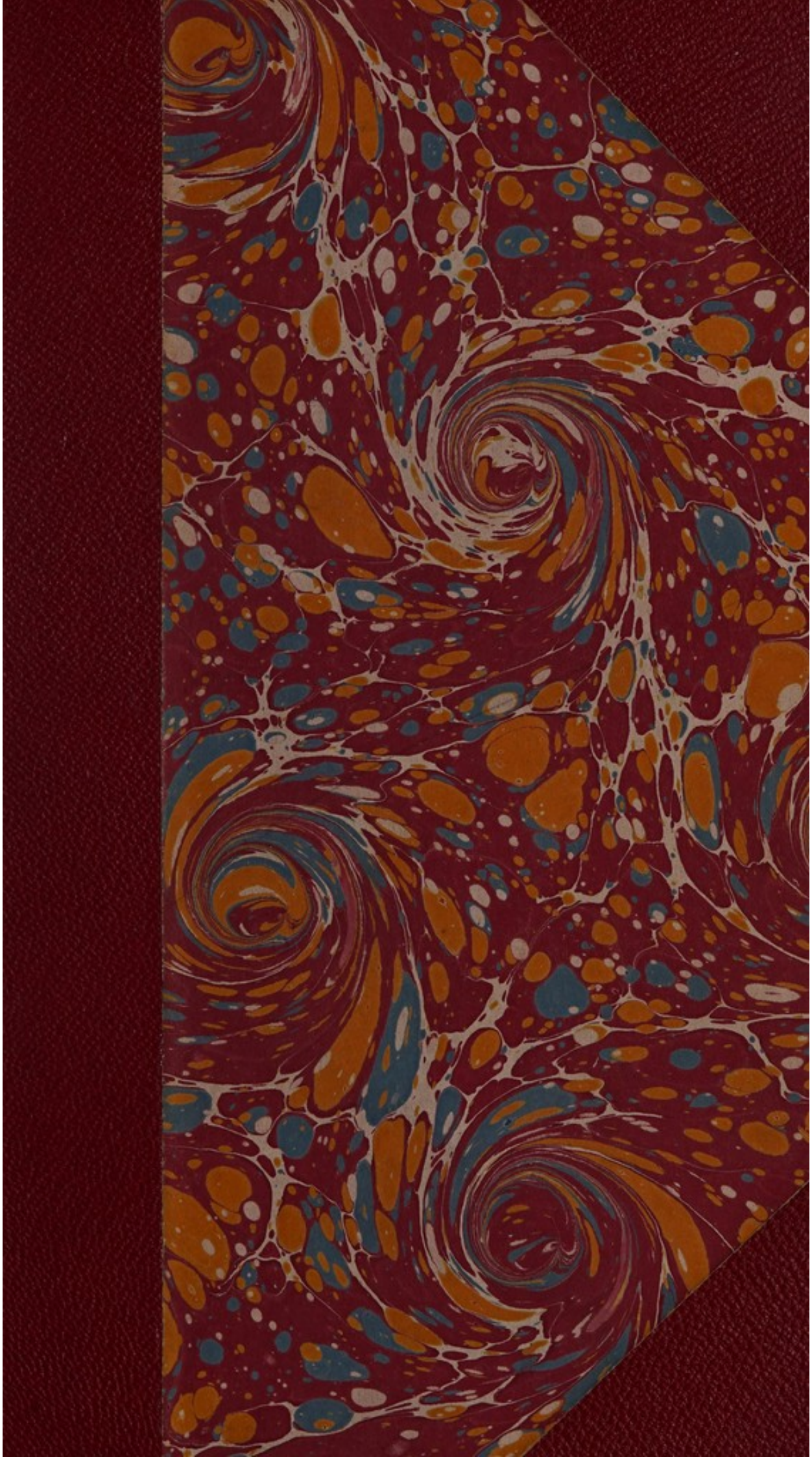
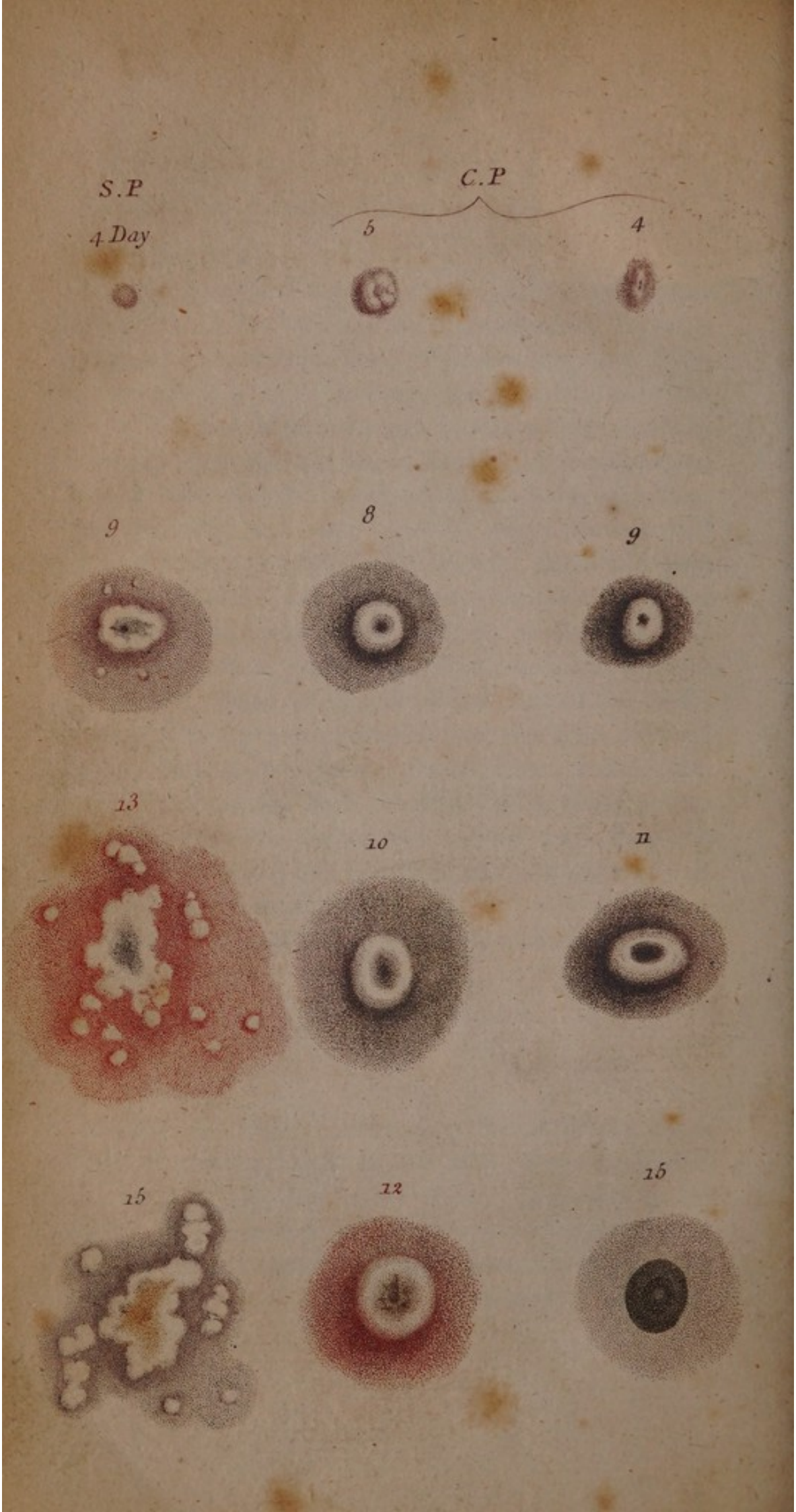
An examination of the Report of the Committee of the House of Commons on the claims of remuneration [of E. Jenner] for the vaccine pock inoculation: containing a statement of the principal historical facts of the vaccina / [George Pearson].

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AN

EXAMINATION OF THE REPORT

OF THE

COMMITTEE OF THE HOUSE OF COMMONS

ON THE

CLAIMS OF REMUNERATION

FOR THE

VACCINE POCK INOCULATION:

CONTAINING

A STATEMENT OF THE PRINCIPAL HISTORICAL FACTS

OF

THE VACCINA.

By GEORGE PEARSON, M.D. F.R.S.

PHYSICIAN TO THE VACCINE POCK INSTITUTION, SENIOR PHYSICIAN TO ST. GEORGE'S HOSPITAL, HONORARY MEMBER OF THE BOARD OF AGRICULTURE, &c.

..... Neque enim benefacta malignè
Detrectare meum est: modo ne *communia* solus
Occupet: atque aliquem nobis quoque reddat honorem.

Ulysses in Ajacem.

Οὐ δῆτα πρίν γ'ἂν τουτον αποφήνω σαφῶς
Τον Κωλοποιὸν, οἷος ὢν θρασύνεται.

Aristoph. Ran. 869.

LONDON:

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1802.

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TO

THOMAS PAYNE, ESQ.

TREASURER OF THE VACCINE POCK INSTITUTION,

As a tribute of respect to a man conspicuous not only for the liberality of his benefactions, but whose conduct affords a rare example of wisely directed industry, to accomplish the objects of this, and other beneficent institutions;

TO

LAWRENCE NIHELL, M. D.

AND

THOMAS NELSON, M. D.

PHYSICIANS TO THE VACCINE POCK INSTITUTION,

As a public acknowledgment of their exemplary professional services, and token of esteem for them, as Physicians, Scholars and Gentlemen;

ALSO, TO

THOMAS KEATE, ESQ. F. R. S.

SURGEON TO THE QUEEN, AND PRINCE OF WALES, SURGEON GENERAL TO THE ARMY, AND SENIOR SURGEON TO ST. GEORGE'S HOSPITAL, &c. &c.

AND

THOMPSON FORSTER, ESQ.

SURGEON TO GUY'S HOSPITAL,

CONSULTING SURGEONS TO THE VACCINE POCK INSTITUTION,

As a just testimony to the public spirit of the former, in the foundation and effectual support of that Establishment: and as a mark of regard for the latter, owing to essential benefits conferred by him on the Institution;—

THIS WORK IS DEDICATED, BY

Their ever affectionate friend,

GEORGE PEARSON.

Leicester Square,
Aug. 10, 1802.

REMARKS ON THE REPORT

OF THE

VACCINE POCK COMMITTEE.

ALTHOUGH my knowledge of the history of the *vaccina* * is very considerably extended since my "Inquiry concerning the Cowpox," published in 1798; yet I can at this time, consistently with truth, declare Dr. Jenner to be *the Discoverer to the public* of the Vaccine Inoculation, as I did in my former publication: and the de-

* This neologism, *Vaccina*, in the sense here employed, I adopted in 1799, on the proposal of Dr. Ford, of the College of Physicians; and accordingly I introduced it subsequently in several short papers and notices published in the English Journals in 1799, 1800, and 1801; but, a letter from Dr. De Carro, of Vienna, informed me, that the terms *Vaccine* in French, and *Vaccina* in Latin, were as early proposed and used by Dr. Odier, of Geneva. The name *Vacciola* has been recommended by Dr. Stokes, of Chesterfield. The catachresis in the usurpation of the terms *Variolæ Vaccinæ* by Dr. Jenner, I noticed in my *Inquiry* in 1798, page 109, to which, however, the author still adheres; and in the same place I proposed to use the word Cow*pox*, i. e. Cowpocks or Cowpocken only in the plural sense, and Cow*pock* in the singular. Accordingly, when speaking of the disease which is the object before us, I say *Cowpock*, in place of using the word *Cowpox*; because a disorder is here denoted which commonly is attended by a single eruption; but the reason of using the name *Smallpox*, and not *Smallpock*, is hence obvious.

claration of his being a public benefactor is no longer, as I formerly said, provisional. But it will not be possible to render justice without explaining the sense in which the terms *Discoverer to the public*, are here employed. I mean, then, that Dr. Jenner's publication was the sole primary occasion of all the experiments hitherto instituted, by which a body of evidence has been obtained, quite adequate, in the estimation of sound judgments, to justify the advantages asserted of the new inoculation; and by which experiments also new facts of practical utility have been discovered, and some errors in that first work have, perhaps, been manifested and redressed.

No fact has informed me, in the course of investigation, and during the vaccine practice for these last four years, that human society would have been in possession, at this hour, of the mean of preserving the constitution from a most hurtful disease, by exciting a vicarious complaint, underborne for the most part without suffering pain, and hurtless in the consequences, if the disclosure had not been made by the publication of the treatise on " the Causes and Effects of the Variolæ Vaccinæ, in June, 1798." The making known also a new law in the animal œconomy, *to wit*, of powers in nature for producing incapacity of being acted upon by the most virulent morbific agents, by exciting

previously a disease, as in the first instance here exhibited, is calculated to raise the highest expectations of future discoveries from the beneficial career opened *. However, the honour-

* The following extract, translated from Don Anton. de Ulloa's Noticias Americanas, page 214, obligingly sent to me by the late Sir *Richard Sutton*, Bart. may be considered as affording some evidence of the law above mentioned; it being supposed that incapacity of madness in dogs is produced by another disease.

"It is a thing of notoriety, that in those parts (Peru) madness in dogs or other animals is not known; and this is the case not only in South America, but in all the Indies; but in its place they suffer another evil, which is general, and from which results much mortality amongst them. This enters into the class which may be called Murrain; from it results no inclination to bite as from madness, nor the mischief of communicating it. In some measure it is an equivalent to the Smallpox in rational creatures. They begin by growing heavy, refusing food, growing weak, their head turning so that they fall, and cannot walk. In this state they remain for fifteen or twenty days, some holding out more than others, and in the end the greatest part die. It attacks them usually in the first year, whilst they are puppies; but having once passed it, they have no return of it. The dogs esteemed for sporting are attended to, to be cured, which is the occasion of some more escaping. This disorder was epidemical (*Epicyonic*) in Louisiana in 1767, which exterminated almost all the species, very few having escaped it."

It has been affirmed that dogs, by undergoing a disorder produced by inoculating the Cowpock matter, are rendered incapable of what is called "*the Distemper*;" but, as far as I can learn, this assertion is unproved, as is origin of the Vaccina in "the Grease."—*Note of the Author.*

able Committee of the House of Commons, to whom the late Petition * was referred, have not asserted these grounds (so glorious to the discoverer, and so just to individuals) for the purpose of remuneration; but they vindicate several claims which, in my judgment, are not warranted by the truths of history. Hence I apprehend opinions must be propagated, which deprive other persons of what is owing to them for their discoveries, and for successful labour in determining the grounds of assertions which were unestablished by adequate evidence. These are not the only hurtful consequences. The printed Report of the honourable Committee is already introduced into the public journals as an authentic paper of historic facts, instead of considering it, as I presume to think it ought to be, in the lights of, 1, A representation of testimonies quite sufficient to justify the bestowing a sum of the public money for a public benefaction; but in which inquiry it was not necessary to consider other claims further than they contravened the grounds of their recommendation to the House of Commons. 2, The Report, it seems, should also be considered "with some degree of jealousy, in the light of nominees on a committee to try the merits of a controverted election, as being the friends of the petitioners." (Mr. Bankes', a member of the Cowpock Committee, speech in the House of

* See the transcript of the Petition annexed to this work.

Commons. See Morning Herald, June 3, 1802.) And, 3, However capable the honourable Committee certainly are to determine, with strict justice, political questions, yet surely it can be no imputation to allege that they are not equally able to select and judge of medical evidence. By offering, then, to the literary public the printed Report in the light of a strict and complete investigation, in place of looking upon it in the points of view just above stated, it affords an authority, as I think I shall make appear, for several untruly founded assertions of great moment in practice, and becomes a misleading document to historians of the present and future ages.

I have therefore considered that the publishing the result of an examination, and remarks on the printed Report of the honourable Committee, was no more than discharging my duty.

1. In order to submit to the judgment of the public, whether or no, more honourable and just grounds might not have been asserted for the remuneration of the Petitioner.

