establishes towns and villages, for the purpose of manufacture.

Every thing seemed to conspire to render our experiment the most decisive imaginable. His Lordship observing with a true patriotic eye, which looks beyond the *narrow* circle of *private* advantage, considering only the *public* welfare, had shewn himself adverse to *partial* inoculation; hence the younger part of the whole village for upwards of twenty years were exempt from the small-pox, and therefore liable to this disease.

As fortune would have it, during the period Daniel Mason was under vaccine inoculation, one of the industrious little villagers, a lad aged nine or ten years, had picked up mushrooms, which at that time were uncommonly abundant, and carried them for sale to Penrith, unknown to his parents, where the small-pox then raged, and had swept off a number of persons. This child took, in consequence, the natural small-pox, and exhibited signs of it, when Daniel Mason had just recovered; and ROSE, æt. 9, the child of his Lordship's porter, was

was in a right state for propagating the vaccine inoculation.

It was now harvest time in the north, both for hay and corn, and there was not to be an idle hand throughout the whole village. No language can express the dismay that was spread from this event. Amidst this universal consternation and dread of the small-pox, seen by groups of old people anxiously conversing of the impending calamity, his Lordship ordered the glad tidings of a general inoculation with the *cow pock* to be proclaimed, the advantages of which were stated, had been seen, and were believed, and the whole assembly were ordered to appear in review at Lowther before his Lordship.

Upon going to see the child labouring under the natural small pox, I found his face greatly tumified, not a feature to be discerned; blind, covered with pustules from head to foot, the whole face was one smear of blood and gore, and the parlour he lay in being small, the stench was so intolerable, that I was obliged soon to quit the room to hinder myself from being sick. I proposed inoculating the other two children with the small-pox; but the mother was much prejudiced against inoculation, and had rather "trust them to God's will," hence I foresaw that I should obtain a full completion of my views*.

The

* The small-pox being a disease, whose laws are little known by the majority of people, I have endeavoured in this

The happy villagers now thronged to his Lordship's domain ; and it was a most pleasing sight for me to see assembled at Lowther in the steward's room, in the presence of his Lordship, so many persons to whom I was about to render the most essential service ; at the same time I was enabled to

this pamphlet to insert also the most prominent features of the small-pox ; and here, therefore, I would observe that infection only commences after the eruptive fever, and takes from seven to fourteen days before the seeds of this disease when sown manifest themselves : and this curious fact is the most frequent cause why some idly boast of being themselves, or having children, proof against the small-pox, and why all may escape the danger, which warns like the *rattle snake*, before it seizes on its prey. " Many instances," says the great and learned Dr. Heberden, " have occurred to me, which shew, that one who never had the small-pox might safely associate, and even lie in the same bed, with a variolous patient, for the two or three first days of eruption, without receiving the infection."

By comparing this observation with the facts contained in Dr. Haygarth's work on the small-pox, it appears, that when one person is accidentally seized with the small pox in a family where others are liable to it, the rest may generally avoid the natural infection, either by separation or immediate inoculation.

Maturation appears to be the season when the variolous miasms are emitted most copiously ; the poisonous pus being exposed, at that period, naked to the air, according to the accurate description of the faithful Sydenham. " *Usque ad hunc diem*" octavum a primo insultu " *pustulæ, quæ faciem obsederant, læves ad tactum fuere atque rubræ, jam verò asperiores evadunt* (quod quidem primum est incipientis maturationis indicium) *et subalbidæ, paulatim insuper succum quendam luteum, colore a favo non abludentem, evomunt.*"

make

make the most decisive experiments respecting a practice, which promised to be an epoch in the annals of medicine, and I flatter myself that the importance of the subject, and the present period of time, when Dr. Jenner's claim is before the House, will be a sufficient apology for my publishing the scattered observations I at that time made, and without the smallest view to their publication.

MEMORANDUMS.

1. MARY BRYHAM, æt. 20, is a *good-looking well-grown* girl, of a very florid complexion, the daughter of a groom of his Lordship's, William Bryham, who has superintended his Lordship's stables upwards of forty-eight years. The arm rose finely, pustuled, and then scabbed, but there was not the slightest constitutional affection.

OBSERVATIONS ON THIS CASE. Having passed through the vaccine disease (as far as regards the essential circumstance, a proper pustule forming itself, and going through its respective stages, which occupies a space of from fifteen to twenty days,) I introduced her to where lay my wretched patients in the natural small-pox, one child was hardly recovered, and a second was in a deplorable condition, blind, and at that time dreadfully moaning. I shall never forget the expression of alarm manifested by the girl's countenance, she having never
seen

seen this disease before. The blackness had not quite worn off the face of *one*, a *second* was at its height, and a *third* sickening; and if fear increases the predisposition to take infection, there was no want of this here *, and with the utmost difficulty I could get her to come near these children; but having, after much persuasion, the first surprise being over, consented to let me inoculate her plentifully with the variolous matter in both arms, she afterwards was induced to touch the children labouring under the small-pox with her hands, and catch their breath, but to no purpose, for having had the cow-pock, she was insusceptible of the small-pox, in whatever way attempted to be given; she was indeed *proof* against this disease, as much, if not more so †, than if, instead of the cow-pock, she had had the inoculated small-pox.

* Besides the horror of the scene, *another cause* might have conspired. There lives in the same village along with her, ANN ROPER, the daughter of her mother's sister, and this girl was so dreadfully scarred by the SMALL-POX, that she was rendered, to use the vulgar phrase, a *perfect fright*; she was said before to have been a *bonny lass*, and I might add, that she has from the same cause a speck over her right eye, of which she is blind.

† For there are a few authenticated cases of persons having had twice the small-pox, but I should doubt such facts, unless for *the authorities*: but rather than believe them, may I not be allowed to say "*humanum est errare.*"

2 & 3. THOMAS NICHOLSON, æt. 6, and JOHN, æt. 1, his brother, a child at the breast, passed through this disease, as is common. On the eighth day the accession of fever came on, rather stronger marked than usual, the symptoms of which were heaviness, a want of appetite, disinclination for food, an increase of heat, the sleep at night restless. Sometimes these symptoms, especially with infants, are accompanied with nausea, and actual sickness; but these in a day or two pass off, and the patient is left in perfect health. There was no eruption in either of the two cases.

OBSERVATIONS. The first reflection that must naturally strike the reader is, that the child who was in arms, labouring under the cow-pock, did not communicate this disease to the mother, who never had had the cow-pock, hence this disease is not infectious; secondly, being next door neighbours to the Smiths, and after the cow-pock had scabbed, being permitted to visit their former playmates, that they had resisted the small-pox. Besides this chance, they were each inoculated by me plentifully with the small-pox matter; and not satisfied with this, I had them put *naked into bed* * with their neighbour's child covered with

* The examples of this sort, furnished by my practice as Physician to the Mary-le-bone Dispensary, are extremely numerous. I shall mention, however, only a very few strong cases,

with maturated pustules; but it was all to no purpose, they were rendered by the cow-pock insusceptible

cases, thinking that more would be needless and tiresome to the reader.

Two years back I inoculated JOHN KING, æt. 3, and THOMAS, æt. 1½, children of the publican, who lives in Margaret-street, at the corner of Great Portland-street, with the cow-pock, and they scarcely ailed any thing. Mr. King's niece not long after came out of the country, and on her arrival in town fell ill of the natural small-pox, and had them very full. John King *slept* with her the whole time; they both were with her in the day; and the mother relates that, frequently since, they have been in company with children labouring under the small-pox, never wishing them to avoid it. And to complete the decisiveness of this fact, I had them both, at two separate times, inoculated for the small-pox; but having had the cow-pock, they were rendered thereby insusceptible of the small-pox.

I inoculated JOHN, THOMAS, and WILLIAM PLANT, who live in Edward-yard, Edward-street, and they had the cow-pock the usual mild way; a fourth child was inoculated with the small-pox, and a plentiful crop of pustules were produced. The children being in the same house, eat, drank, and were constantly together, but no infection took place. I then inoculated these three repeatedly with the small-pox: but they were found ever to be *proof* against that disease.

ELIZABETH RESTIEAUX, living at 38, Castle street, Oxford-market, was inoculated by me three years ago, and had the cow-pock in the usual mild way. A year after this she was in the same house where there were three children who were seized with the natural small-pox in a very bad manner, and she was constantly with them, and has since been taken repeatedly to houses at my instigation in which the small-pox was ;

ceptible of the small-pox in whatever way attempted to be given.

4, 5, & 6. JOHN HUTCHINSON, æt. 9, WILLIAM,

was; and she has also been inoculated by me twice with the small-pox and once with the cow-pock, at different intervals, but without these producing the smallest effect more than a slight scratch from a lancet.

MARGARET PITCHET was inoculated by me two years ago. Some months after she had had the cow-pock, a child in the same house, No. 8, Duke's-court, Bow-street, took the natural small-pox, and was covered with pustules from head to foot. These children were together as usual: but no small-pox was communicated; and having inoculated her at least a dozen times since, at different periods, I found her in every instance *proof* against the small-pox.

MARY, ROBERT, THOMAS, and ALEXANDER ROUTLEDGE, living in St. Ann's-court, were inoculated by me for the cow-pock. MARY was *purposely* sent to a relation's, whose child had just taken the natural small-pox, and continued there three weeks, but never caught the small-pox, having previously had the cow-pock. A lodger in the same house refusing to have her two children inoculated with the cow-pock at this time, a few weeks after, lost both by the natural small-pox.

Mrs. HUTCHINGS, housekeeper of the Rev. Mr. Townsend, author of the "Guide to Health," having come to live in town with her husband, had her child inoculated by me with the cow-pock; with this child in her arms she nursed a friend's child labouring under the natural small-pox, who with difficulty recovered from it; nevertheless her infant did not take the small-pox, having previously had the cow-pock.

The same was the case with Mrs. BRITAIN, No. 3, Pit-street, whose child escaped the small-pox from having had the cow-pock,

LIAM, æt. 7, and THOMAS, æt. 2, went properly through the several stages of the cow-pock pustule. JOHN and THOMAS had an accession of Seven on the eighth day. WILLIAM ailed nothing.

OBSERVATIONS. These were next door neighbours to the Smiths, on the right, and being suffered to enter the house of their old playmates after the *cow-pock* had scabbed, they were exposed to the contagion of the small-pox for hours together; they were also plentifully inoculated by me for the small-pox, but were all three insusceptible of that disease.

7. THOMAS JOHNSON, æt. 13, was inoculated like the rest in the arm. The occupation of this lad was to drive a cart, usually in company with his father, for the Earl of Lonsdale, and going to Penrith on the fifth day after inoculation, he drank a pint of strong-beer given him by one Pellet, at Mr. Hutchinson's brewery, and came back that same day with his team, having walked upwards of fifteen miles, in consequence there was an attempt towards forming a kind of eruption, one pustule appearing on the breast, and another on the

pock, although two children died of the natural small-pox, at the next house, to which her child was often taken.

Two of my own children, CHARLES, and ANNA MARIA, who were inoculated by Dr. Jenner for the cow-pock, and ailed nothing but the pustule on the arm, were both afterwards inoculated by me for the small-pox, but without its producing that disease.

O

cheek,

cheek, which actually scabbed over, and he passed a restless and feverish night, and continued feverish the next day and night, after which he was able to drive his team and three horses as usual, and being inoculated by me with the small-pox matter, and frequently exposed to the influence of the small-pox in the house of the Smiths, he was found unsusceptible of that disease.