2. In order to offer evidence for the manifestation of several truths, and for the exposition, perhaps, of some errors and mistakes; and,

3. With the view of obtaining the opinion of the public, whether or no any credit be due to others for the discovery of facts, the detection of ill-grounded assertions; and for labour, ex-

penditure of time, and other sacrifices, in introducing or maintaining the Vaccine Inoculation.

The Committee divide the contents of the Petition into three distinct heads:

"The utility of the discovery itself, which is the foundation of the Petition:

"The right of the Petitioner to claim the discovery:

"The advantage, in point of medical practice, and the pecuniary emolument, which he has derived from it."—Report, p. 3.

Concerning the first head, the experience of at least two hundred thousand instances affords ample justification of the grounds of preference of the vaccine to the variolous inoculation; but yet it may very fairly be urged, that the practice for the space of three years is not a term long enough to determine the possibility of unfavourable consequences. In this part, however, the honourable Committee, I have no doubt, will give very general satisfaction; although rigorous justice might perhaps have required a different tribunal for the undecided and doubtful cases produced on the authority of the respectable evi-

dences referred to in the Report, and elsewhere known to have fallen under observation *.

With respect to the second head:

"The Right of the Petitioner to claim the discovery." It is first in order, to state the very words of the claim, from the Petition itself. "† Your Petitioner having discovered that a disease which occasionally exists in a particular farm, among cattle, known by the name of the Cowpox, 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 Smallpox."—I imagine that before the evidence for the Petition was delivered, every one would understand from the above terms, that the Petitioner asserted, that he was the first person who inoculated vaccine matter directly from the cow.

2. In the examination of the claim before us, viz. of *Discovery*, it will be also necessary to state the terms in which it is asserted for the

* The adverse cases ought not, I think, to be considered, as Dr. Jenner says, to be sinking into *contempt*.

† Transcript from a copy of the Petition.

Petitioner in the Report.—" Upon the second head, the *whole of the oral deposition*, as well as all the written documents from abroad, are uniform and decisive in favour of Dr. Jenner's claim to *originality in its discovery;* but as *some pretensions* have been advanced to a knowledge at least of this practice *before Dr. Jenner's publication*, it may be proper to notice *shortly*, what the nature of those claims is, and in what manner they bear upon this part of the Petitioner's case. Such extracts as can be considered in any degree at all material are contained in Nos. 50, 51 and 52. The disorder itself, and its specific property of securing against Smallpox infection, was not a discovery of Dr. Jenner's, nor of any of those whose writings are referred to; for in various parts of England, in Gloucestershire and Devonshire particularly, there was an opinion of that sort current among the common people employed in dairies, which the observation of inoculation for the Smallpox tended to confirm. *It appears not improbable that in some very rare instances this knowledge was carried one step farther, and that the Cowpox was communicated either by handling the teat, or by inoculation from the animal, for the purpose, and with the intention of securing against the danger of Smallpox:* but the practice of which Dr. Jenner asserts himself to be the *original inventor, is the inoculation from one human being to another*, and the

mode of transferring, indefinitely, the vaccine matter without any diminution of its specific power, to which it does not appear that any person had ever alleged a title; and these papers and experiments, whatever accuracy of observation, and spirit of research, they may evince in their respective authors, and to whatever extent they may be supposed to go, as they were never given to the public, so neither is there any intimation that they were imparted to Dr. Jenner; nor is it contended that the world became acquainted with this discovery by any other means than by the course of trials conducted by the petitioner, and *his ample* and *unreserved* communications."—*Report*, p. 6, 7.

On reading the part of the *Petition* above cited, I conceive that the words imply that the Petitioner asserts himself to be the Discoverer of the Inoculation of the "disease of Cattle," called "the Cowpox," on the human frame. Now as I fear not it will appear, that the manifestation of TRUTH and the maintenance of JUSTICE are the sole objects of this paper, I will not stop to dispute about the meaning of the words and phrases of the *Petition* and the *Report*; notwithstanding they may appear to me not quite proper; provided they do not seem likely to mislead. Accordingly, although I apprehend there is no such thing as *inoculating a disease*, no error can issue from this unwarrantably

elliptical mode of writing; as I take for granted every one will understand that the Petitioner means that he is the Discoverer of *inoculating the infectious matter* of the Cowpox *from Cattle* on the human frame, so as to produce that disease, by which the capability in such persons of being affected with the Smallpox is destroyed.

Before I offer my next remark, I must for the sake of perspicuity distinguish inoculation for the Cowpock into three kinds; according to the source of the infectious matter, and the mode of infecting the animal œconomy.

1. Casual Inoculation,
2. Inoculation purposely,

} directly from the Cow.

3. Inoculation from the human Animal.

Now it cannot escape the sight of the attentive reader, that the kind of discovery asserted on the part of the Petitioner, is different from that which is vindicated, and declared by the Committee. Whether it was deemed proper to make this change, subsequent to the evidence, from motives of prudence; or from not discriminating precisely the claim of the Petitioner, can only be determined by the composers of the Report. The Petitioner's claim is that of "hav-

ing discovered that a disease which occasionally exists among cattle, known by the name of the Cowpox, admits of being inoculated on the human frame," with ease, safety, and so as to render the inoculated person secure through life from the Smallpox. But this kind of vaccine inoculation, is that above distinguished by "2. Inoculation purposely and directly from the Cow:" yet the Committee report that "The disorder itself (Cowpox) and its specific property of securing against Smallpox infection, *was not a discovery of Dr. Jenner's;*" i. e. as I suppose we are to understand, that *the casual Cowpox*, above stated, and its antivariolous agency were not his discovery. And further the Committee report, "that it appears not improbable that in some rare instances the 2d kind of inoculation, viz. purposely and directly from the Cow, was also practiced antecedently to Dr. Jenner;" but they state that he is "The original inventor" of the 3d kind of inoculation, above distinguished; namely, from human animal to human animal; as if that were the Petitioner's sole claim, and he had not claimed the discovery of the inoculation directly from the Cow, either casually, or purposely as his right.

I should next, in due course, examine the claim of the Petitioner in the single point now declared by the Committee; but JUSTICE exacts from me first to expose the extent to

which the casual inoculation was known to the world, and the simple ingenious efforts of the primitive cultivators in the new field, which are so barely acknowleged in the Report of the Committee.

I. With regard to the effect of the *casual Cowpock*, in preventing the Smallpox, no fact in physic has been more clearly ascertained by a large body of most respectable evidence obtained by me from many of the counties of England, published four years ago*; and that this fact was known long before Dr. Jenner's book appeared. I shall, however, select one evidence only on this occasion, *omnium instar*, which is Mr. Rolph, now a surgeon at Peckham, who had practised physic nine years at Thornbury in Gloucestershire.

" During two of these years, he was the colleague of the late *Mr. Grove*, who had been a medical practitioner at Thornbury for near forty years. The greater part of the facts above stated, relating to the Cowpox, are familiarly known to Mr. Rolph from his own observation, and from the experience of Mr. Grove.

" Mr. Rolph tells me, that in Gloucestershire the Cowpox is very frequently epizootic in the dairy-farms in the spring season. It especially

* See Inquiry concerning the History of the Cowpox, &c. by George Pearson, M. D. F. R. S. &c. 1798.

breaks out in Cows newly introduced into the herds. When a number of Cows in a farm are at the same time affected, the infection seems generally to have originated in the constitution of some one Cow, and before the milker is aware of the existence of the disease, the infectious matter is probably conveyed by the hands to the teats and udders of other Cows; hence they are infected. For if the disease in the Cow first affected be perceived in a certain state, and obvious precautions be taken, the infection does not spread, but is confined to a single beast. Whether the morbific poison is generated in the Cow first diseased in a given farm, *de novo*, from time to time, and disseminated among the rest of the herd; or, like the Smallpox poison, is only communicated from animals of the same species to one another, is not ascertained. No Cow has been known to die, or to be in danger from this disorder.

"A great number of instances of the Cowpox in milkers had fallen under Mr. Rolph's observation; and many hundreds more under that of his late partner, Mr. Grove; but not a single mortal, or even dangerous, case had occurred. The patients were ordinarily ill of a slight fever for two or three days, and the local affection was so slight, that the assistance of medical practitioners was rarely required. He had no doubt that the inoculated Cowpox was attended with

as little pain and uneasiness as the ordinary cases of inoculated Smallpox.

" Mr. Rolph says, there is not a medical practitioner of even little experience in Gloucestershire, or scarce a dairy-farmer, who does not know from his own experience, or that of others, that persons who have suffered the Cowpox, are exempted from the agency of the variolous poison.

" The late Mr. Grove was a very extensive Smallpox inoculator, frequently having 200 to 300 patients at one time, and the fact of exemption now asserted had been long before his death abundantly established, by his experience of many scores of subjects who had previously laboured under the Cowpox, being found unsusceptible of the Smallpox; either by inoculation, or by effluvia.

" While Mr. Rolph practised at Thornbury, he thinks not fewer than threescore instances of failure, in attempting to produce the Smallpox by inoculation, occurred in his own practice; all of which were persons who had been previously affected with the Cowpox. In almost all of these cases the uninfected persons associated with those who took the Smallpox, and many were repeatedly inoculated. Although Mr. Rolph has not, in his recollection, any instances of people taking the Small pox, who gave admissible evidence of their having laboured un-

der the Cowpox; he thinks such cases may, and have indeed occurred to others, where the Cowpox had been only local; it being requisite that the whole constitution should be affected, in order to destroy the excitability to the variolous poison.

" Mr. Rolph declared, that his confidence in the efficacy and safety of inoculation for the Cowpox was such, that he regretted he could not, at present, procure Cowpox matter to inoculate two of his own children, who had not yet had the Smallpox. This measure is, however, determined upon *.

" As a particular instance, Mr. Rolph related the following: A soldier's wife, while in the Smallpox, was accidentally in the company of several farmers at an alehouse in Thornbury. Two of the company who had gone through the Cowpox, but not the Smallpox, were not affected by the variolous infection; but three others, who had not laboured under the Cowpox, took the Smallpox.

" Mr. Rolph's mind was not satisfied that a person could be constitutionally affected by the Cowpox poison more than once, but he had no doubt that the local affection might be produced repeatedly. Neither did he certainly know

* These children went through the inoculated Vaccina in March, 1799, under my observation.

that a person was susceptible of the Cowpox, who had been constitutionally affected by the Smallpox."

They who are so unreasonable as not to be convinced by the preceding statement of Mr. Rolph, may receive further information from the accounts of Mr. Drewe, Mr. Dolling, Dr. De Salis, Dr. Pulteney, Mr. Smith, Mr. Downe, and many others, to be found in the publication just cited; as well as the subsequent communications of the casual Cowpock preventing the Smallpox in Ireland, and Holstein, time immemorial.

It seems necessary to notice in this place, that there are some published accounts of casual Cowpock previous to Dr. Jenner's. "The Cowpox is a disease well known to the dairy farmers in Gloucestershire—What is extraordinary, as far as facts have hitherto been ascertained, the person who has been infected is rendered insensible to the variolous poison."—See Adams on Morbid Poisons, 8vo. 1795, p. 156. See also Woodville's History of Inoculation, 8vo. 1796, p. 7. And Dr. Beddoes' Queries concerning Inoculation, 8vo. 1795. This author says, "I have learned from my own observation, and the testimony of some old practitioners, that susceptibility to the Smallpox is destroyed by the Cowpox, a disease from Cows, which is a malady more unpleasant than dangerous.

II. With regard to the instances of *Cowpock purposely excited by inoculating directly from the Cow*, to prevent the Smallpox, antecedently to the dates of the Petitioner's trials, the fairest method seems to be to record them in the order of time.

Extracts from Mr. Downe's Letters to Dr. Pearson.

1. Robert Fooks, a butcher, near Bridport, 31 years ago, when about 20 years of age, was at a farm-house when the dairy was infected with the Cowpox. It being suggested to him that it would be the means of preserving him from the Smallpox, which he had never taken, if he would submit to be inoculated with the Cowpox matter; he gave his consent: he was infected by a needle in two or three places in his hand. In about a week the parts began to inflame, and his hand to swell, his head to ach, and many other symptoms of fever came on. The parts inoculated left permanent scars. He was afterwards inoculated twice by my grandfather, and a considerable time after twice by my father, but without any other effect than a slight irritation of the part, such as is occasioned in the arms of persons who have already had the Smallpox. The Smallpox has been repeatedly since in his own family, and never avoided it, being

confident that it was not possible to infect him with this disease *.

I know a medical man in this country who was greatly injured in his practice by a prejudice raised against him long ago, for his intention of substituting the Cowpox for the Smallpox.

Extract from Mr. Nicholas Bragge's Letter, dated Axminster, April 12, 1802, *to Sir William Elford, Bart. (a Member of the Committee.)* See the Report, p. 43.

2. It is now more than thirty years ago that I first made experiments and proved that the Vaccine Disease was a preservative against the Smallpox; and it is, I believe, more than twenty years ago, that, through the Rev. Herman Drew, I acquainted Sir George Baker with the observations and experiments I had then made, which I am certain Sir George will readily acknowledge. Unhappily an accident by fire has deprived me of having recourse to them now; but my memory will supply me with enough to con-

* This account is extracted from the letters of Mr. Downe, surgeon, dated Bridport, Aug. 21 and 25, 1798; April 8, 1802; June 7, 1802. Why the Committee of the House of Commons did not record in the Report any extract from these letters, I am unable to explain, as I left with them Mr. Downe's letter of April 8, 1802, which afforded the voucher required for the letter of Aug. 25, 1798, printed in my Inquiry into the History of the Cowpox, in 1798.

vince you that Dr. Jenner is not the only person entitled to the reward that may be thought deserving for such a discovery. It is now, I believe, twenty years ago, that Mrs. Rendall, the wife of a respectable farmer in the parish of Whitechurch, near Lyme, in Dorsetshire, (who is at this time a tenant to Lady Caroline Damer, in the same parish for which I have been concerned as an apothecary for the poor ever since I have been in business) inoculated herself and three or four children for it; *and those children, who have long arrived at manhood, have since inoculated their friends and neighbours whenever an opportunity has offered!*

Extracts from the Letters of the Rev. Herman Drew, to Dr. Pearson, dated Wootton, Sept. 7, 1798, *and Abbots, near Honiton, Devon, April* 11, 1802. See the Report, p. 42, 43.

3. Mr. Justins, a farmer, at Yetminster, in Dorset, inoculated his wife and children with matter taken from the teats of a Cow that had the Cowpox: in about a week from the time of inoculation, their arms were very much inflamed: the patients were very ill; the man was so much alarmed as to call in medical assistance (Mr. Mead, of Cerne.) The patients soon got well, and they have since been inoculated for the Smallpox by Mr. Trobridge, of Cerne, but without effect.

I cannot inform you at what period Mr. Justins inoculated his family, but I have no doubt but it was previous to Dr. Jenner's practice. I have by this post (April 11, 1802) communicated to Sir William Elford, Bart. a curious fact which came to my knowledge yesterday: That twenty years ago a woman inoculated her children with matter taken from the Cow on the point of a large needle. In a letter dated April 22d, 1802, Mr. Drew says, "Dr. Jenner has a claim, but not an exclusive one, to remuneration. Mr. Bragge, to my knowledge, has been making his observations on the Cowpock for thirty years."

Extract of a Letter from the Rev. Herman Drew, to Sir William Elford, Bart. dated Abbots, near Honiton, April 1, 1802. See Report, p. 44.

4. Dr. Edward Jenner has undoubtedly very great merit in bringing the vaccine inoculation into practice; *but he is no more the discoverer of the Cowpox and its effects than I am.* Nearly twenty years ago I wrote sheets of paper to Sir George Baker on this disorder, and I know not what occasioned his laying aside his intention of publishing his investigations. He had had a previous correspondence with Dr. Pulteney, of Blandford, on the subject.