OBSERVATION. What would have been the consequence of such imprudence under variolous inoculation as was exhibited in this case I leave to the conjecture of the sensible reader! The appearance of a couple of pustules, and these maturing, is a very rare occurrence; for this disease is almost invariably confined to the inoculated pustule, and most probably arose from his blood being overheated by the beer and exercise.

8. MARIA JOHNSON, æt. 16, his sister, had the cow-pock without any accompanying fever.

OBSERVATION. She was inoculated twice for the small-pox, and rubbed her hand over Smith's children, and was frequently in the infected house, but was found unsusceptible of that disease.

9. WILLIAM HODGING, æt. 13, was inoculated in both arms; the pustule took, however, only in one. He is carpenter to the Earl of Lonsdale, and works with his father in the raff-yard. On the ninth day he had an accession of fever, but not so much as to make him leave off work.

OBSERVATIONS. This youth lives but two doors
7 from

from the infected house, was taken by me into this house, and brought so near to the children as to receive their breath, and at seven different times was inoculated both for the small-pox, and as many times for the cow-pock, but having had the latter decease, no proper pustule rose, performing its regular stages, or exciting the least constitutional affection, and hence he may be safely declared unsusceptible of either disease.

10. MARY HENLEY, æt. 14, was inoculated also in both arms. It took effect in both places, and the pustule on the left arm rose finely, and did extremely well; but that on the right arm got rubbed by some means, formed itself into an ugly scabby sore, producing real pus under it, and as fast as the scab came away, it formed a larger sore, very deep, and was a very troublesome wound for more than six weeks, the scab filling up the place, extending to nearly the size of half a crown; and this would have been set down as an untoward case of vaccine inoculation, depending upon some peculiarity in the constitution, unless fortunately we had inoculated both arms, and the one had done so kindly. She had no fever, or any constitutional affection. Was taken into the house, where the natural small-pox was, and inoculated then, and several times after, but to no purpose; she was unsusceptible of the small-pox.

11. MARIA FRY, æt. 7, had one pock, the fever was of one day and night's continuance, and her

father described her "as burning like a coal, sick, but not to vomit, and as rambling in her sleep."

OBSERVATIONS. When she had gone through the cow-pock I made a double experiment; I inoculated her with the small-pox, and at the same time her sister CHARLOTTE, æt. 15, who had had the small-pox when seven years old, and was terribly disfigured by it, with the cow-pock; and, contrary to my expectations, there was a pustule formed in MARIA FRY's arm, and a general consternation took place among the villagers; but upon examination, there was no bur of inflammation round it, no hardness, no regular pustular rising; it scabbed on the fourth day*, and produced no constitutional disease, or any pustules, the cow-pox in CHARLOTTE FRY died away like a common scratch.

It may not be irrelevant to mention here, that JANE MATTINSON and MARY DUNN, both presented themselves to be inoculated, but from their own account it was more than probable they had had the small-pox. The former had nursed a child

* In a few instances where a pustule has been formed of either kind, the progress was found to be very different from the true pustule, and this kind, like a seed sown on ground, or in a climate, not congenial, came forward, and soon passed off, whereas the other has its regular stages of rising, falling and scabbing. Those who have the bastard pustules, if I may so call them, have complained of much *itching*, which I have not observed in the other sorts, and at the end of ten days the pustule was gone without leaving behind the usual large and deep scar.

who died of that disease ; it was the child of his Lordship's park-keeper before mentioned. At the same time I inoculated these with the cow-pock, I also inoculated the brother of Mattinson, a young man who was dreadfully scarred and marked with the small-pox, and JAMES BROOM, who had also the marks of that disease ; and these were done with both sorts, but in each instance there was only produced a slight temporary local irritation, and both places before the fourth day died away. It appears, therefore, from these and other facts, that those who have had the cow-pock are insusceptible of the small-pox, and *vice versa*.

12. RICHARD WALKER, æt. 24, carpenter, on the ninth day was attacked with a fever, was light-headed, wanted to get out of bed, the next day, the tenth was enabled to do some work, could not work much, had the fever return at night, after which he ailed nothing, continuing his labour as usual all the while, except on the one day mentioned. Inoculated with both the cow-pock and small-pox, but neither took effect.

13. HARRIET FLETCHER, æt. 18, had only one pustule, and says she was able to follow all her domestic concerns as usual, never being laid up a single day. Inoculated with the small-pox, but was found like the rest, insusceptible of that disease.

14. JOHN SAUNDERSON, æt. 10, had one pustule and ailed nothing, his brother

15. JOSEPH SAUNDERSON, æt. 7, had a fever for

two days and nights, was hot and restless, the fever came on on the seventh day. Both were inoculated with the small-pox, but without effect.

16. WILLIAM PATTERSON, æt. 9, had one pock, also a small one underneath, which came out a few days after the other, feverish two days and nights, the fever commenced on the ninth day. Inoculated with the small-pox, but it took no effect.

18. HANNAH MANDLE, æt. 2, had one pock, never ailed any thing.

19. MARY FALOFIELD, æt. 11, one pock, feverish on the eighth and ninth nights, but played in the interval.

20. JOHN HENLEY, æt. 16, one pock, never ailed any thing.

21. HANNAH M'CRAN, æt. 9, one pock, never ailed any thing.

22. SARAH M'CRAN, æt. 7, one pock, and another came out an inch below it, which was much smaller, and which went in stages, and scabbed like the other; ailed nothing.

23. THOMAS RICHARDSON, æt. 4, one pock, no fever.

A PARTICULAR OBSERVATION. He is terribly scarred in the face and body, a year before, his clothes catching fire, when the child was nearly burnt to death.

GENERAL OBSERVATION. These six having had no perceptible constitutional affection, they were inoculated again with the cow-pox, but this took no effect,

effect, also with the small-pox, but they were likewise proof against both.

THE CONCLUSION or INFERENCE.