When Dr. Jenner published his observations, he was followed by Dr. Pearson, of Leicester-

square, who was introduced by Sir George to a correspondence with me on this subject, and he repeatedly confesses in print his obligations to me for information. No one can have an higher opinion of the good effects of the vaccine inoculation than I have; it has occupied my thoughts for years, and nothing but Horace's advice, "ne sutor ultra crepidam," has checked me from the use of the infected lancet or saturated cotton. Entre nous *I have had a little successful practice.*

A Letter from William Tucker, Esq. of Coryton, in Devonshire, to Sir William Elford, Bart. April 12, 1802. See Report, p. 44.

5. The above letter states, that Mr. Bragge, twenty years ago, proved the efficacy, and with great assiduity recommended the practice of vaccine inoculation; that Mr. Bragge, through the Rev. Herman Drew, furnished Sir George Baker with a variety of papers in proof of its being a sure guard against variolous infection; and that Dr. Jenner's superior merit consisted in having effected the introduction of vaccine inoculation, and in having also, as it is said, ascertained the means of discriminating the real from the spurious disease.

Extract of a Letter from Dr. Pulteney, to Dr. Pearson, dated Blandford, July 14, 1798. See Report, p. 42.

6. I never heard of any being affected with the disease, except such as have milked the Cows, or handled the udders.

A very respectable practitioner informed me, that of seven children whom he had inoculated for the Smallpox, *five had been previously infected with the Cowpox 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 Smallpox, did not sicken; the other *two* took the distemper.

A farmer in this country inoculated his wife and children with matter taken from the teat of a Cow. At the end of a week the arms inflamed, and the patients were so far affected as to alarm the farmer, although unnecessarily, and induce him to call in medical assistance. They all soon got well, and were afterwards inoculated for the Smallpox, but no irruptions followed. I was not applied to in this case; but the fact is sufficiently ascertained to me.

Extract of a Letter from Mr. W. Dolling, to Dr. Pearson, dated Chattle, April 9, 1802. See Report, p. 43.

7. The farmer alluded to in Dr. Pulteney's letter to you, who inoculated his wife and children with matter taken from the teat of a Cow, and the person mentioned in Mr. Drew's letter, viz. Mr. Justins, is the same person; both Dr. Pulteney's and Mr. Drew's intelligence came from me. I am not certain at this time as to the year, but believe it was on or before the year 1786. The farmer is still living, of whom I can have the particulars.

In a subsequent letter to Dr. Pearson, dated Chattle, June 16, 1802, Mr. Dolling informs him, that Mr. Benjamin Jesty (not Justins) performed the inoculation above-mentioned as early as 1774, and he is still living.

Extract of a Letter from Mr. N. Downe, Surgeon, dated Bridport, June 7, 1802, to Dr. Pearson.

8. I have lately heard of a curious fact, that a woman in the Vale of Dorsetshire practised the vaccine inoculation, probably long before Dr. Jenner ever thought of it. Will there be any use now for enquiring into the particulars.

I am well assured Dr. Jenner has no claim as the *first discoverer and performer* of the new

inoculation, and if he be *only the promulgator*, I see no propriety in his being exclusively rewarded.

The lower class of people still refuse the vaccine inoculation, from an opinion that the resistance to the Smallpox after it will wear out in a few years, which opinion some medical practitioners encourage.

Extracts from Manuscripts of the late Mr. Nash, Surgeon, at Shaftsbury, as delivered to the Committee by Mr. Keate, and attested by the Son of the Author, Mr. Thomas Nash, surgeon. See the Report, p. 41.

9. It is rather remarkable that no writer should have taken notice of the Cowpox.

I never heard of one having the Smallpox who ever had the Cowpox. The Cowpox certainly prevents a person from having the Smallpox.

I have now inoculated above sixty persons who have been reported to have had the Cowpox, and I believe at least forty of them I could not infect with the variolous virus; the other twenty, or nearly that number, I think it very reasonable to presume (as they were no judges) had not the real Cowpox. It is not my own opinion only, but that of several other medical gentlemen, that convinces me the Cowpox is a prophylactick for the Smallpox.

I have not been able to discover that the human species get it from the Cows in any other manner than by contact with the parts immediately infected, such as in milking; neither do I apprehend that one of the human species can communicate it to another but by the same means; as I have known some of the inhabitants of a house where it was escape it, but none of those who lay in the same bed with the diseased person.

In Mrs. Scammell and Mrs. Bracher, inoculation produced no eruption, no sickness, and little or no suppuration of the arm, the place punctured not being bigger when inflamed and suppurated than a large pin's head. It frequently leaves considerable marks, which are much larger than those of the Smallpox, as large (I have measured some) as a silver threepence.

So far the extracts from these MSS. are as given by the Committee; but I take this opportunity of publishing from these Manuscripts (which are now in my possession) a few other observations, to shew the extent to which the late Mr. Nash carried his researches, and that he knew some truths belonging to the Cowpock not known to any other at this day, and was prepared to publish on the inoculation of it.

The author observes, " My principal intention in publishing being to recommend to the world *a method of inoculation* that is far superior,

in my opinion, (and I judge it from experience) to any yet made known. Therefore I hope and trust, although I have no medical friend to enforce it upon the world, that they will give me so far credit for my assertions as to make the experiment, and then it will sufficiently introduce itself. But if from my being so little known they should disregard it, I cannot but remind them, that we had the art of inoculation first from Grecian women, who were both ignorant and illiterate, and put them in remembrance of the saying of Hippocrates, Μη οκνεειν, &c.

Upon looking into the systematic writers, as Sauvages and Macbride, or those who have made catalogues of definitions of disease, as Linnæus, Vogel, and Cullen, I do not find any disease mentioned by them at all like the Cowpox.

In numerous places Mr. Nash repeats his assertion, that those who have had the Cowpox cannot take the Smallpox—Although some people cannot, from the peculiar nature of their constitutions, take the Smallpox; but that cannot be the reason of so many persons in one part of the country, and no other, being incapable of taking the Smallpox.

That it is not more surprizing that no one has written on the Cowpox, since Dr. Heberden was the first who described the Chickenpox, which had been in the country 100 years.

When those who have had the Cowpox are inoculated the arms inflame, but never, or at least seldom, form an abscess, but some hard tumor in the muscular flesh.

How far does the Cowpox agree with the observations of Van Swieten, that " man* alone, and not brute animals, can take the Smallpox."

On Cows, the Cowpox usually appears at first in round pustules, afterwards in ulcers upon the teats and udders, but principally upon the teats. They do not appear to have any sickness before it comes out. Their teats are so far injured by the inflammation it produces, that people are frequently obliged to open the tubes through which the milk passes with a knitting-needle, or some such instrument. One Cow having it will communicate it to a whole dairy. It continues often a long time upon them, unless proper means be employed to cure them, which means are the unguents to the sore parts. The best I am told is soot and butter. This disease is not very frequent in this country.

Cows have the disease but once.

I have not been able yet to determine whether a person who has had the Smallpox can receive this disease.

* Dr. Osiander has shewn that Apes are susceptible of the Smallpox, by inoculation. No doubt also of the Cowpock. " Simia turpissima bestia quam similis homini."—*Note by the Author.*

In those who have had the Cowpox, the arm on inoculation for Smallpox is inflamed to a greater extent than in those who have not had it; but then there is little or no matter in the middle where the puncture was made, nor does it fill in those who have not had this disease, but soon heals and dries."

In the Report, p. 25, Mr. Thomas Nash's evidence is stated as follows: "That the papers were written by his father between the years 1781* and 1785; that, at his death, they were sent by his mother to her brother, Mr. Battiscombe, who, without making them public, or divulging their contents, gave them to the witness in 1795 or 1796: he kept them to himself until 1799 or 1800, when he gave them to Mr. Robert Keate: he heard from rumour that Dr. Jenner might have been known to his father: heard it from Mr. Robert Keate: he was inoculated by his father in 1781, and supposes it might have been with vaccine matter, as it appears by the manuscripts, and by information

* It appears from the *last page* of the MSS. of Mr. Nash, that his *last observations* were written in the year 1781, so that Mr. Thomas Nash did not correctly recollect the time, when he stated it to be between 1781 and 1785. His father, as Mr. Battiscombe informs me, died Feb. 1785.—*Note by the Author.*

from his mother, that his father was then making experiments on vaccine inoculation."

Mr. Robert Keate (p. 25, Report) stated that the papers (of Mr. Nash) alluded to by his uncle, were given him by Mr. Nash, the son of the author; that he understood they were written about 1781. And being asked whether Dr. Jenner was known to Mr. Nash, said, he had heard from Mr. Battiscombe yesterday, that he believed he had heard Mr. Nash, the author of the papers, and his sister, mention the name of Dr. Jenner, but was not at all certain that it was this Dr. Jenner.

Extract of a Letter of Dr. de Carro, dated Vienna, Feb. 4, 1800, to Dr. Pearson, on the Inoculation for the Cowpox from Cows in Holstein.

10. Two Hanoverian gentlemen, Dr. Ballhorn and Mr. Stromeyer, who, as you know, are making experiments with Cowpox, and with whom I correspond, informed me, that this disease is very well known in Holstein; and that a certain Dr. Nessen, of Seegeberg, has collected many facts which prove its antivariolous property. Being myself lately in company with several English gentlemen, who were putting to me many questions on the subject of Cowpox, an American gentleman, Mr. Murray, of Philadelphia, told me that his servant, a German, had

lived three years in the duchy of Holstein, and that he could recollect that he had mentioned to him some facts which coincided much with what I was telling them about the Cow-pox. This gave me the curiosity of speaking to that servant, whom, he told me, was very intelligent, and had shewn often a spirit of observation. Here is the summary of his answers:

That during a stay of three years in Holstein, in the environs of Kiel, he had very often heard of a disease of Cows, called *Die Finnen, (finne* means in German *a pimple*, un bouton, *finnig*, pimpled, boutonné) and that he had had frequent occasion of seeing Cows affected with that disease: That its property of preserving against the Smallpox is well known by the farmers and physicians of the country: That in the town of Kiel, the inoculation with the *finnen* is sometimes practised upon children, with the idea of preserving their beauty: That the country people do not like this inoculation, because they pretend that it leaves behind itself several other disorders: That waiting at table he had very often heard gentlemen, and among others a Dr. Ackermann, speak of its antivariolous power: That in great farms men do not milk Cows, but that in the smaller ones, that happens very often: That a disease of horses, called *Mauke* (true German name for *Grease)* is known by all those who take care of them: That old horses, par-

ticularly, attacked with the Mauke, are always put in cow-stables, and there are attended by women: That it is particularly in harvest that men in small farms milk Cows: That he never heard of any relation existing between the *finnen* and the *Mauke:* He describes that disease of Cows like a pimple, between flesh and skin, (that is his expression) and says, that when a Cow is affected with it, she loses her milk, and becomes very lean: That farmers kill the sick ones to prevent the contagion: That they salt sometimes those Cows, and give them in winter to eat to their servants, who dislike it so much, that they look upon this treatment as a mark of avariciousness; and that the pustule produced by inoculation is about the size of a pea, and is never attended with any other eruption.

Whatever be the confidence that can be put in the report of this servant, it is notwithstanding remarkable, as confirming the information sent to me from Hanover. I hope, through Doctors Ballhorn and Stromeyer, to learn farther particulars respecting this fact. I forgot to mention, that the servant knew nothing of Dr. Jenner's discovery, and of the experiments to which it has led.

I was not correct when I stated to the Committee that Dr. Jenner was exclusively the first inoculator from human subject to human subject.

There are two cases of inoculation from the human subject, as Dr. Barry, of Cork, informed me in his letter of October 16, 1800. A woman ill of the casual Cowpock by handling her infant then at her breast, produced the vaccina. In two years after, this child slept with another child in the Smallpox during all its stages, and was subsequently much exposed to the Smallpox. Farther: this one which had gone through the Cowpock, was inoculated for the Smallpox; but in none of these circumstances could the Smallpox be excited.—*See Medical Annals for* 1800, *p.* 463, *and Barry on the Cowpox, p.* 8.

"A gardener gave himself the Cowpox purposely, by rubbing himself against some person who was affected with it, from a conviction that it would prevent the Smallpox. This happened several years ago, and though he has often put himself in the way of the Smallpox infection, and even lain in the same bed with his children when they were covered with it, he has not taken the disease. If I had time to make the necessary inquiries, I am sure I could multiply instances of this kind."—*Medical and Physical Journal, June* 1800, *p.* 503.

The casual Cowpock, or Shinach, has been well known in Ireland as long as perhaps the Smallpox; and as a preservative against the Smallpox, of which Dr. Barry, in a very in-

teresting letter, dated Cork, 16th Oct. 1800, communicated to me, containing a great number of instances of persons, one fifty years ago, who had gone through the Shinnach, ever afterwards being incapable of taking the Smallpox.—*See Annals of Medicine for* 1800, *Vol.* V. *p.* 460.

Dr. Barry has published a very useful and exact account of the nature and effects of the Cowpock, at Cork, 8vo. 1800, in which he shews how well the casual Cowpock was known by the name Shinach in Ireland before Dr. Jenner's book was published.

He gives instances of persons having had the Cowpock above fifty years ago; and says, one woman eighty years of age, asserts, that as long as she can remember the opinion prevailed, that people who had the Cowpock cannot take the Smallpox; *and that people purposely exposed themselves to it, to preserve themselves from the Smallpox.—Barry on Cowpock, p.* 10, 40, 41.

The intelligent and considerate reader will now be enabled to judge from the preceding instances, whether it merely appears, as is stated in the Report, "that it is not improbable that in some rare instances this knowledge was carried one step further, and that the Cowpox was communicated either by handling the teat, or by inoculation from the animal for the purpose, and with the intention of securing against the Smallpox."—(Report, p. 6.) Or whether, as I

conceive, it would not have been more consistent with historical facts to have said, that it has been shown by a number of instances, "that the Cowpock was communicated either by handling the teat, or by inoculation from the animal for the purpose, and with the intention of securing against the Smallpox."

III. On the vaccine inoculation from human animal to human animal.

As hath been above stated, the Petitioner asserts, that he has discovered that the Cowpock of Cattle "admits of being inoculated on the human frame;" yet the Honourable Committee confess, (if I rightly understand their words) that the vaccine inoculation from cattle, both *purposely* and *casually*, are not the discovery of the Petitioner; but they assert, although the distinction is not made in the petition, that "the practice of which he alleges himself to be the *original inventor* *, is the inoculation from one human being to another, and the mode of transferring indefinitely the vaccine matter without any diminution of its specific power, to which it does not appear that any person has ever alleged a title."

* I do not possess philologic learning to know the difference between inventor, and original inventor.

In this place the reader cannot avoid noticing the unexpected measure of the honourable Committee, not only in narrowing the ground of claim of discovery of the Petitioner, to that of "inoculation from one human being to another," but in starting a new claim, or one to which there are no pretensions in the Petition; to wit, "the mode of transferring, indefinitely, the vaccine matter without any diminution of its specific power." It will, however, naturally be supposed that the evidence in the Report will make it appear that these claims are well grounded; therefore I shall first extract from the pages 13 to 35, in the first place, the declarations which relate to the *discovery of vaccine inoculation*; and 2dly, examine the attestations for *the mode of transferring the vaccine matter*.