Fearful that continuing the same monotony would only fatigue my readers, and imagining to urge more facts might be considered as an insult even to the meanest comprehension, I shall therefore just sum up, that *forty-eight* inhabitants of the village of Lowther, of different ages, who had never had the small-pox, were inoculated by me for the cow-pock, and having passed through this disease without risk or danger of life, or person, that they were nearly all, at least the majority, inoculated afterwards at two remote periods for the small-pox, and exposed to its infection by being brought into the room where the small-pox was, but in not a solitary instance did any receive this disease. Such an escape in such a number cannot possibly be attributed to any peculiarity of constitution; but it must be allowed to the true cause, the preventive influence of the cow-pock. This law amounts therefore to an absolute certainty, or demonstration; for whence do we form the notion that fire burns the flesh? My personal experience and traditional report does not approach to half the number of instances respecting the preservative power of the cow-pock, nor has indeed any one a more ample or better ground for be-

lieving that cork swims. To disbelieve *now* the efficacy of the cow-pock, must therefore arise either from IGNORANCE OR PREJUDICE; and indeed there are reported to be even *at this time* a few doctors, who do not credit the thing, but I flatter myself, this report is unfounded, for an ignorant doctor is a *misnomer*; and respecting vulgar prejudices * these mental mists will, it is hoped, soon vanish before the clear sunshine of truth.

PROGRESS OF THE VACCINE INOCULATION IN THE
NORTH,

From such demonstrative evidence of the superior advantages of the cow-pock, the Countess of DARLINGTON, daughter to the Duchess of Bolton, who is sister to the Earl of Lonsdale, had her last child inoculated with the cow-pock, although Lord Barnard and four other children of the Earl of Darlington had had a mild disease from the small-pox inoculation. Colonel LOWTHER, Member for the county of Westmoreland, who was with his Lordship, had a child of his inoculated with the same, although he had seven before inoculated with the small-pox; and Colonel SATTERTHWAITE, member for Cockermouth, a borough of his Lordship's, being at Lowther, having lately lost a grand-child by small-pox inoculation was rejoiced to embrace this opportunity, and had vaccine matter from me sent to

* These prevail more in the South than in the North.

his

his son-in-law, Dr. Head; Captain PRESTON of Warcop, coming to Lowther, followed the example, mentioning "that the reason why he had not had his child before inoculated with the small-pox, was the fear of bringing this disease into his village." And such indeed was the general conviction of the *country people* of the efficacy of the cow-pock, (namely, its power of rendering the constitution insusceptible of the small-pox, and that it was a disease infinitely milder than the small-pox, never killing, not infectious, and giving little or no trouble) that the whole country around Lowther came to solicit a participation of the benefits resulting from the cow-pock, and on several days I was engaged in inoculating to the amount of 110 * persons,
Mr.

* SPECIMEN OF ONE DAY'S INOCULATION, THE NAMES BEING OBLIGINGLY TAKEN DOWN BY MR. STOREY.—AND Davidson, æt. 23; John Pearson, æt. 2; Christopher Thompson, æt. 3; Hannah Lancaster, æt. 1½; George Sanderson, æt. 4; John Powley, æt. 5; William Powley, æt. 6; Christopher Stephenson æt. 17; *from Great Strickland.* William Rigg, æt. 4; Mary Rigg, æt. 6; *from Little Strickland.* Henry Hodging, æt. 3; Joseph Hodging, æt. 1; *from Pattindale.* Elizabeth Jackson, æt. 15; John Jackson, æt. 19; James Jackson, æt. 15; Mary Jackson, æt. 8; William Jackson, æt. 4; Isabella Scott, æt. 11; Jane Wilkinson, æt. 18; Richard Mounsey, æt. 2½; John Mounsey, æt. ½; *from Martindale.* Joseph Ireland, æt. 3; John Shepherd, æt. 10; *from Newton.* Sarah Robinson, æt. 14; Joseph Robinson, æt. 12; Mary Robinson, æt. 10; Hannah Robinson, æt. 8; Elizabeth Robinson, æt. 6; Ann Robinson, æt. 4; Thomas Robinson, æt. 1½; William

Mr. STOREY, his Lordship's apothecary, kindly assisting me in this work of humanity.

It

liam Thompson, æt. 5; *from Barton*. John Nelson, æt. 8; Henry Nelson, æt. 6; William Nelson, æt. 4; *from Whale*. Peggy Ballentine, æt. 2½; *from Knipe*. Mary Hayton, æt. 3; Andrew Harding, æt. 2; *from Ashham*. Esther Wilson, æt. 2; Esther Coulthard, æt. 6½; George Coulthard æt. 4; William Wilson, æt. 18; Jane Wilson, æt. 1; *from Penruddock*. Sarah Coalson, æt. 5; *from Cleborn*. Mary Graham, æt. 2; *from Hachthorp*. Sarah Nicholson, æt. 1½; John Nicholson, æt. 3½; Hannah Parker, æt. 16; John Dalton, æt. 4; Joseph Dalton, æt. 1½; Francis Moor, æt. 28; Mary Tours, æt. 5; Wilson Tours, æt. 2; Esther Todhunter, æt. 8; Joseph Todhunter, æt. 14; Nelly Todhunter, æt. 10; *from Spartnit*. Ann Wilson, æt. 24; Mary Wilson, æt. 4½; Sarah Parker, æt. 19; Mary Jackson, æt. 28; *from Thackthet*. John Fidler, æt. 6; Lucy Fidler, æt. 4; Ann Fidler, æt. 2; Thomas Fidler, æt. ¾; *from Roan*. Francis Hodgson, æt. 42; Thomas Hodgson, æt. 14; Richard Hodgson, æt. 12; Mary Hodgson, æt. 11; John Hodgson, æt. 1½; John Docher, æt. 2; George Davidson, æt. 2; *from Newton*. John Sewell, æt. 2; *from Bolton Moor*. Robert Watson, æt. 3; *from Wainston*. Ann Forster, æt. 18; *from Milkenthorp*. William Pooley, æt. 10; Richard Pooley, æt. 6; *from Barton Church*. Joseph Jackson, æt. 20; *from Thackthwaite*. John Morland, æt. 8; Mary Moreland, æt. 6; Jenny Morland, æt. 4; Thomas Morland, æt. 1; *from Swindale*. John Waterhouse, æt. 13; *from Dacre*. Barb. Dodd, æt. 8; Elizabeth Dodd, æt. 5; Ann Dodd, æt. 2½; Jane Robinson, æt. 2; *from Morland*. William Brown, æt. 1; Francis Brown, æt. 2; William Newton, æt. 1; *from Newbiggin*. Francis Walker, æt. 2; Margaret Teasdale, æt. 1½; Elizabeth Teasdale, æt. 4; John Castlow, æt. 15; Sarah Castlow, æt. 12; Elizabeth Castlow, æt. 10; William Jackson, æt. 13; Elizabeth Howgarth, æt. 19; Bella Howgarth, æt. 15; Agnes Howgarth,