I. *Attestations for the discovery of vaccine inoculation.*

The vaccine inoculation was never heard of until after the publication of Dr. Jenner's Works. (Ash, p. 13.)—Considers Dr. Jenner as the original discoverer of vaccine inoculation. (Woodville, p. 13.)—Attributes the discovery solely to Dr. Jenner. (Blane, p. 14.)—Considers Dr. Jenner as the inventor of vaccine inoculation. (Knight, p. 15.)—The inoculation of the Cowpox he considers as having been exclusively in-

troduced by Dr. Jenner. (Dale, p. 19.)—Considers Dr. Jenner as exclusively the discoverer. (Denman, p. 19.)—He derived his knowledge, in the first instance, from Dr. Jenner, afterwards from other sources; refers to letters, No. 51, of the Report, and Mr. Downe's letter. (Pearson, p. 21.)—Upon being asked whether the information contained in these letters arose from Dr. Jenner's publication of his discovery, or from previous knowledge of vaccine inoculation, he answered, That he imagined they were independent of each other; he states, that the discovery of inoculating with the vaccine matter, from one human being to another, is exclusively Dr. Jenner's. He further states, that, although *Dr. Jenner first set on foot the vaccine inoculation, it was established by the extensive practice of other persons;* to wit, Dr. Woodville and himself, who both published treatises and lists of cases on the subject: he said, that they had, in the course of this practice, discovered some error in the theory and opinions first published by Dr. Jenner; which opinions, however, he said, on being questioned, Dr. Jenner had not retracted, or admitted to be erroneous; and being asked whether Mr. Cline had not inoculated with vaccine matter, furnished by Dr. Jenner, before Dr. Woodville began the practice? he said, he could not distinctly recollect. (Pearson, p. 22.)—Considers Dr. Jenner as the person to

whom much merit is due, for publishing the cases of vaccine inoculation, which practice he never heard of before that publication. (Keate, p. 25.)—He looks upon Dr. Jenner as the author of the vaccine inoculation, and believes no medical man doubts it. (Bradley, p. 30.)—He never heard of vaccine inoculation previous to its introduction by Dr. Jenner. (Farquhar, p. 30.)—Considers Dr. Jenner as the author of vaccine inoculation. (King, p. 31.)—Dr. Jenner first ascertained the various and important facts upon this subject. (Saunders, p. 32.)—Looked upon Dr. Jenner to be the discoverer of vaccine inoculation. (Lettsom, p. 33.)—Considers Dr. Jenner as the original proposer of vaccine inoculation. (Frampton, p. 35.)

The above testimonies vary in their terms, but they seem reducible to three different heads.

1st. The words of some of the evidences, as I understand, import that Dr. Jenner is the inventor of vaccine inoculation of every kind, without limitation; and consequently we are not warranted in confining the discovery to any one of the kinds above distinguished. (p. 10.)

2. The words of other evidences can only be understood, as I think, to mean that he is the original introducer of the vaccine inoculation.

And 3dly, My evidence is the only one in which distinction is made of the kind of inoculation, and which is the single evidence in fa-

vour of the question under examination; viz. that the Petitioner was the first inoculator for the vaccine pock, from the human animal to the human animal; but having given proofs that other persons had inoculated, purposely, from the Cow long before him, however fair, a very different conclusion might have been, I chose to give the most favourable one to the Petitioner's interest, by saying I "*imagined*," or *conjectured*, that his inoculations and theirs, "were independent of each other."

Had I thought fit to have reasoned against the pecuniary interests of the Petitioner, surely a fair opportunity was afforded by the knowledge I possessed of many examples of Inoculation for the Cowpock, previously to the seven Cases which he published; but I gave it as my opinion, that the different trials were made independent of each other, as the Committee have very rightly inserted, and no doubt for the advantage of the Petitioner. Further, I more than once declared that I thought the question of reward could not justly be affected by any number of antecedent inoculated cases, because the public derived no benefit from them; nor should I have stirred to prove that such antecedent experiments had been made, but for the tenacity to maintain the claim of being the first Vaccine Inoculator, and the resistance to admit what I deemed very satisfactory evidence; this being the case, I was

impelled, for the defence of truth, to state that evidence in so strong a light as to have been irresistibly admissible; and in course proved my assertion.

It may seem very extraordinary that there should appear no contravening evidence but mine, and what was excited by my investigation of the history of the Cowpock, published in 1798, to the claims in the Petition, to the invention of inoculation of the Cowpock from Cattle; not is there in any other part of the Report any distinction made between inoculation from "cattle" and inoculation from the human creature. I am told by Dr. Woodville, indeed, that in his deposition "he declared he did not know who was the first vaccine inoculator," and referred for the proofs on this point, to my publication of 1798; but I mean no imputation by this observation, on the contrary I have no doubt that the honourable Committee were still perfectly justifiable in not inserting that part of Dr. Woodville's evidence, but in giving another part of it. Perhaps some light may be let in by observing that the evidence appears to have been nearly closed * be-

* It is not necessary to assign the reason, but it is proper to remark that the evidences are not inserted in the printed Report in the order of the examinations, but with some pains are differently placed; and yet it is obvious that the arrangement

fore I was called upon; and therefore it seems probable that I should not have been summonsed to attend; nor any of those who subsequently gave the adverse evidence on the question of discovery, but for the letter of Mr. Drew, p. 20 (No. 44, Report,) in which my name was quoted; from thence, as I was informed by Dr. Nelson, at that time under examination at the Committee, Sir William Elford proposed that Sir George Baker and myself should receive summonses.

It is necessary for me to remark that, according to the words inserted in the Report, and which I acknowledge to have been mine, it will, I conceive, be understood (for otherwise the evidence is nugatory) I attested that the Petitioner not only afforded exclusively *the first known instances of vaccine inoculation from human animal to human animal*, agreeably to my meaning; but that he established exclusively the fact of the permanent preservation of the antivariolous efficaciousness of the vaccine matter, produced in the animal œconomy, by inoculating successively an indefinite number of human creatures, together with the mildness of the disease so produced; which certainly was not my meaning, as

is not made according to the kind of evidence delivered. Hence the depositions under my name are set down at No. 18, but, according to the order of time, they should have been at about No. 40.

would have most clearly appeared, if the other part of my evidence had been printed in the Report. I cannot assert positively that my words were written down, but I dare swear that I declared to the Committee that I disallowed the Petitioner's right to the fact in the sense just mentioned, in as much as the whole of his experience amounted to but seven or eight cases of inoculation, and a part only of these seven or eight, viz. *four*, were from human subject to human subject, until long after Dr. Woodville and myself had published several hundred instances of inoculated vaccina * from human subject to human subject. It is incumbent on me, however, to state the proofs for this assertion.

In June, 1798, Dr. Jenner first published his "Inquiry into the Cowpox;" in which it appears that the first experiment of inoculation from the Cow, was in May, 1796, p. 32, Case xviii;

* The author says his experience "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 Sumers, the boy to whom it was communicated from the Cow." (P. 44, Inquiry, 1798.)—Now Sumers furnished matter for *Pead*, from Pead it was communicated to *Excell*, from her to *Mary Pead*, and from Pead to *Barge*." The number which successively were inoculated from human subject to human subject was not *five* but *four*. This is an inadvertency, but proper to be noticed, as the error continues to be propagated by compilers.

after this, he says, the researches were interrupted till the spring of the year, 1798, when the second case of inoculation from the Cow was afforded, p. 37, Case xix; but Cases xx, xxi, xxii, xxiii, are those of four generations of the human subject. I take for granted, that no confessedly judicious physician would, from these instances, feel himself warranted in making any conclusions, further than finding in them a justification of more trials; which, indeed, was the opinion of the author himself, as is manifested by his inference from the preceding experiments: "Should it be asked whether this investigation is a matter of mere curiosity, or whether it tends to any beneficial purpose? I should answer, that, notwithstanding the happy effects of inoculation, with all the improvements which the practice has received since its first introduction into this country, it not very unfrequently produces deformities of the skin, and sometimes, under the best management, proves fatal. But as I have never known fatal effects arise from the Cowpox, even when impressed in the most unfavourable manner, producing extensive inflammation and suppuration on the hands: and as it clearly appears that this disease leaves the constitusion in a state of perfect security from the infection of the Smallpox, *may we not infer that a mode of inoculation may be introduced preferable to that at present adopted*, especially

among those families, which, from previous circumstances, we may judge to be predisposed to have the disease unfavourably."

From the time of the above publication, in June, 1798, the author contributed no further inoculated cases to the end of that year; nor could I do more than investigate the history of the Cowpox *, principally by inquiries among provincial physicians and farmers, from whom I was enabled to confirm some of the facts in Dr. Jenner's book, and to render doubtful or disprove others, and to bring to light new observations. Vaccine matter was in vain inquired for; and Dr. Jenner had discontinued the inoculation about the time of publishing his book above-mentioned. But from the curiosity excited by my inquiries among the milk farmers near London, as appears from the Inquiry into the Cowpox, which I published, but principally owing to the attention of Dr. Woodville, information was communicated in January, 1799, that the Cowpox was epibootic in Gray's-inn-lane; and at the same time I received the agreeable intelligence that this disease was also raging in the largest stock of Cows on the New Road, near Paddington, to which no one could gain admittance

* Inquiry into the History of the Cowpox. By G. Pearson, 8vo. 1798.

but myself. With vaccine matter procured from these sources, Dr. Woodville instituted the trials of the new inoculation in the Smallpox Hospital*; and I carried on mine in certain situations instead of the Smallpox, and among such persons as I induced to undergo the experiment; besides, we promoted the practice by furnishing †Dr. Jenner, of Berkley, and other practitioners, with London vaccine matter for the repetition of the Cowpock inoculation in Gloucestershire and other places.

In about two months, *to wit*, by the month of March, we had inoculated upwards of 160 persons, which was about twenty times the number inoculated at any former period by any one inoculator; without having had occasion to recur to the Cow for fresh matter. And I issued the following printed letter ‡, dated March 12, 1799, among more than 200 practitioners of the united kingdom, to report the progress of the

* Reports of a Series of Inoculation, &c. &c. By William Woodville, M. D. Physician to the Smallpox and Inoculation Hospitals. London, 8vo. 1799.

† Further Observations on the Variolæ Vaccinæ, or Cowpox. By Edward Jenner, M. D. &c. 4to. London, 1799.

‡ Medical and Physical Journal for April, 1799, vol. I. p. 113; and London Medical Review for April, 1799, vol. I. p. 201.—Tilloch's Philosophical Magazine, 1799.

new inoculation with inclosed thread * impregnated with vaccine matter.

SIR, *Leicester-square, March* 12, 1799.

I hope you will pardon me for taking the liberty to inform you, by way of additional evidence to the testimonies I have published on the subject of the Cowpox, that upwards of one hundred and sixty patients, from two weeks to forty years of age, principally infants, have been inoculated since the 20th of January last, by Dr. Woodville and myself, separately.

I shall at present only communicate the following observations:

I. Not one mortal case occurred.

II. Not one of the patients was considered to be dangerously ill.

III. Although the extreme cases of the severe kind which ordinarily occur in the same number of cases in the inoculated Smallpox did not occur in the above practice, and although many of the patients were even more slightly disordered constitutionally; yet the whole amount of the constitutional illness seemed to be as great as in the same number of patients in the inoculated Smallpox.

* For the evidence of the communications to so many Practitioners, the Reader must be content for the present with the continual reference in the public journals, in 1799 and 1800, to me, on account of matter.

IV. None of the patients, namely, above sixty, hitherto inoculated for the Smallpox, subsequently to the vaccine disease, took the infection.

V. One of the most important facts is, that the local affection in the inoculated part, on the whole, was less considerable, and of shorter duration, than in the inoculated Smallpox.

VI. In many of the cases eruptions on the body appeared, some of which could not be distinguished from the Smallpox.

I have sent the matter of the Cowpox pustule, on the thread inclosed, in order, if you approve of the inquiry, to inoculate with it; and I intreat you to favour me with the result of your trials: but I must trouble you to apply the test of inoculating with variolous matter subsequently to the vaccine disorder.

I have the honour to be, &c. &c.

P. S. I am happy to be able to state, that at Berkley, Dr. Jenner has continued his trials of inoculation with vaccine matter, sent from London, with good success.

I should have given you a more circumstantial account of the cases here alluded to, but I think it unnecessary, as Dr. Woodville has a pamphlet in the press on the subject.

At the same time, and in the course of the year, I extended the dissemination of vaccine matter to Germany, as can be shown by letters and re-

ports from Madame Neale * for the Princess Louisa at Berlin; of Mess. Ballhorn and Stromeyer, of Hanover; of Dr. de Carro, Dr. Ferro, and Dr. Frank, of Vienna, &c.—to Geneva, as appears from the letters of Dr. Odier;—to Portugal for the Prince Regent †, by Mr. Correa de Serra, and by Mr. Murphy;—to America, through the hands of Dr. Waterhouse, Currie, Hossack, Chicester, Mitchell, and others;—to Paris and

* I think the first parcel of Vaccine matter was sent to Berlin, in the winter of 1799, which succeeded so well that another demand was made in May, 1800.

"S. A. Supplie d'envoyer par le Docteur Pearson de la matière de Cowpox et *elle a parfaitement reussi ici.*"—Lettre de Madame Neale, Berlin, 10 de Mai, 1800.

"Cette Inoculation a parfaitement reussi ici, & je suis parfaitement rassurée. On m'a dit que le Dr. Pearson est mort depuis l'été derniere, c'est pourquoi je ne lui a pas ecrit moi même pour lui rendre compte des succés de cette Inoculation ici. Aucun enfans n'a été fait malade, aucun d'eux n'a repris les petites veroles même en les faisant coucher dans le même lit avec des Enfans dont l'eruption etoit trés forte."—Lettre de ———, Berlin, December 27, 1800.

† *Translation, from the Portuguese, of the Order for the Vaccine Matter.*—The Prince Regent our Lord, has it for service that you should send some more matter of the Cowpox, because with that you sent some experiments were made on subjects, on which the inoculation had no effect, but which inoculated afterwards with the pus of the natural Smallpox, it likewise had no effect. God save you. Palace of Queluz, on the 9th of June, 1800.

D. Rodrigo de Souza Coutinho.

Mr. Joseph Correa de Serra.

other parts of France, on the application of Mr. de Liancourt, and the Medical Committee of the Ecole Medicale ;—into the British army through Mr. Keate.

In May 1799, Dr. Jenner, in a second publication *, reports his experience with the vaccine matter sent to him at Berkley by Dr. Woodville and myself, first on two children : and from one of these were inoculated at one time eighteen more patients, who all took the disease. An infant, twenty hours old, was also inoculated, and a boy, who the day before the insertion sickened with the measles.

In this treatise a case of inoculated Cowpock in the summer, 1798, by Mr. Cline, is related, which I mention for the sake of noticing the question of the Committee, who (on my stating that the Petitioner had done nothing after his publication in 1798 to promote the inoculation, till after Dr. Woodville and myself had carried our experiments to a great extent in 1799) asked me whether or no I recollected Mr. Cline's practice. I answered, I could not say I did distinctly, but that could only be a single case. Now from the mode in which this answer is inserted in the Report, one would suppose it was destined to falsify my statement ; but, 1. one

* Further Observations on the Variolæ Vaccinæ, or Cowpox, &c. By Edward Jenner, M. D. 4to. London, 1779.

case surely ought not to have that effect; 2. the public had no benefit from the case, for it was not published till the year after it occurred. This case of Mr. Cline's was the only one that could be produced by the examining Member of the Committee, by the Petitioner, who is allowed to be present and propose questions; and by the assistant friends of the Petitioner, who also suggested questions.

In May 1799, Dr. Woodville published his Report above cited. He inoculated between the 21st of January and 18th of March, 200 persons, and subsequently 400 more, for the most part successively, without recurring to the Cow for matter. It is true that many of these vaccine cases were conjoined with the Smallpox from the influence probably of the variolous infection; but as the eruptive cases exhibited the genuine Cowpock on the part inoculated, and the matter of it very generally propagated the Vaccina, without eruptions, in private practice and in the country, it is fair to admit them into the class of Cowpock cases.

In May 1799, Dr. Woodville reports* that upwards of 300 more cases of inoculated Cowpock had been under his care since his *Reports* in May preceding.

* London Medical Review and Magazine for June, 1799, p. 397.

In August 1799†, I published the following brief statement of my experience up to this date, in which I referred to some Reports of inoculated cases communicated to me in consequence of my circular letter in March preceding.

A Statement of the Progress in the Vaccine Inoculation; *and Experiments to determine some important Facts belonging to the Vaccine Disease. By* GEORGE PEARSON, M.D. F.R.S. *Physician to St. George's Hospital,* &c.

From the Philosophical Magazine for August 1799.