It was a most charming sight to behold the finest peasantry in the world assembled at Lowther for the purpose of having themselves, or of giving the cow-pock to their children, to secure them ever after from the horrid ravages of the small-pox; and such was the courage displayed, that out of 110 persons mentioned in the note as inoculated in one morning, I do not recollect seeing more than one frightened at the sight of the lancet, nor were the fears of this child communicated to the rest. So thronged were the carts and waggons and horses loaded with the rich treasures of the country, that, as at fairs, there were women who came to Lowther with cakes and fruit, and the turnpike man desired I would go through his gate toll-free, saying, "he had never

garth, æt. 12; *from Ross-gill*. William Wills, æt. 3; Jane Wills, æt. 4; John Nicholson, æt. 5; Thomas Nicholson, æt. 6 weeks; *from Soenbridge*. Jane Sinton, æt. 36; *Penrith*. The reader will find the number of inoculated persons on this morning, to be 110, from 6 weeks old to 42 years of age, and when the question was asked, whether they would have come in such numbers to have the small-pox? there were very few, who did not declare, that they disliked the small-pox, each assigning different reasons: but the principle objection was, "they had known such, and such, *die* from the inoculated small-pox," and "that they could not *spare the time* to attend upon a sick family," and several smilingly said, "they could not *afford to pay for it*;" nor did a single individual express the smallest distrust of the virtue of the cow-pock, but all received the inoculation both *cheerfully*, and *thankfully*!

had

had so many people pass his gate before." The number inoculated by me at Lowther, amounted in all to above a thousand, and calculating what others have done from my example, I should suppose that the number must have risen since to many thousands.

Sir JAMES GRAHAM of Netherby near *Long-Town*, on the borders of Scotland, being much indisposed, came to the Earl of Lonsdale's at his Lordship's desire, on purpose for my advice, and having witnessed the good effects of the cow-pock, he took matter back with him to have his nephew (the child of the Rev. Mr. Graham, the rector of *Arthuret*) inoculated, and that he might extend this blessing to his tenantry *. Of the pleasing result of this case I have the satisfaction of laying the following letter before my readers.

" Dear Sir,

" I have had the pleasure to receive your kind letter. My little boy has had the cow-pock so very favourably, that little or no fever has attended the complaint, if any; it was very trifling on the eleventh

* Sir James Graham, M. P. is a baronet of equal philanthropy and urbanity, married to the daughter of the Earl of Galloway, and is said to have the best concentrated estate in the kingdom, the whole of Netherby being his possession, and this one estate yielding 12,000 per annum.

night;

night; *seven* children were inoculated from him yesterday. I am happy to hear Lord Lonsdale is better, and hope you will soon restore him to perfect health; I beg my respects to his Lordship. My brother is considerably better from your skilful advice.

"I am, dear Sir, with great esteem,

"Your's, most faithfully,

Arthuret,

"FERGUS GRAHAM.

Nov. 24, 1800.

"P. S. The inflammation on the arm was about the size of a shilling."

I was equally anxious to establish the cow-pock at *Carlisle*, which is situate but nine miles from Long-Town, and Dr. HEYSHAM, an eminent physician of that city, proposed setting the example by having his own child, only six weeks old, inoculated; but my first attempt failed, as the following letter shews.

Carlisle, Nov. 1, 1800.

"Dear Sir,

"I received your very obliging favour on the 23d ult. and delayed answering it till now that I might have it in my power to acquaint you with the result. Agreeable to your advice the infant was
inoculated

inoculated with the lancet the very day it arrived. The operation was performed by a surgeon who is much in the habit of inoculating, and who did it very neatly, and without drawing blood; and the lancet was wiped on the part agreeable to your directions, notwithstanding which, I am sorry to inform you, no effect has been produced. Had she fortunately received the infection, several of my friends were disposed to have had their children inoculated from her, and the practice, I have no doubt, would soon have become *general* in this neighbourhood."

"I shall inclose the lancet in this letter, and flatter myself you will have it in your power to return it in a few days, loaded with fresh matter, and the child shall be inoculated again, and I hope with more success."

"If, however, you cannot favour me with recent matter, I will make the experiment with the old which you sent upon the cotton thread; but I should greatly prefer fresh, because if it should fail a second time, it might be the means of discouraging the practice, which I feel very anxious to promote."

"I am, dear Sir, with great respect,

"Your much obliged humble servant,

To Dr. Thornton,
Lowther.

"JOHN HEYSHAM."

As a more certain mean of imparting the cow-pock, I agreed with the parents of one of the villagers, who had the pustule in a proper state, to set out on horseback, for Carlisle, with his child, Mary BROWN, a girl only five years old, which was consented to; and immediately upon reaching Carlisle, after a journey of twenty-six miles, *nine* persons were inoculated from her by Dr. Heysham, of which event the following letter is a document.

Carlisle, Nov. 13, 1800.