The collection of testimonies which I published, in November last, in my *Inquiry concerning the History of the Cowpox;* and the Circular Letter, which I issued in March, stating the progress of the *Vaccine Inoculation,* and containing thread impregnated with *matter,* have procured me much information. In particular, through the recommendation of the *Surgeon-general, Thomas Keate, Esq.* the new practice has been introduced into the army; of which a valuable report has been already communicated

† See the London Review for August, 1799, p. 612, and the Medical and Physical Journal for August, p. 97, and September, p. 213, 1799.

I have been also so fortunate as to obtain permission to practise the *new inoculation* in certain situations where great numbers would have been inoculated for the Smallpox. The cases from these sources, and a pretty large stock from private practice, form a valuable body of evidence, by means of which the professional public will be enabled to estimate (I do not say precisely) the value of the *new practice*; and also answer many of the queries, and supply some of the deficient parts of the history of the vaccine disease, which were stated in the *Inquiry* above mentioned. But such are my occupations at present, and in all likelihood such they will be for a considerable time, that I cannot at this time arrange, for the use of the public, the valuable materials transmitted to me. It will, however, perhaps be not without utility at this time first to state a few general results from the vaccine inoculation; and secondly, to relate some *trials*, from which I apprehend conclusions can warrantably be drawn to promote the investigation now going forward.

Not much more than six months have elapsed since the opportunity was afforded, by the breaking out of the *vaccine disease* in two principal milch farms near London, of obtaining matter for propagating the same disease among human creatures. The *new inoculation* was im-

mediately introduced in London, and soon afterwards in the neighbourhood, as well as in many provincial situations. It is with sincere satisfaction that we can now reckon, at the fewest, 2000 persons who have passed through the Cowpox by inoculation. But in this number I include the very large proportion furnished by him who, so beneficially to the public, and honourably to himself, possesses the office of Physician to the Smallpox Hospital. From the above experience we receive, as I expected, important information.

1. Of the above number it appears that *one* patient died; (Woodville's Reports, p. 151.) and to avoid controversy, let us allow that the death was occasioned solely by the inoculation. Now, according to the justest calculation I have been able to make, as in the inoculated Smallpox one in 200 * dies from the disease, it is evident, in

* I am fully aware that so great a proportion as one in 200 will not be allowed by many practitioners. And to persons who have been told, and believe, that inoculation for the Smallpox "scarcely ever does any harm,"—that certain practitioners have inoculated many thousands without losing a patient—that others have told their friends "they never had a fatal inoculated case in their whole lives"—I say to such persons, no advantage, on the score of saving life, will be allowed from the Cowpox. But I have conversed with many candid and experienced practitioners, and they are well satisfied that I am warranted in the above statement of deaths in the inoculated

the present state of the practice, that the proportion of fatal cases in the inoculated Smallpox, to the inoculated Cowpox, is as 10 to 1.

2. The constitutional affection, or fever, which occurs in the Cowpock about the 9th day after inoculation, is much more considerable in many cases than was apprehended from the first account by Dr. Jenner, although in a great proportion of cases it is extremely slight, and in many cannot be observed at all. But I must correct my statement in March last, in which I said, " Although the extreme cases of the severe kind, which ordinarily occur in the same number of cases in the inoculated Smallpox, did not occur in the new practice, and although many of the patients were even more slightly disordered constitutionally, yet the whole amount of the constitutional illness seemed to be as great as in the same number of patients in the inoculated Smallpox." Since that Report, or at least for the last

variola. I beg leave to say farther, that I believe more persons in proportion have died of the inoculated Smallpox within a few years, than died in the same time 20 years ago. And this may be accounted for from the unwarrantable assertions that the inoculated Smallpox was not attended with any danger; hence the practice is often trusted in the hands of persons not sufficiently acquainted with the treatment fit for different states of the human constitution. I add, that nobody at this time believes the above death was from the Vaccina.

four months, as far as I have observed and been able to learn from others, the whole amount of the constitutional illness was not one half of the whole amount in an equal number of patients inoculated for the Smallpox. Now, whether the greater mildness of the disease depended on the different state of the human constitution in the summer from that of winter, as seems to me most probable; or that it depended on the difference in the state of the vaccine matter, must be determined by future experience in the same seasons.

3. The most remarkable difference in the practice of the last winter, and present summer, has been with regard to the eruptions which so often occurred, especially in the Smallpox Hospital; which eruptions, in many instances, could not be distinguished from those of the Smallpox, and which were wholly unexpected from the original description by Dr. Jenner. No explanation hitherto given consists with the observations relative to these eruptive cases; but the facts are as Dr. Woodville states (Med. Mag.), that they have occurred much less frequently this summer than in the spring and winter preceding. In my private practice, not a single case with eruptions resembling the Smallpox has occurred these last four months, and but a small proportion with any eruptions of other kinds. From

my correspondents I have not had a single case of eruptions like the variolous since that of Dr. Redsearne's, of Lynn; not one of this sort in Mr. Kelson's, of Seven Oaks, report of about 100 patients; not one in Dr. Mitchell's, of Chatham, of about 50 patients; not one in the report of near 100 patients from Dr. Harrison, of Horncastle, communicated to the Right Hon. Sir Joseph Banks; and, in short, not one case with these eruptions appears in the accounts from my other correspondents.

4. The arms have manifested, in many instances, a much more extensively spreading red areola around the inoculated part than is usual in the Smallpox; which redness sometimes extended over the greater part of the whole arm. This appearance is very alarming to both the patient and the inexperienced practitioner; but no danger seems to be attendant on such a state of the parts, for it disappears in at most two or three days, by no means gives pain in proportion to its appearance, and, in the cases I have seen, affects the constitution very little. I would rather call this spreading redness of the skin *erythema* than erysipelas. As to phagedenic ulcers, as they have been called, ensuing from the inoculated part, many sore arms have been produced; but nine out of ten were occasioned, or at least much aggravated, by the tightness of the clothes; by allowing the linen to stick to the

sore; by scratching the pustule; and sometimes by emollient poultices. The experience we have had, then, since January last, in London and in the country, does not agree exactly with Dr. Jenner's account concerning the state of the arms: he thinks some new applications of a caustic nature necessary, in many cases, to prevent secondary symptoms from the sores; but in Dr. Woodville's Report, p. 155, my correspondents, and my own practice, there has not been found any want of applications for such a purpose.

5. Concerning the important point of the certainty of the action of the Cowpock on the human constitution in producing unsusceptibility of taking subsequently the Smallpox; I can only at present say, that I have inoculated many scores with Smallpox matter after the vaccine disease, and never with the effect of exciting the Smallpox. But I have had accounts sent to me, not of people taking the Smallpox after the inoculated Cowpock, but of these taking the Smallpox after the Cowpock in the casual way. I have, indeed, been desired to see even some of my own patients who, I was acquainted, had taken the Smallpox after the Cowpock; but these cases turned out to be either those in which the Cowpock had not in reality preceded, or they were cases of merely local affection from the inoculated Smallpox. With respect to the facts of

other practitioners, I shall at a future time make some remarks on them, to render their accounts consistent with those of Dr. Jenner, Dr. Woodville, and mine. In the mean time I will not allow that any person's evidence is on this point much to be depended upon, unless he really know what are characters of the Cowpock pustule, and what are those of the variolous and some other common eruptions.

From the preceding general results, without entering into a more particular account, I think we may safely conclude, that the Cowpock inoculation is attended with advantages sufficient to force its way speedily into general practice, and that of course it will supersede and ultimately extinguish the Smallpox: but this conclusion is only drawn provisionally, *viz.* that no new facts shall arise adverse to the experience now possessed.

With regard to the second object of this paper, Dr. Jenner, very usefully to human society, and very honourably to himself, first published some FACTS, which I thought it my duty, in common with other members of the profession, to investigate, and have laid before the public. Among these *facts* the 4th and 5th were asserted by me in these terms:

IV. *A person having been affected with the specific fever and local disease produced by the Cowpox poison, is liable to be again affected, as before,*

by the same poison; and yet such person is not susceptible of the Smallpox.

V. *A person is susceptible of the Cowpox who has antecedently been affected with the Smallpox.*

Neither of these facts being supported by any analogy, a great part of the public seemed inclined to disbelieve them; and not only inclined to disbelieve these facts, but the credit of the others was for obvious reasons thereby weakened. It may be seen in my *Inquiry*, that I thought the assertions stood in need of confirmation, which I was not only unable to procure, but contravening evidence was obtained. Some of my correspondents not only asserted that men were not affected more than once, but that the same Cows had not been known to be affected more than once. It was also positively asserted by some, that "a person is not liable to the infection of the Cowpock after going through the Smallpox, (p. 49, *Inquiry:)* and I saw persons pitted with the Smallpox who had been much exposed to the Cowpock without taking it, (*Ibid.* p. 50.) Notwithstanding my confidence in Dr. Jenner's evidence, I could not help pointing out, in the following words, what I apprehended was a source of error in both cases:—"The evidence for this fact, (viz. IV.) to my apprehension, only proves satisfactorily that the *local affection* of the Cowpox may occur in the same person more than once; but whether the *peculiar*

fever also occurs more than once in the same son from the Cowpox poison does not appe certain, and must be determined by future ob servations made with a particular view to this point." Farther: I was so dissatisfied that I wrote to Dr. Jenner to answer my query, Whether, in the instances of the Cowpox occurring more than once in the same person, it was certain that the specific fever was present more than once? The Doctor very obligingly answered my letter, and says, (see Dr. Jenner's Letter, p. 99, of my *Inquiry*,) "You may be assured that a person may be repeatedly affected *both locally and generally* by the Cowpox; two instances of which I have adduced, and have many more in my recollection." But he very candidly adds: "Nevertheless, on this important point, I have some reason to suspect that my discriminations have not been, till lately, sufficiently nice."

With respect to Fact. V. I said in my *Inquiry*, p. 49: "It seems sufficiently authenticated that people may have the Cowpox after they have had the Smallpox; but it will require more nice attention to satisfy the query, Whether, in such cases, the Cowpox affects the whole constitution, or is only a local affection?" Subsequently to this observation I find Dr. Jenner himself, from a theoretical consideration, offers as a "conjecture what experiment must finally determine that they who have had the Smallpox are not

afterwards susceptible of the primary action of the Cowpox virus." (Farther Observations, &c. by E. Jenner, M. D. &c. p. 32.)

I shall now relate the *trials* I have instituted, and the *observations* I have made, to obtain *determinations* with respect to these important questions of facts.

Trials to determine whether or not Persons are susceptible of having the Cowpock Vesicle *and* Fever, *who have undergone the Smallpox.*

The four first under-named gentlemen being engaged with me in prosecuting physical inquiries, were desirous to experience, in their own persons, the effects of the *vaccine poison.*

1. Mr. Daugerfield was inoculated in one arm by means of a puncture with a lancet stained with fresh but dried matter, rendered fluid by steam just before it was inserted. The other arm was inoculated with thread impregnated with *vaccine matter*, by passing it through the skin. On viewing the arms in three days time, that with the thread appeared inflamed, showing a red elevated small spot; the other arm, which had been punctured, barely shewed a red mark. The punctures had smarted for about twenty-four hours, but no other effects were produced. These red spots disappeared in a few days.

In three weeks further the inoculation was again instituted, but with fluid lymph applied, imme-

diately from the pustule of a patient present, to punctures in each arm. More smarting and more inflammation were produced by this inoculation than by the former. A small quantity of pus was produced in the little red spots from the punctures in about six or seven days, but no disorder arose in the whole constitution.

Mr. Dangerfield was next inoculated in one arm with variolous matter. In the evening of the day of inoculation inflammation appeared, which increased to a greater degree and extent than from the vaccine inoculations. A small phlegmonic tumor in the part inoculated with variolous matter continued for a fortnight, during which time it suppurated, and the pus from it did not heal in less than three weeks further. There was no constitutional affection; but there was pain in the arm-pit in about five days from the inoculation.

2. Mr. Pollock was inoculated in each arm with a lancet armed with fluid matter immediately on taking it from a patient. A little smarting was felt for a day or two, and the parts inoculated were red for several days; but no pustules arose, nor constitutional affection.

3. Mr. Perkins was inoculated by puncturing *one* arm with a lancet stained with recent *vaccine matter*, and the other was inoculated with *variolous matter*. A red spot was seen on each of the parts inoculated the day following; and an itch-

ing sensation, especially from the vaccine matter, was experienced for a day or two. The parts remained elevated and inflamed a little for a few days further, and then got well without suppurating, or being attended by any general disorder.

4. Mr. Armitage, whose constitution was fat and muscular, was inoculated in each arm, with a lancet stained with limpid vaccine matter, immediately on taking it from a patient present. A small red spot was observed the day following, and a little burning sensation was complained of; the red spots grew larger and larger for four or five days, and at length produced a small unequal hard tumor, in which a little pus was generated; but the parts soon got well without any attending disorder of the whole constitution.

In a fortnight after this, each arm was inoculated with variolous matter. More inflammation than from vaccine inoculation arose in a few days, with small tumors, which suppurated: the parts inoculated remained sore for more than a fortnight, but no feverish symptoms ever appeared.

5. G. P. a boy 12 years of age, who had gone through the Smallpox ten years before, was inoculated in one arm with recent vaccine matter, which had been dried on a lancet, and was moistened just before it was inserted. The day following not so much as a red spot of the part

inoculated was seen, nor had there been any uneasy sensation. He was therefore inoculated a second time, but with fluid lymph immediately from a patient.

The day after the second inoculation an itching sensation of the punctured part was complained of, which continued for two or three days. The part punctured had a small red elevated spot upon it the day after the inoculation, which grew gradually larger for four or five days, and became a little phlegmonic tumor, but without any red surrounding areola. In a few days the little swelling subsided, but a red and rather sore spot remained for a week longer. No disorder of the whole constitution was perceived.

6. Dr. Woodville inoculated me in one arm with vaccine lymph from a subject present. The punctured part smarted a little all the remainder of the day of the inoculation, and also the day following. In twenty-four hours a red spot on the inoculated part was seen exactly like that which is often seen in the same time when either the vaccine or variolous infection has taken effect, and which increased for another day; but after this the redness vanished, and no sore was left.

I once accidentally punctured the back of my hand with a lancet which had fluid vaccine matter upon it. The consequence was, a circumscribed, very small, red, hard tumor: this re-

mained for a fortnight, then suppurated, and afterwards burst. The part soon healed, but left a very small superficial cicatrix.

As belonging to this head, I mention, that I have seen in, several instances, nurses with small, red, conical tumors on their lips and cheeks, and sometimes hands; evidently from the application of Cowpock matter of the children under their care during the vaccine inoculation. These little tumors sometimes remained for several weeks, and a particle of pus was formed in them: they never were attended by any fever symptoms, nor by any surrounding erythematous areola.—I here speak of nurses who had long before passed through the Smallpox.

I have no hesitation to refer the following cases, to this head of unsusceptibility of taking the Cowpox, to having previously gone through the Smallpox.

A servant of Thomas King, Esq. about 18 years of age, was brought up during his infancy under circumstances in which he could get no testimony to his having had, or *not* having had, the Smallpox. Not having undergone this disease to his own knowledge, it was thought adviseable, in order to resist the Smallpox, with which his fellow-servant was seized, to inoculate him for the Cowpox. This I did on Thursday the 23d of March, in one arm with matter on a

lancet, and in the other with dried matter on a bit of thread.

4th Day, Sunday 26. The parts inoculated had smarted for the two first days, and they now were red and a little elevated, as if the infection had taken effect.

6th Day, Tuesday 28. Inflammation had almost entirely gone off: inoculated a second time in both arms with matter from a different patient.

3d Day of second Inoculation, Thursday 30. Punctured parts appeared inflamed.

6th Day, Sunday, April 2. Inflammation had disappeared. Inoculated a third time with limpid fluid matter from a patient present, and with which matter I had excited the vaccine disease in several persons.

7th Day of third Inoculation, Friday, April 7. The parts inoculated had inflamed and felt painful for two or three days, but were now well.—Inoculated him a fourth time with *Smallpox* matter in both arms. A little inflammation arose, but nothing more.

This young man frequently visited his fellow-servant in the Smallpox, and shook hands with him, at the Smallpox Hospital, while under my care for the Cowpock inoculation. In this case, either the Smallpox had already affected the constitution, or some other disposition existed, rendering it equally unsusceptible of the Smallpox and Cowpock.

From Dr. Mitchell, of Chatham, whose report is now before me, I learn, that there were several instances of soldiers to whom the Cowpock could not be communicated; and although they had no recollection themselves of having had the Smallpox, it was most probable they had passed through it. If I had seen any case of genuine Cowpock vesicle and specific fever in a constitution which had previously suffered the Smallpox, I should have related it; but I ought to mention that such a case has fallen under the observation of Dr. Woodville, (*Reports*, p. 52 and 143.) I shall never object to the testimony of so experienced a physician without more than usual consideration; but I cannot avoid here observing, that the evidence in his case, of the patient having had the Smallpox *when a child*, is merely that of the patient; and I submit to Dr. Woodville, whether or not that evidence is admissible to build upon, now that we have the above unequivocal contravening cases of the fact asserted. But I trust the Doctor will be less tenacious of this instance, as he himself tells us that he failed to excite the vaccine disease by inoculating several patients who were recovering from the natural Smallpox. (*Reports*, p. 144.)

Whatever impression the above instances may have made on my own mind, I do not think they will produce conviction in the mind of every practitioner, *that it is a law of the human animal*

œconomy to be rendered unsusceptible of the Cowpox fever and specific vesicle by undergoing the Smallpox. Hence I find that my expectation of the hands of physic being strengthened by the possession of a sure means of exciting an innocent fever is not realised, (*Inquiry*, p. 81;) but I feel some consolation from the prospect of the new inoculation being more speedily introduced by the removal of one obstacle, viz. the fears of many persons, who have already passed through the Small-pox, that they would be liable to the Cowpox, if the diffusion of the infection of it became extensive by the vaccine inoculation. Another advantage suggested in my *Inquiry*, p. 92, is now, I think, greatly confirmed, namely, an *advantage for those who are not certain whether or not they have had the Smallpox, but possess so great a dread of this disease as not to be able to submit to inoculation for it.* I congratulate such persons on the discovery of a test to which I apprehend the most timorous minds will submit: for if the *specific vesicle* and *fever* do not take place from the inoculation of the Cowpock poison, they may be assured, that either they have already passed through the Smallpox, or that their constitutions are not susceptible of it.

It now seems to me, that the following facts are established on the ground of experience :—

I. *A constitution which has undergone the Smallpox, is unsusceptible of again undergoing this disease.*

II. *A constitution which has not undergone the Smallpox, but which has undergone the Cowpock, is unsusceptible of undergoing the Smallpox.*

III. *A constitution which has not undergone the Cowpock, but which has undergone the Smallpox, is unsusceptible of undergoing the Cowpock.*

Now, if the variolous poison destroys the susceptibility of the constitution to the future agency of this poison, in the respect of its producing the Smallpox; and if the Cowpock poison destroys the susceptibility of the constitution to the future agency of the variolous poison, in the respect of its producing the Smallpox; and if the variolous poison destroys the susceptibility of the constitution to the future agency of the vaccine poison, in the respect of its producing the Cowpock; it seems demonstrated, that the same state of unsusceptibility of the constitution, with respect to the future agency of the variolous poison, is produced equally by the agency of the variolous poison, and by the vaccine poison. But if the variolous poison produce unsusceptibility of the constitution to the future agency of the vaccine poison, and the vaccine poison produce unsusceptibility to the future agency of the variolous poison, it seems also demonstrable, that the following 4th proposition is true; viz.

IV. *A constitution which has undergone the vaccine disease, is unsusceptible of again undergoing that disease from the agency of the vaccine poison:*

because a state of unsusceptibility, with respect to the agency of the variolous poison, is produced by the vaccine poison, *(2d propos.)* and a state of unsusceptibility, with respect to the agency of the vaccine poison, is produced by the variolous poison, *(3d propos.)* but the state of the constitution being the same in the two cases, whether it be produced by the variolous or vaccine poison, with respect to unsusceptibility, it seems inevitably, in course, that unsusceptibility of the constitution to the future agency of the vaccine poison is produced by the vaccine disease: and the demonstration in course could be given of proposition 1, on the ground of the 2d and 3d *proposition*, that unsusceptibility of the constitution to the agency of the variolous poison is produced by the variolous disease, if this were not already proved by abundant experience. At a future time, however, I shall relate the observations and experiments to confirm this *à priori* conclusion; 1st, because these proofs will increase the validity of the 3d *proposition*; and 2dly, because I do not mean to offer this demonstration as infallible, like mathematical.

From the preceding reasoning it may be imagined, that I consider the Cowpock and Smallpox as only varieties of the same species of disease; and that therefore the name *variola vaccina* is appropriate, although I endeavoured to show that it was unjust, and tended to mislead, by

giving erroneous notions, (*Inquiry, p.* 108). But it must here enter into our contemplation, that the same state of an animal or other substance, in a certain respect, may be produced by very different things; and the phenomena attending their agency may be very different from one another. It is so in the instances under consideration; and further, in order to establish resembling things to be *varieties of the same species*, we ought to be able to trace them to one common origin, or to show that they all agree in what should be reckoned essential properties. Now hitherto it has not appeared that the Cowpock has arisen from the Smallpox, or the Smallpox from the Cowpock. If it be said, that in some of the eruptive instances of the Cowpox, the pustles could not be distinguished from the Smallpox, it should be considered that it has not been yet shown, that in any case the Smallpox has changed into the Cowpock;—that the Cow is susceptible by inoculation of the human matter of the Cowpock, but not of the Smallpox; and that the pustules resembling the Smallpox, which occur in the Cowpock, afford matter which I believe produces in some cases (if not, perhaps, in so great a proportion as originally) the Cowpock in its usual mild way, *viz.* a vesicle in the inoculated part only, and a slight fever. Hence I humbly am of opinion, but submit the question to the decision of scholars, that the

use of the denomination *variola vaccina* is a transgression of the law in philology, and repugnant to sound logic.

Extended as this paper is, much beyond the limits proposed, I cannot confine to myself the gratification from the reports of the *new inoculation*. I shall only mention, however, one or two of them. The sensation excited on the Continent, by the vaccine practice, has been much more considerable than in our own island, as I learned first from Dr. Marcet, and since by a letter from Dr. Peschier. At Vienna Dr. Ferro inoculated two of his own children with vaccine matter which I transmitted: and next, Dr. De Carro inoculated two of his own children. An accurate journal of these last cases was kept by Dr. De Carro, which he has had the complaisance to communicate to me. The above patients had the disease in the usual mild way, and were subsequently inoculated for the Smallpox, but without effect. Dr. Frank, it is expected, will adopt the vaccine inoculation; as it appears will be generally done at Vienna. I often send matter on a thread, which is to be kept for a long time, in a bottle filled with quite dry hydrogen or nitrogen gas.—I shall soon have reports from Portugal, and other parts of the Continent.

In Scotland the new inoculation has not been less successful. Dr. Anderson, of Leith, in-

forms me he has inoculated above 80 persons—that Dr. Duncan and others have begun the practice at Edinburgh ; and that it has been introduced in Dundee, Paisley, and Dalkeith.

If the vaccine inoculation proceed with equal mildness as it has done the last four months, doubtless the variolous Insition must in no remote period be superseded. And if such an event should take place, posterity will behold with amazement the prejudices and inattention of their predecessors to the application of a fact in practice, by which a formidable and loathsome disease was extinguished—a fact well known, time immemorial, to almost every farmer in half a dozen counties of England, but neglected till *Jenner* had the courage to indicate the advantages of it to society. If I were to name a parallel instance of inattention or prejudice, it should be the neglect of inoculation for the Smallpox, till it was introduced into England from Constantinople ; although it had been practised, time immemorial, in the Barozzo mountains, on the frontiers of Gallicia, in the same rude manner as it is at this day*.

* This intelligence was communicated to me by a Portuguese nobleman, whose opportunities of information and accuracy authorise me to mention the fact ; but an attested account from some of the inhabitants is intended for me. See also a book written by *Jacobus à Castro Sarmento*.

It is apparent from the preceding paper, that I had through the means of Mr. Keate introduced the vaccine inoculation into the army, and a valuable report of a great number of cases had been returned from Dr. Mitchell, Mr. Kelson, Dr. Harrison, and others. I also in particular had conjointly with Mr. Keate under my direction the poor of three large parishes, amounting to several hundred, in the vaccine inoculation. Accounts had been also returned to me from Vienna and other foreign parts, likewise from Scotland. By this time I reckoned above 2000 to have undergone the vaccine pock with the matter of the London Cows, taken in January and February preceding. As the Vaccina was excited with a pock as perfectly characteristic as in the first cases from the Cow, and in all my practice three or four months immediately preceding without eruptions; and as my correspondents, with very few exceptions, sent the same statement, I was now perfectly easy in my mind with respect to the vaccine matter maintaining its efficacy in destroying the capability of taking the Smallpox. I was indeed disturbed for a short time by the fresh occurrence in the course of the winter 1799, of the eruptive cases which happened at Brighthelmstone, from matter taken out of the distinct vaccine pock of one of my patients, the original stock of which was matter taken from

Cows in January preceding. But it appeared afterwards that in these instances the Smallpox had intervened; a circumstance fully ascertained since that time.

This occurrence was in an early period of the vaccine practice, when those who first inoculated for the Cowpock did not know the characteristic symptoms of the eruption from experience; much less did they be expected to understand, that the Smallpox might take place and proceed along with the inoculated Vaccina —a thing seemingly contrary to a law of the animal œconomy. Unfortunately matter was sent from the Smallpox eruptions to Petworth for inoculation, in place of vaccine matter, and there of course it produced the Smallpox. All that could have been done by an experienced practitioner at that time was to have taken the matter from the pock of the inoculated part which shewed the distinguishing characters of the Vaccina; by which measure there is no reason to doubt the Cowpock would have been propagated without the Smallpox. This accident, however, furnished a delightful gossip's story for those who chose to represent me, and some of my friends as blameable; although in truth I had no concern in the practice, except furnishing a distinct case of Cowpock to afford matter without eruption. However unjust the motives of the propagators of this story, and in

many parts false and ridiculous, it had the effect intended. I have only now to hope, that those who were deceived by this account have long since been disabused.

In the beginning of the year 1800, the Vaccine Pock Institution was established, of which I was one of the founders, and have continued to be one of the physicians. That Institution was destined not only, 1, to be useful to the poor, but it had other objects, *to wit*, 2dly, to ascertain the laws of agency of the new poison used to so beneficial a purpose as that of extinguishing the Smallpox; 3dly, to be a public office * for the supplying the world in general with matter until the disorder should be so generally propagated as to render such an institution unnecessary. These objects have been constantly kept in view, and in a great measure attained, by the regular registers preserved of the patients, according to a plan no where else adopted for so fully remarking the progress of each case. But I now mention the Vaccine Pock Institution for the sake of availing myself of it to state, that from January 1800 up to this time, August 1802, the reports of which have been registered twice every week; a thousand cases shew the Cowpock matter to produce the Vaccina without any

* It is the appointed office for the Army and Navy, and has served all parts of the world.

difference in the effects from those produced in the first instance from the London Cows in January, 1799.

Among the earliest communications of the Vaccine Institution, was the supplying the Committee for Vaccine Inoculation at Paris with matter agreeably to the following letter addressed to me, which I thought fit, for the honour of the Institution, not to confine to myself. Hence then the introduction of vaccine inoculation into France was from this source, and not, as hath been repeatedly represented, through a different channel.

Mr. Otto's Note.

Mr. Otto, Commissary for the exchange of French prisoners, presents his compliments to Dr. Pearson, and has the pleasure to send him a letter, which has been particularly recommended to his care. Mr. Otto will be happy to take charge of Dr. Pearson's answer, whenever he will be pleased to send it to him.

George-street, Portman-square,
No. 50. March, 1800.

Letter from the Medical Committee of the Society for the Vaccine Inoculation at Paris.

Paris, le 14 Germinal, (5 Avril, 1800.

A Monsieur Pearson, médicin de l'Institut de l'Inoculation Vaccine, à Londres.

Les journeaux nous ont fait connoître, Monsieur, les essais tentés en Angleterre, relativement à l'inoculation de la vaccine, et dont les succès sont dus, en grande partie, à votre zèle éclairé. Quelques amis de l'humanité, et de la science que vous cultivez avec tant de distinction, ont formé le projet d'introduire en France, une pratique qui paroit promettre de si grands avantages. Ils ont proposé à cette effet une subscription qui est sur le point d'être remplie. Vous en trouverez ci joint le prospectus. Mais pour mettre en exécution les vuës qui y sont exposées, nous avons besoin de votre intervention, et c'est avec confiance que nous la sollicitons.

Quoique l'on ait commencé ici quelques essais sur la vaccine, dont l'ecole de médecine plus particulièrement, s'est occupée, on n'a pü cependant parvenir encore à aucun résultat positif. La difficulté de se procurer de la ma-

tière assez récente, en a sans doute été la principale cause. Nos artistes vétérinaires semblent ne point connoître cette affection sur les vaches. Dans une seule circonstance, on a cru reconnoître la maladie sur des animaux de cette espèce, et on a saisi cette occasion de recueillir du virus, qui a été employé concurrement avec de la matière reçue de Geneve et d'Angleterre, mais sans aucun succès encore bien reconnu. Nous nous trouvons donc privés du premier moyen nécessaire pour commencer nos essais, et c'est à vous que nous nous addressons pour nous le procurer.

Nous desirons, si toutes-fois vous jugez ces précautions utiles, recevoir des croutes ou pustules recueillies sur les vaches, et sur les sujets inoculés, et des fils ou des petites eponges imprégnées de la matière, prise sur les uns et les autres, de ces mêmes croutes ou pustules fraiches et de l'écoulement qui s'établit à la plaie formée par l'affection locale de la partie inoculée. Les differentes espèces de matières ou substances devront être distinguées par une indication particulière. Si votre méthode de conserver les fils dans le gaz azote ou le gaz hydrogène, vous paroit de quel qu'avantage, nous attendons de vôtre zèle, que vous voudrez bien l'employer. Nous prenons, avec notre ministre des relations extérieures, les mésures convenables,

pour que les moyens d'envoi les plus surs, les plus commodes et sur tout les plus prompts, soient à votre disposition. La société ne mettra pas moins d'empressement, Monsieur, à faire connoître les services que aurez bien voulu lui rendre et à vous informer du résultat de ses recherches, dont le mérite vous sera dû en grande partie, si à l'envoi de la matière que nous vous demandons, vous avez la bonté d'ajouter quelques instructions particulières, dont nous nous féliciterons de pouvoir profiter.

Salut, Estime, et Devouement.

Les Membres composant le Comité Medical de la Société, formée à Paris, pour l'Inoculation de la Vaccine,

Pinel, Profess. de l'Ecole de Médicine.

Thouret, Directeur de l'Ecole de Médicine.

Parfait, Chir. Inocul$_r$.

Rouselle Chamserce, Méd. de l'Armée.

Tessier, de l'Institut.

De la Porte, Med. des Hopit. Mil.

Huzard, de l'Institut.

Cabannez, de l'Institut et Prof. de l'Ecole de Med.

The precednig letter I presented to the Institution for the Vaccine Inoculation, then just established, and it was determined to execute the commission by the medical establishment. Accordingly the following letter was sent with a packet by permission of Lord Grenville* :

Letter from the Vaccine Institution to the Vaccine Committee at Paris.

In answer to your letter of the 5th of April, to our colleague, Dr. Pearson, we have the honour to reply, that we shall always be happy to assist in promoting the useful establishment for the vaccine inoculation, by the Medical Committee. We are not surprized that you have not yet found the disease among the Cows of France, it being on the whole a rare disease in England ; nor are we surprized at your want of success with the matter sent to you, because from experience we know, that it very frequently fails, unless used immediately from the subject. The vaccine

* Lord Grenville presents his compliments to Doctor Pearson, and has no objection to his returning any answer that he may think proper to the inclosed Papers.