"Dear Sir,

"I return you my best thanks for your very obliging letter, and am certain the inhabitants of this city are under great obligations to you for your kind attention in sending a healthy subject under the action of the cow-pock. Nine children have been already inoculated from her under my inspection, and several more will follow their example to-morrow. As soon as the infection takes place, I shall advertise a *general inoculation* at our dispensary; by which means I doubt not but the practice will become *universal* in this part of the country. My little girl was inoculated with your second lancet the moment it arrived, but without effect, and a third time yesterday with one received per favour of Sir James Graham. I shall attend to your P. S.
and

and will recommend to all the surgeons to make use of very clean lancets, and matter taken early in the disease *."

" I am, dear Sir, with great respect,

" Your much obliged humble servant,

" JOHN HEYSHAM."

The pleasing result of the first trials at Carlisle will be seen from the following letter.

Carlisle, Dec. 6. 1800.

" Dear Sir,

" Mr. Alderman Richardson left your favour yesterday evening, when I was out of town; and as I understand he means to return to Lowther, either this day, or early to-morrow morning, I embrace this opportunity of informing you that all who have been inoculated here where infection took place, since you sent the little girl, have done extremely well. Not one of them was affected with any considerable fever, or any kind of sickness to excite the smallest uneasiness.

* This P.S. alluded to the power of rust in destroying the specific virtue of the cow-pock matter, and producing, in consequence, the *spurious* instead of the *true* pustule; also to the cow-pock pustule losing its specific virtue after the ninth or tenth day; vide note * page 114.

" With

“ With respect to my own child we have been rather unlucky, as she has not received the infection though inoculated three times with the dry matter you were so kind as to send. And since we received the recent matter we have been under the disagreeable necessity of changing her nurse no less than twice, and at present, on account of an indisposition common to children, must postpone the inoculation.

“ I have the honour to be, dear Sir,

“ Your much obliged humble servant,

“ JOHN HEYSHAM.”

Upon the return of the little child, after this expedition, I was careful in observing the effects of so long a journey, at this season of the year; and I remarked with pleasure that the fever had been slight, but two pustules came out on the face, which completely matured, and scabbed. Dr. Heysham generously discharged all the father's expences at Carlisle; Mrs. Graham at Low-House, in the neighbourhood, who had her child vaccinated, gave him ten and sixpence; and Dr. Blamire, who took some vaccine matter from the child, gave the father a crown; and he also received many other presents, which he very honestly mentioned, refusing what I had agreed to pay him; but I insisted upon fulfilling the terms of our original agreement.

The two following letters will shew my endeavour to establish the cow-pock at *Whitehaven*.

“ Sir, Whitehaven, Oct. 25th, 1800.

“ I delivered your observations, relating to the cow-pox, to Dr. DIXON, who desires me to say that he thinks himself highly obliged to you, and requests you will send him a little of the matter for inoculation, with proper directions how to use it, thinking it would be the means of saving a great number of lives here *.

“ I am, Sir,

“ Your most obedient and humble servant,

Dr. Thornton,
Lowther.

“ JOHN BOWNESS.”

“ Sir, Whitehaven, Nov. 21st, 1800.

“ Receiving a letter from my father last night, stating, that you wished to hear how my brother came on after his inoculation, enables me to embrace the opportunity of returning my grateful thanks for introducing the cow-pock to my brother and myself, who have both got through the same exceedingly well. I have inoculated several children at Whitehaven and Workington; likewise have fur-

* Dr. Dixon, Dr. Croftwaite, and Mr. Hamilton, have since introduced the vaccine inoculation into the Whitehaven Dispensary, and have inoculated a great many.

nished several doctors with matter to do the same. They are all fully convinced of the great advantage arising from the cow-pock; yet, they inform me, from the bigoted notion of the public, they fear they shall not be able to get it introduced. What they allege appears *strange* to me; as with those I had opportunity to inoculate I found it not difficult to do away *any prejudice* that tended to injure the introducing so useful a discovery to the human race. On the 22d instant I shall have to inoculate near *twenty* of his Lordship's work-people's children.

" I remain your most obedient

" humble servant,

Dr. Thornton,
Lowther.

" WILLIAM BRYHAM *."

Lancaster was not forgot, as the following letter will evince.

" Dear Sir, Lancaster, Dec. 10th, 1800.

" I have this evening received from Mrs. Dilworth (Mr. Yarker's daughter) a little vaccine matter, for which I find I am indebted to you, and for which accept my sincere thanks. I have found

* William Bryham superintends Lord Lonsdale's collieries, and since this period has inoculated above 500; his sister's case is in page 204, being among the first inoculated in the village of Lowther.

great difficulty in introducing the new inoculation here; and had it not been for a sensible and intelligent *lady*, Lancaster would not yet have witnessed its introduction. Since then I have inoculated several, perfectly to my satisfaction; and the other day I made proposals to my friend Mr. Bafendale, who is surgeon to the Lancaster Dispensary along with myself, to inoculate the poor in this town and its vicinity, gratis. With pleasure I inform you it met with his approbation, and with that of Dr. Campbell, and in a few days we begin the business.

“ I am, dear Sir, with great respect,

“ Your obedient and faithful servant,

“ J. A. BRATHWAITE.”

Nor was *Appleby* forgot, as the following letter will shew.

“ Dear Sir, Appleby, Dec. 17, 1800.

“ This day week I inoculated fifteen with fluid cow-pox matter, all of whom, excepting one or two (which are dubious), have taken the infection, and the pustules look charmingly. The prejudices of the common people against the operation are sinking to nothing; and I am fully persuaded, that in a very little time the inoculation will become
general.

general. I will not fail to transmit to you a regular account of those under my care.

"I remain, dear Sir, with great respect,

"Yours most sincerely,

"JOHN BUSHBY."

Nor was even *Ulverton* omitted by me.

"Dear Sir,

"With the lancet you *last* sent me I inoculated RIGGE, but am much afraid, from the appearance of the incisions, or rather punctures, not with the success which has attended my other operations in this new and excellent practice. I have here matter taken from the arms of some of my patients; but, from a prejudice which you will easily allow for, his friends here will not allow the disease to be produced in him by any other means than such as originates from you *directly*. I must, therefore, trouble you to send me a little fresh matter for him as soon as convenient. In sending small-pox matter to a distance, I have found it very certainly sent by having two small square pieces of glass, one surface of each being besmeared with the matter, applied together, and tied by a piece of thread.

"I have already inoculated between twenty and thirty of different ages, from matter you first sent, and they have had little or no fever or any observ-

able complaint, save the local inflammation of the punctured parts; except in one instance, a daughter of Mr. Sandy's of Grathwaite-Hall, who became feverish the fifth day after being inoculated, and had three pustules upon her face, which were filled with a much more transparent fluid than small-pox generally contains, and these literally scabbed like the inoculated pustule on the arm.

" You will accept my best thanks for your kind attention, and believe me,

" I am, dear Sir,

" With the greatest esteem,

" Your much obliged, and obedient servant,

" WILLIAM. HARRISON."

Ulverstone,

Dec. 1, 1800.

I could also mention *Penrith, Kendal, Temple-Sowerby*, and many other towns about Lowther, in which I introduced the vaccine inoculation: but am fearful it would too much trespass on the patience of my readers. I shall, therefore, hasten to the pleasing contemplation of having, I think, been instrumental by this means in the extirpation, for the present, of the small-pox from this distant part of England: for having requested, a year after my inoculation of the village of Lowther, that Mr. STORY would
re-inoculate

re-inoculate these villagers with small-pox matter, I received from him the following letter.

“ Dear Sir, Penrith, Nov. 7, 1801.

“ I received your favour, and would with pleasure comply with your request, if I could get any matter for inoculation. I have sent to *Carlisle, Keswick, Appleby, &c.* and I am well informed *that there is no small-pox in this country at present, owing to your inoculation with the cow-pox.* I first went, as you wished, to Lowther, to acquaint Lord Lonsdale with the contents of your letter; and his Lordship says, he has not the least objection to the children in the village being inoculated with the small-pox matter, which would be directly done, provided I could get the matter, which at present I cannot; but whenever I am able to procure any, you may rest assured, that I will with much pleasure comply with your request; and

“ I have the honour to remain, dear Sir,

“ Your most obliged humble servant,

“ RICHARD STORY.”

Hence I had occasion to send down to Penrith the small-pox matter between two pieces of glass

for Mr. Story, to re-inoculate the inhabitants of Lowther village, and his report was as follows.

“ Dear Sir, Penrith, Nov. 20, 1801.

“ The glasses with the small-pox matter arrived safe, and with considerable pleasure I set about re-inoculating those persons who the last year had been inoculated by you with the cow-pock in the village of Lowther ; and I remarked with much satisfaction that I found none whom I inoculated to take the small-pox, the places of insertion of the matter in a few days dying away. This makes the experiment at Lowther decisive. It afforded much pleasure to his Lordship, who desires to be kindly remembered to you, and wishing you, sir, all the rewards your great exertions for the good of mankind, and advancement of science, so justly merit,

“ I have the honour to be,

“ Dear Sir,

“ Your obliged faithful servant,

“ RICHARD STORY.”

GROUND FOR HOPES OF THE TOTAL EXTIRPATION
OF THE SMALL-POX.

The disappearance of the small-pox from so many towns in the north of England from the cow-pock inoculation, must give the most heartfelt satisfaction to every mind endowed with sensibility, and as being an epitome of the greater conquest, namely, the extirpation throughout the globe of the small-pox, in our humble opinion, merits to be recorded as the *harbinger* of that effulgent day, when the benign radiance of the cow-pock like the sun will extend its glorious influence throughout every clime. Already it has been *partially* received in all the civilized countries of the habitable globe, and promises ere long to realize the just expectations of its warmest advocates, by being *generally* adopted from the judicious and proper interference of the LEGISLATIVE POWERS†.

† Vide Note * page 238. When the small-pox was first introduced into Otaheite, and the destruction was so great, as to threaten the entire subversion of the state, these *ignorant savages* formed laws, by which they stopt the progress of the calamity. MEAD.—How much more reason have we then to expect the subjugation of this formidable enemy of the human race, in a more enlightened period, and from more enlightened statesmen, an easier mean being now in our power, that restrictive laws to prevent infection, namely the cow-pock,

pock inoculation, which, perhaps, might be enacted in each state, for no one is born for himself alone; each being placed with reference to the community!—And thus there being no longer left any *fewel* for the small-pox to blaze up into a great national calamity, hence the delightful prospect of the speedy and certain annihilation of the small-pox throughout the whole habitable globe,

DR. JENNER'S PETITION.

A Petition of EDWARD JENNER, Doctor of Physic, was presented, Wednesday, March 17, 1802, by Admiral BERKELEY, to the House of Commons, and read; setting forth, "That the Petitioner having discovered that a disease, which occasionally exists in a particular form among cattle, known by the name of Cow-pox, admits of being inoculated on the human frame with the most perfect ease and safety; and although its symptoms are so mild as scarcely ever to prove even a temporary impediment to the ordinary course of health, yet it is attended with the singularly beneficial effect of rendering through life the person so inoculated secure from the infection of the small-pox; and that the Petitioner, after the most laborious and attentive investigation of the subject, setting aside all considerations of private advantage, and anxious to promote the safety and welfare of his countrymen, and of mankind in general, did not wish to conceal a discovery so made, on the mode of conducting this new species of inoculation, but immediately disclosed the whole to the public, and, by communication with medical men in all parts of this kingdom and in foreign countries, sedulously endeavoured to spread the knowledge of his

his discovery and the benefit of his labours as widely as possible ; and that, in this latter respect, the views and wishes of the Petitioner have been completely fulfilled, for, to his high gratification, he has to say, that this inoculation is in practice throughout a great proportion of the civilized world, and has in particular been productive of great advantage to this kingdom, in consequence of its being introduced, under authority, into the army and navy, and that the said inoculation hath already checked the progress of the small-pox, and from its nature must finally annihilate that dreadful disorder ; and that the series of experiments by which this discovery was developed and completed, have not only occupied a considerable portion of the Petitioner's life, and have not merely been a cause of great expence and anxiety to him, but so interrupted in the ordinary exercise of his profession, as materially to abridge its pecuniary advantages without their being counterbalanced by those derived from the new practice ; and that the Petitioner, with a view to obviate doubts, which of late were *falsely* * represented to have arisen in a foreign country respecting the efficacy and certainty of the vaccine inoculation, and thereby to enable himself with better confidence to solicit the favourable attention of the House, was induced to delay his