Cleaveland-row, April 23d, 1800.

matter may be conveyed in various ways; we have sent it you in three, viz.

1st. On thread.

2d. On lancets.

3d. On glass.

1. If you use the thread; which you will find by the stiffness is well impregnated, and which is included in a phial of hydrogen gas; please to moisten it by exposure to steam of water at the time you employ it, and inoculate in two or three places under the skin as superficially as possible. This will succeed in perhaps at least *one case* out of four. We have sent enough for near 36 patients, and wish it to be used immediately on all of them.

2. The lancets are stained at the ends with the transparent lymph, and succeed more certainly than the thread; unless oxided by the moisture. Soften in like manner the ends of the lancets, with the steam of water, and use them as in the Smallpox inoculation.

3. On glass you will perceive the transparent lymph dried. Dilute it as little as possible, with hot water, just before it is used, and then insert it by lancets in the usual way.

If you try the matter sent, on thirty patients, immediately, we think you cannot fail to excite the disease in some of them, and then you will please to preserve the succession by inoculation, as we do in England, having had no fresh mat-

ter from the cow since January and February, 1799.

The treatment differs in no respect from the inoculated Smallpox.

Wishing the Committee the utmost success, and expecting the honour of their report,

We subscribe ourselves

Their obedient servants,

George Pearson, M.D. F.R.S.
Lawrence Nicholl, M.D.
Thomas Nelson, M.D.
} Physicians.

Thos. Keate, Esq. F.R.S.
John Rush, Esq.
} Consulting Surgeons.

Robt. Keate, Esq.
I. Gunning, Esq.
I. C. Carpue, Esq.
} Surgeons.

Augustus Brande, Esq.
Francis Rivers, Esq.
Everard Brande, Esq.
} Visiting Apothecaries.

Mr. John Lewis, Resident Apothecary.

Vaccine Institution,
May 12, 1800.

The report of the inoculation, with the above sent vaccine matter, is given in the Gazette Nationale.

Gazette Nationale, Fridi, 23 Prairial, (An. 8.) de la Republique Francaise, une et indivisible.

Sur l'Inoculation de la Vaccine.

Le 13 Prairial, l'inoculation de la vaccine a eu lieu sur trente enfans, avec la matière envoyé d'Angleterre, et d'après les procédés recommandés. Des signes d'infection se sont manifestés sur neuf d'entre eux, aux époques et avec les caractères annoncés par le Docteur Pearson, et d'autres Membres du Comité institué à Londres pour l'inoculation de la vaccine. Il est à remarquer que les Médicins Anglois avoient exprimé, dans leur lettre, " que l'on " devoit se croire heureux, vu le laps des tems " entre la collection de la matière et de son ap- " plication, si, sur vingt individus inoculés, un " seul prenoit la maladie." Le 19, le 20, et le 21, dix-huit enfans; sur lesquels la premiere inoculation n'avoit point eu d'effet, ont été inoculés de nouveau avec la matière recueillie sur ceux chez qui la premiere inoculation avoit pris. Le Comité continue ses essais et instruira le public des resultats ultérieurs.

Thouret, Pour le Comité Médical.

The experiments of inoculation for the Cow-pox commenced at Paris on the 2d of June, when thirty children were inoculated with mat-

ter received from London, agreeably to the directions sent over by Dr. Pearson. The matter had been conveyed in a phial filled with hydrogen gas, stopped with mercury, and covered over with a piece of bladder. It was communicated to the greater number of the patients by the lancet, the mode to which Dr. Pearson gives the preference. Several were inoculated by raising a blister, and passing through it a thread dipped in the matter, a few by the mere external application of the matter collected at the mouth of the phial.—*Bell's Weekly Messenger, Sunday, June* 15, 1800.

In July 1800, Dr. Woodville went from London on a visit to Paris. It is said that ten of the thirty children inoculated with matter from the Vaccine Institution, on the application of Dr. Pearson, had taken the disease in May preceding, as appears from the above report, yet the generation of matter had not been kept up by a successive inoculation. Fortunately Dr. Woodville began, on his arrival in France, with inoculating three children at Boulogne, who took the vaccine disease; but at Paris with the same stock of matter he failed, as did that received, in four days time, from Geneva. However, the matter from the children at Boulogne proved efficacious on Dr. Colon's only child, inoculated by Dr. Woodville,

and subsequently on many other persons during his residence at Paris.—*Monthly Magazine, October* 1800, *p.* 258, *and Medical Annals,* 1800, *p.* 476.

About the month of April, 1800, Dr. Jenner published a third essay, " A Continuation of Facts and Observations relative to the Variolæ Vaccinæ, or Cowpox ;" which however valuable on other accounts, furnishes but little addition comparatively to the cases afforded by other inoculators for determining the fact of the permanency of the efficacy of the vaccine matter ; and as this point was already determined, or at least has been so since that period, especially by the very great number of patients under the care of Dr. Woodville, and the extremely accurate registers of the Vaccine Pock Institution, I shall produce no farther evidence relative to the question just above stated.

It is necessary to represent, and this seems the fit place, that agreeably to Dr. Jenner's statement, more inflammation was to have been apprehended from the inoculated cases with the vaccine than with the Smallpox matter ; hence his recommendation of caustic and escharotic applications. Accordingly in the communications between Dr. Jenner, Dr. Woodville, and myself, on the commencement of the practice of vaccine inoculation in London, in January and

February, 1799, we all entertained apprehensions for the effects on infants; but Dr. Woodville and myself very soon ascertained that there was not the least danger in such tender subjects; and as hath been subsequently confirmed by abundance of evidence. For this important fact which promoted the new inoculation, it does not appear the public is principally indebted to the Petitioner; although in my examination by the Committee, it might be supposed that other claims were invalidated by setting forth, that *one of his inoculated cases in* 1798 *was an infant*; but, Μία χελιδὼν ἔαρ οὐ ποιεῖ.

I now respectfully submit to the judgment of the public, whether or no I was warranted in stating to the Committee, that I could not grant the Petitioner the exclusive right of having established the fact of the permanent efficacy of the vaccine poison in destroying the capability of taking the Smallpox; notwithstanding the remoteness from its origin in the Cow; after being successively generated by exciting the Vaccina in the human animal œconomy.

2. Of the evidence for "*the mode of transferring indefinitely the vaccine matter without any diminution of its specific power*."

I must confess, although by such confession I may expose the dullness of my own intellect, that on the first reading of this part of the claim,

I conceived the meaning to be, that the Petitioner had discovered that the vaccine matter maintained its efficacy against the Smallpox poison, however remotely from the Cow, it was generated by successive inoculations; but on consideration as the words quoted of the claim already examined, *to wit*, "the original inventor of the inoculation from one human being to another," would be nugatory, unless they implied what is just above stated, it appeared that the meaning, and according to which I shall examine the claim, *must relate to the selection, manner of preserving, and using the vaccine matter*. If this be not the sense intended, I own my incomprehension of it.

Looking through the evidence of the Report, I find the following testimonies to the claim as now stated for examination:—

"He believes most of the cases (said to be of Smallpox after the Cowpox) to have arisen from using matter taken at too late a period of the pustule, which may equally happen in inoculating for the Smallpox, with virus taken at an improper period of maturation." (Blane, p. 15.)—"Has known many instances of the infection not taking in the early part of his practice, owing to his using vaccine virus taken at too advanced a stage of the disease; but since he has made it a rule never to inoculate with matter after the eighth or ninth day of the disease, he has seldom

met with a failure." (G. C. Jenner, p. 17.)—" Had seen arms considerably inflamed, from being inoculated with matter taken from under the vaccine scab as late as the fourteenth day; but does not know why this should be called a spurious sort of Cowpox, as they had none of the characters of the vaccine disease." (Croft, p. 20.)—Three years ago inoculated two children " with what he supposed to be true Cowpox matter; the matter for the inoculation was taken at that early period indiscriminately as long as there appeared a pustule from whence matter could be procured, he being unacquainted at that time that the Cowpox inoculation ceased to produce the disease after a certain period, which was known by Dr. Jenner, and published by him, and forms one of the important discoveries respecting the new practice: he was some time afterwards informed that these two children had the Smallpox, and upon examining their arms, there were found no scars.—This shews the importance of the period when to take matter, which difficulty was now done away, by Dr. Jenner having elucidated a subject before involved in much obscurity." Matter from a pustule a week old never failed to produce the true Cowpox; but in the afore-mentioned instance of the two children, he has great reason to believe that it was taken the fourteenth day, or later. (Thornton, p. 23.)—" Had been

particularly careful in the choice of the matter employed in vaccine inoculation, and had not found in his own practice any case of spurious Smallpox, and therefore considered that the objections which are thought to arise against the vaccine inoculation from this source, apply equally often in the inoculation of Smallpox." (Addington, p. 23.)—Variolous matter was sent to him by mistake for vaccine, and it produced the Smallpox: "He has avoided these mistakes since, by taking the matter himself from the patient; and has learnt by Dr. Jenner's publication how to distinguish and select the proper time for taking it, since which no mistake of the kind above-mentioned has occurred." (Jordan, p. 25.)—"Considering the difficulties that attend the determination of the most proper time for taking the Cowpock matter for inoculation, and the exact appearances of the fluid in its more proper state, he might have acquired a considerable fortune." (Baillie, p. 35.)

Now what are we to conclude from the six preceding attestations? I apprehend the following inferences may legally be drawn from the evidence before us: 1. That if matter from a real Cowpock, but at too late a period of it, be used, it will not produce the vaccine disease by inoculation; but, 2dly, at what period we are not informed, except that one evidence confines himself to within the 8th or 9th day; another

failed by using the matter at the 14th day. 3dly, Two evidences merely allege, that there is a proper time for selecting and distinguishing the matter, which they have learned from Dr. Jenner. And, 4thly, The last evidence attests the difficulty of determining the proper time for selecting the vaccine matter, in order to make appear the pecuniary advantage which might have been gained by the Petitioner.

In the investigation of the claims we must next state what appears to be the fact with respect to the effects of *vaccine matter inoculated according to the age of the Pock* *. On this point I consider the most satisfactory and clear evidence to be the register of the inoculated cases at the Vaccine Pock Institution, and the result of Dr. Woodville's practice at the Smallpox Hospital. The former source of evidence, on inspecting the written tables, containing one thousand subjects inoculated, shews

1. That there is no difference to be perceived in respect to the degree of the symptoms, or progress of the vaccina excited by matter taken on the 8th, 11th, and 12th days after inoculation; excepting that when the progress of the forma-

* I purposely pass by unnoticed, lest the thread of the inquiry should be broken, the terms *Cowpock pustule, variolæ vaccinæ, spurious Cowpox, imitative eruption, decomposition of matter*, &c. &c. which no one can employ with propriety, although authorized partly by usage.

tion of the Pock has been such as to produce a distinct areola of erythema, early, that is, sooner than the 9th or 10th days, and the Pock has begun to change from the vesicle state to that of scab or crusta; then in such circumstances the vaccine fluid more frequently fails to produce the *Vaccina*, than when taken at an earlier stage; but an inflammation does not appear to be more frequently excited by such less efficacious matter, than by matter in any earlier stage.

2. No difference has been manifested in the effects of the matter as taken before or after any constitutional disorder,

3. Nor is any difference perceived between the effects of matter taken before the red areola appears, and that taken when it is distinctly formed: notwithstanding "the golden rule" which has been laid down, never to use matter when such areola is distinctly formed.

4. In the few instances of obtaining matter so early as the 4th day, which occurred, the Vaccina produced, did not in any respect differ from that excited generally by matter at a later period.

To these results, which appear on the register tables, may be added the further evidence, that in the extensive communication of the Institution with the Army and Navy; for which it is the appointed office for supply of matter; as well as with practitioners in general throughout the united kingdom and foreign parts; the most sa-

tisfactory accounts have been received, where the dried matter was efficacious, without any difference as to the age of the Pock from which taken as above-mentioned. I think it perfectly relative and important to make, I believe, a new observation, *to wit*, that in truth matter of the 8th day, in some cases, is from a Pock as far advanced as in other cases on the 11th; and on the 11th as on the 14th, or even 16th. Hence as the efficacy of the matter varies, accordingly it may in one case be as efficacious or inefficacious on the 11th as on the 8th and on the 14th, or even 16th, as on the 11th.

Mr. Simons, of Manchester, as I find, very truly remarks, "There is some variety in the course of the disease, and the 9th day may in some cases be more proper for taking matter, as in others I have found the 11th and 12th to be."—Medical and Physical Journal, vol. V. p. 134.

At my request, Dr. Woodville, with his wonted liberality, favoured me with the following truly interesting letter; which must operate potently in disabusing the public from the errors of opinion on the point of the effects of matter, according to the time of taking it from the Pock.

DEAR SIR,

To the following questions which you have done me the honour to propose to me, you will find my answer subjoined.

1. " Whether you find any, or what difference in the inoculation of the vaccine pock from matter taken between the 8th and 11th day ?"

2d. " Between matter of the 11th and 14th ?"

3d. " Between matter taken before the red areola is formed and after it ?"

4th. " Between matter before and after the constitutional affection ?"

In regard to the first question, I can declare that I have very frequently inoculated with vaccine matter taken on the 8th, 9th, 10th, and 11th day after the inoculation, and though I have given the utmost attention to the effects of each, I never have been able to discover any difference. Ninety-one persons were inoculated on the same morning at the hospital, with vaccine matter taken on the 11th day; upon all of whom, except three, (who did not receive the infection) it produced the regular vaccine pock. Would an equal number, inoculated with matter of the 7th or 8th day, produce a more favourable result ?

Respecting the second question, I could produce several instances in which the matter taken so late as the 14th day after the inoculation, has been attended with equal success as that taken at any earlier period; however, I have been led to remark, that the virus which this late stage of the pock furnishes, is more liable to fail in communicating infection; and also, that its effects

frequently proceed more slowly than those of the former.

The third and fourth questions may, in my opinion, be comprehended in one; for when the constitutional affection takes place, it constantly accompanies the areola, which rarely supervenes before the seventh, or later than the twelfth day; and, therefore, what has been said relating to your first and second questions, has anticipated my observations on the subject of your third and fourth.

It is well known to you that many cases occur in which proper matter, for inoculation, cannot be procured from the vaccine pock after the 10th day, caused either by the concretion of the fluid, or by a secondary inflammation, producing matter more or less puriform; but I never use any, unless it be perfectly limpid, and it is only to the matter in this state that the preceding observations apply.

In the printed Report of the Committee of the House of Commons, on Dr. Jenner's petition, you find Dr. B. and Mr. K. are of opinion, that what they call spurious cases of Cowpox, "*have arisen from the using of matter taken at too late a period of the pustule, which may equally happen in inoculating for the Smallpox, with virus, taken at an improper period of maturation.*" Now, Sir, I join in opinion with the last part of this citation, and with the last part only, which is, that this said

spurious pustule may equally happen (or is as likely to happen,) in inoculating for the Small-pox, as for the Cowpox, with virus taken at an improper period of maturation; because I am convinced, by numerous experiments in variolous inoculation, that it never does happen. About seven years ago it was my practice at the Inoculation Hospital, for several months, to inoculate the patients alternately with variolous matter advanced to its utmost stage of maturation, and with that in its ichorous state, as soon as it could be obtained from the inoculated part, in order that the respective progress and effects of each might be daily compared; and though two or three hundred persons were inoculated with matter taken at the late and alleged improper period of maturation, it never produced any other pustules than those of the true Small-pox.

The experiments made at the Foundling-Hospital by the late Sir William Watson, may perhaps be deemed still more decisive. He informs us, (see An Account of a Series of Experiments in Inoculation, p. 17,) that he inoculated a number of children with variolous matter, in what he terms "its perfectly concocted state;" and says, "It was taken from the inside of the hand of a strong hard-skinned boy, where two or three pustules remained after the rest were

dry; the matter was perfectly white, and as viscid as cream." Yet even this matter did not produce one instance of a spurious pustule, and to nine children out of ten it communicated the infection.

I trust you will judge these facts sufficient to shew the fallacy of an opinion, which would not have been noticed here, had it not been supported by authorities of the highest respectability.

I am, your's, &c.

W. Woodville.

Ely-Place, 9 July, 1802.

Now as in all the above stages of the Cowpock, it is taken for granted that the matter is in its usual state of lymph or transparent liquid; *in which state the only difference in its effects depending on the stage, or age of the Pock,* is, I apprehend, in respect to efficaciousness in exciting the *Vaccina.*

It may be asked, are there not other states of fluid in the Pock, and what are they? I answer, that in a very small proportion of instances the lymph of the Vaccine Pock becomes apparently pus, in which state only it should be called *pustule** Concerning the effects of the *purulent*

* Throughout the whole printed Report, I see the term *pustule* used; but this usage is more honoured by the breach

vaccine pock, or *pustule*, I have to communicate, that in the early part of the vaccine practice, when matter was frequently a rarity, this sort of it was inoculated; but it very seldom produced the Vaccina: however, when it did so, there was no difference between the disease excited by the *pustule*, and the *vesicle*; and in no instance was any mischief done, nor inconvenience felt beyond that of a large pimple.

After this representation, it perhaps will seem difficult to explain in what way the evidence above-stated should have failed to obtain efficacious matter, and wherein consists the nicety of judging of the proper time for taking it: for if the Vaccina be produced, and the Pock be suffered to go through its stages without being ruptured, or otherwise mutilated, certainly the chance of failure is mighty small; and it does not appear from satisfactory evidence, that the severe local affection which now and then arises on vaccine inoculation, depends on the age of the vesicle, or even pustule, which affords the matter*. For surely we have no

than the observance; and hence I call the pock containing lymph, *vesicle*, and that containing pus, *pustule*. Dr. de Carro calls it a congeries of vesicles, as appears under the magnifier.

* "I know many instances where vaccine matter has been taken from the arms of patients as late as the 11th and 12th days, when it had acquired a purulent appearance, and a brown scab had formed, which matter has been inserted into

right to talk of nicety and difficulty in the new inoculation, seeing there is no fact more commonly known than that the matter of a variolous pustule at a late period, *to wit*, that of desiccation in forming a crust, is usually inefficacious, and is accordingly only used from necessity. But it will be said, there must be something left unexplained if my statement be exact, otherwise one of the evidences in particular was too judicious to have delivered his opinion in the terms above cited. I own on the first reflection I conjectured that he was warped (perhaps honourably so) by the pecuniary objects of the Petitioner; but on further consideration, I saw clearly in what way, as I think, he had been misled; for he had " not seen many cases of Cowpox," and those only " *to become acquainted with the ap-*

the arms of children, in whom it has produced a very mild disease, and from whence fluid matter has been taken to inoculate others, who have also had the disease equally mild. It will be difficult to reconcile these facts, which are attested, not only by my own experience, but by that of some very respectable surgeons in this place, with the opinions advanced that matter taken at so late a period loses, by degenerating, the power of producing the disease." Letter of Mr. Maddock, Nottingham, Jan. 1, 1801.—In the same letter Mr. Maddock adds, that matter of the 8th day produced a violent inflammation with the Vaccina; that in another case, 9th day matter of a mild case produced a still more severe affection; but the matter of this case of 9th day, when much inflamed, being inoculated produced in two patients a slight disease.

pearance and process of the Cowpox pustule." So then the opinion, " that considering the difficulties that attend the determination of the most proper time for taking the Cowpox matter for inoculation, and the exact appearances of the fluid in its more proper state, he might have acquired a considerable fortune ;" I say this opinion was not founded on *autoptical evidence*, (no, I dare be sworn it was not) further than observing the progress of the Pock in the inoculated part. Now if Dr. B. will, for our mutual instruction, meet me at the Vaccine Pock Institution on Tuesdays and Fridays for a few weeks, in his presence, from cases which he will own to be those of vaccine pock, matter shall be inoculated in the usual way of the Smallpox, from the earliest stages of the manifestation of fluid in the Cowpock, to the latest stage in which fluid can be collected at all ; the progress being the ordinary one ; and if any difference can be perceived in the effects on inoculation connected with the presence or absence of erythema, or of fever, &c. except as aforesaid, the more frequent failure to produce the disease from a Pock very far advanced into the stage of crust * ; the witnesses

* I cannot persuade myself that any Inoculator, possessed of common sense, would use such old matter in the Smallpox inoculation but from necessity, nor therefore in the Vaccina ; but if he were, I do not think the opinion of many persons well founded as to the ill effects.

being two common friends, (and better we cannot have than my colleagues at the Institution, Dr. Nihell and Dr. Nelson) I will publish a renunciation, as the victorious party may please to direct.

It may seem that I have taken an unjustifiable liberty in thus animadverting on this evidence; but I particularly notice it, 1st, from motives of respect; for as even erroneous opinions are harmless, unless of persons who have an influence on the public mind, it would be ill-spent time to examine them, however serviceable to the authors. 2d, If I obtain the assent of this evidence, I shall anticipate a victory over the rest.

———Si Pergama dextrâ
Defendi possent, etiam hâc defensa fuissent.

As I have already noticed, the attestations are not inserted in the order of time in which received; hence the one under remark is the last in the Report, although one of the earliest delivered; and as it seems purposely stationed in the rear, I think very fairly so, in order that the final impression should operate powerfully in favour of the Petitioner's claims; but on that account I think it equally fair to bestow on it a particular examination.

It still remains to examine the support of the claim represented by the Honourable Committee, consisting in the declaration of two evidences,

that *there is a proper time for selecting and distinguishing matter, which they have learned from Dr. Jenner's writings* *. Here is an appeal then to the published source of information, which it is incumbent upon me to investigate.

1. In the work above-cited of the Petitioner, published in June, 1798; in the account of the *four* cases of inoculation from human subject to human subject, (Inquiry, p. 44,) not a syllable can I find concerning the day on which matter should be taken, the presence of areola, nor any cautions; and the description of the Pock is such, that so far from instructing us to distinguish it from other Pocks, it would rather mislead. Of the Pock it is said, " the pustules so much resembled on the 12th day those ap-

* In December, 1800, (Med. Journal, p. 488,) some unfortunate cases of inoculated Vaccina occurred, which were imputed by the medical gentlemen who investigated them, to *the lateness of the period at which the inserted matter was taken,* and on the authority of the Petitioner, they directed matter to be taken not later than the 9th day, and the fluid to be transparent. In January, 1801, (Med. and Phys. Journal, p. 87,) I stated to the public many facts of inoculation, to shew that these conclusions were not founded on experience, and were hurtful to the public. No contrary evidence has been subsequently given *from experience;* but the assertion has subsequently been repeatedly made on the above authority, as well as by himself, to persuade the public of the vast importance of taking matter before the 9th day, and above all before any extensive areola or "efflorescence" appears.

pearing 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 distinct Smallpox becoming purulent (Inquiry, p. 44.)—Which (the Cowpock) bears so strong a resemblance to the Smallpox, that I think it highly probable it may be the source of that disease (Inquiry 1798, p. 2.)—Again to the same purpose (Inquiry, p. 37.)—I do not cite and refer to the above passages for any other purpose but to shew, that at this early period of the new inoculation, even the characteristic differences between the Smallpox and the Cowpock, with respect to figure, and above all the *kind of scab*, were not then observed by the author; nor does he even notice the age of the Pocks in the plates, so that it is not surprizing he gives no information concerning the selection of matter.

2. The next work of Dr. Jenner, ("Further Observations on the Variolæ Vaccinæ,") appeared in April or May, 1799; and by this time, as hath been already stated, the number of vaccine inoculated cases had been increased from seven or eight to several hundred, without any

accidents happening; except the appearance of variolous eruptions during the Vaccina, in situations where there was, or had been the Smallpox; and no nicety nor difficulty was experienced in the selection of matter, and continuing to propagate the disease by inoculation, but such as were in course dictated by the inoculation for the Smallpox. But I had heard of objections and difficulties to encounter from, 1. the frequent failure of the vaccine matter when sent to a distance from town, and used after being dried. The fact is, that dried vaccine matter is naturally less efficacious than dried variolous matter. There is no just pretence for imputation of ignorance or inaccuracy, merely because vaccine matter sent to distant parts from whence taken fails to produce the Cowpock; nor on the other hand any right to impute to peculiar knowledge the efficacy of matter in such circumstances. The very first parcel of matter which was sent by me to Vienna, and also to Paris, produced the Vaccina; but that sent to the Cape of Good Hope, and the West Indies failed. The matter sent by Dr. Jenner to Dr. Odier of Geneva, produced according to Husson (Recherches Sur la Vaccine, 1801, p. 98,) "the *Spurious Cowpock*."—2. There were accounts of persons taking the Smallpox who had been said to have undergone the inoculated Cowpock.—3. A few instances were reported of alarming inflammation

of the inoculated arm. It did not appear to me then, and has not appeared since, that any thing was necessary but knowledge of the characters which distinguish the Cowpock from every other eruption, more especially from the Smallpox, with which it was confounded by Dr. Jenner; but between which eruptions the practice in London first made the necessary discriminations: for the *circular figure*, the *smooth surface*, the *less pointed shape*, and the *peculiar scab*, were first noticed as peculiar to the Cowpock by Dr. Woodville and myself. This representation is necessary, because these distinctions are, I apprehend, fundamentally requisite to be known for the propagation of the Vaccina; which, however, we do not find in this second Treatise of the Petitioner, any more than in the former.

This is the proper place for inserting the original observations of the characteristic properties of the inoculated vaccine pock, the importance of which seems to have very generally escaped observers, and the understanding of which, in the early part of the practice, *to wit* in 1799 and 1800, would, I think, have prevented most of the mistakes committed, and the failures in exciting the Vaccina by inoculation. The acuteness of Dr. Woodville, and the obligations of the public to him, will be fairly appreciated by considering that he was led to ex-

pect, from Dr. Jenner's account, a quite differently appearing pock, from what, I suppose, all the world now knows to be the fact; yet, for the first time, I believe, is Dr. Woodville's claim to this fundamental discovery now asserted, although, on the knowledge of the discriminating characters of the vaccine pock depends the right judgment of the vaccine disorder; but which, it must be owned, cannot be justly conceived, without repeated exercise of the eye, in watching the progress of the pock, from its rise, through its different stages, to the formation of the scab; and, finally, separation, leaving a scar never, during life, to be obliterated.

The general character of the tumour, from the inoculation of the Smallpox, is very different from that of the Cowpox; and though "on the same day a person be inoculated in one arm with the matter of the Cowpock, and in the other with that of the Smallpox, yet both tumours preserve their respective characteristic appearances throughout the whole course of the disease. This is certainly a strong proof that the two diseases, in respect to their local action, continue separate and distinct."—Woodville's Reports, p. 140, 8vo. May 1799.

"The local tumour excited by the inoculation of the Cowpox, is commonly of a different appearance from that which is the con

sequence of inoculation with variolous matter; for if the inoculation be performed by a simple puncture, the consequent tumour, in the proportion of three times out of four, or more, assumes a *form completely circular, and it continues circumscribed, with its edges elevated and well defined, and its surface flat throughout every stage of the disease; while that which is produced from variolous matter, either preserves a pustular form, or spreads along the skin, and becomes angulated and irregular, or disfigured by numerous vesicles.*"

"Another distinction still more general and decisive is to be drawn from the contents of the Cowpox tumour; for the fluid it forms, unless from some accidental circumstance, *very rarely becomes puriform*, and the scab which succeeds is of *a harder texture, exhibits a smoother surface, and differs in its colour from that which is formed by the concretion of pus.*"—Woodville's Reports, 8vo. p. 146, published May 1799.

These characters of the Cowpock, *to wit*, circumscribed circular elevated eruption, surrounded by a red halo or effloresence; smooth surface; brown, black, or mahogany and tamarind stone coloured long adhering scab; are repeatedly noticed in the detail of particular cases by Dr. Woodville, in his Reports of 1799, pages 38, 39, 40, 41, and 56.

Dr. Woodville's characteristic marks belonging to the Cowpock, seem now so plain to be un-

derstood and distinct, that one cannot but wonder that they should have escaped, above all, Dr. Jenner's notice, who was so much interested in propagating the real Vaccina; yet we find him writing a second Treatise in the summer 1799, and a third in the spring 1800, without making any use of these phænomena to prevent mistakes, while he labours to shew how to avoid error, by enumerating several sources of what he calls spurious Cowpox; I will not say wholly uselessly, but certain I am the end would have been attained more certainly, by a description of the Cowpock as it appears in nature, and not its resembling exactly the Smallpox, according to Dr. Jenner.

I took for granted that the above description and observations would render any farther account unnecessary; and therefore, although my observations were as early, I did not publish them distinctly; but decisive indications may be referred to that I did make them, from the following lines:—

"I will not allow that any person's evidence is much to be depended upon for this point, unless he really know what are the characters of the Cowpock eruption, and what are those of the variolous."—Philos. Mag. April 1799, and other Journals.

"Of course the pustule, in the inoculated part, is very different from that of the vaccine pock."—Philos. Mag. Jan^{y}. 1800.

"In some instances these eruptions have occurred, although the inoculated part exhibited the genuine vaccine pustule."—Ibid.

"This last case was probably that which, Mr. Keate informs me, had, in the inoculated part, the genuine vaccine eruption, (vesicle,) but in all others, Mr. Barret observed, that, in the inoculated part, the pustule was ragged at the edges and flat, more resembling the variolous pustule."—Ibid.

"We must consider the two poisons, as of distinctly different species, on account of the different characters of the eruption in the Smallpox and Cowpox."—Ibid.

"The permanent nature of the vaccine poison appears now fully determined; for it seems fair to calculate, that at least 5000 persons have been inoculated with the matter originally taken in January and February 1799, by Dr. Woodville and myself, from the Cows in Grays-inn-lane; and by myself exclusively, from Mr. Willan's Cows, in Mary-le-bone fields; and yet the characters of the inoculated Cowpock are the same now, that they were in the first instances, directly from the animal."—March 1800, Med. and Phys. Journal.

To return to the examination of Dr. Jenner's second treatise; the author hearing of persons having taken the Smallpox who were said to have undergone the Cowpox in the casual way,

it seems he was incited to treat of what he called *Spurious Cowpox*; and the observations relative to it, have been quoted as serving to elucidate what was said to be "mysterious," and to enable practitioners to select proper matter for inoculating the Vaccina. Notwithstanding these commendations I with confidence expect that Mr. Aiken, who has written so usefully popular a work on the Cowpock, will judge differently concerning the pretended spurious Vaccina; after due consideration of what I have here written. And I make the same remark on the elegant book of Dr. Thornton, lately published on the same subject.

To judge how far facts bear upon the claim of the "mode of transferring, indefinitely, the vaccine matter, without any diminution of its specific power, to which no other person has alleged a title," the necessary extracts must be brought forward.

The sources of the Spurious Cowpox are,

1. "Pustules on the nipples or udder of the Cow, which pustules contain no specific virus."

2. "Matter (originally possessing the specific virus,) which has suffered a decomposition, either from putrefaction, or from any other cause less obvious to the senses."

3. "Matter from an ulcer in an advanced stage, which ulcer arose from a true Cowpock."

4. "Matter produced on the human skin,

from contact with some peculiar matter generated by a horse."

I cannot conceive how these observations relate to the discovery of selecting proper matter, further than in the first instance, in taking it from the brute animal; but surely these cautions, which are not necessary to an intelligent Inoculator of Smallpox, cannot be offered as pretensions to discovery; yet it is curious to find, that the author, as he proceeds, notices, for the first time, as far as I perceive, the only way in which the inoculation can be practised securely, *to wit.* "by first learning how to distinguish, with accuracy, between that peculiar pustule, which is the true Cowpock, and that which is