* Vide the Appendix, page 237.

application till after the time limited by the House for receiving petitions of a private nature was elapsed; and therefore praying, That leave may be given to exhibit a petition, that the House will be pleased to take the premises into consideration, and grant him such remuneration as to them shall seem meet.

ORDERED, That, in consideration of the particular circumstances set forth in the said petition, leave be given to present the petition as desired.

Then a petition of EDWARD JENNER, Doctor of Physic, being offered to be presented to the House, Mr. ADDINGTON, Chancellor of the Exchequer, (by His MAJESTY's command,) acquainted the House, That HIS MAJESTY, having been informed of the contents of the said petition, recommends it to the consideration of the House.

Hence the said petition was brought up and read, containing the same allegations as the preceding petition; and praying the House to take the premises into consideration, and to grant him such remuneration as to them shall seem meet.

ORDERED, That the said petition be referred to the consideration of the Committee, and that they do examine the matter thereof, and report the same as it shall appear to them to the House.

And

And a Committee * was appointed accordingly, and they have power to send for persons, papers, and records.

ORDERED, That five be the quorum of the said Committee.

* Being summoned before this Committee, I had the honour personally of presenting them the present work, presuming, that as a medical man I should stand excused the liberty I took; and I shall conclude with hoping, that when the rulers of a generous nation shall have decreed a full remuneration to Dr. JENNER (for here liberality and justice are the same) that they will also make wise regulations against the small-pox inoculation, here proved to be a Public Nuisance, as *destructive* as, at the present period, it is *unnecessary*. Whether an order for a *general inoculation* of the *cow-pock* is consistent with a free state may be doubted by some, but laws against the *small-pox*, as against the *plague*, are not only allowable, but called for; and this, with the sanction of Parliament to Dr. JENNER, would operate more than any thing else to obtain the full establishment of the cow-pock inoculation in these united kingdoms.

APPENDIX.

WITH a view to counteract the influence of false reports in England respecting vaccine inoculation, industriously spread to prejudice the public mind, the following TESTIMONIAL was drawn up and signed by the most respectable practitioners in London, and published in all the periodical pamphlets and newspapers.

“Whereas many unfounded reports having been circulated, which have a tendency to prejudice the public against the inoculation of the cow-pox; we, the undersigned physicians and surgeons, think it our duty to declare our opinion, that those persons who have had the cow-pox are *perfectly secure* from the future infection of the small-pox.

“We also declare, that the inoculated cow-pock is a much *milder and safer disease* than the inoculated small-pox.

LONDON PHYSICIANS.

William Saunders, M.D.	Alexander Crichton, M.D.
Matthew Baillie, M.D.	Thomas Bradley, M.D.
Henry Vaughan, M.D.	Sayer Walker, M.D.
Maxwell Garthshore, M.D.	Richard Dennison, M.D.
J. C. Lettson, M.D.	Thomas Denman, M.D.
Nathaniel Hulme, M.D.	W. G. Maton, M.D.
James Sims, M.D.	Michael Underwood, M.D.
John Sims, M.D.	John Squire, M.D.
Gilbert Blane, M.D.	Richard Croft, M.D.
William Lister, M.D.	R. J. Thornton, M.D.
Robert Willan, M.D.	Robert Batty, M.D.
William Blackburne, M.D.	Thomas Garnett, M.D.
J. M. Hayes, M.D.	John Gibson, M.D.
Andrew Thynne, M.D.	Robert Hooper, M.D.
C. Stanger, M.D.	Edward Bancroft, M.D.
Edward Fryer, M.D.	Lewis Poignand, M.D.

SURGEONS.

SURGEONS.

John Abernethy,	William Lynn,
William Blair,	John Mackinder,
G. M. Burrows,	Jonas Malden,
Samuel Chilver,	William Maffie,
Henry Cline,	Joseph Millington,
A. P. Cooper,	James Moore,
David Dundas,	William Morris,
Thomas Farquhar,	Thomas Paytherus,
Henry Fearon,	John Pearson,
Edward Ford,	J. W. Phipps,
James Gilder,	Thomas Pole,
J. M. Good,	John Ring,
John Griffiths,	Thomas Rolph,
James Higgins,	John Rush,
James Horsford,	Thomas Seagrum,
Joseph Hurlock,	James Simpson,
Francis Knight,	H. L. Thomas,
Edward Leese,	Jonathan Wathen,
Lewis Leese,	Thomas Whateley,
James Leighton,	Stephen Woolriche.

The REPORT of the Committee of vaccine inoculation at Paris, instituted by the order of Government, signed by the most eminent practitioners there, may be seen page 143 of this work.

THE END.

ERRATA.

Page xiv. lege *Nullius addictus jurare in ver-
ba magistri*

Page. Line.

- | | | |
|-----|-------|---------------------------|
| 63 | 2 | lege <i>Stoical</i> |
| 93 | 4 | <i>for to, lege for</i> |
| 164 | 15 | <i>lege effected</i> |
| 211 | note, | lege <i>Humanum</i> |
| 221 | 18 | <i>lege affected</i> |
| 231 | 19 | <i>lege expectorants.</i> |



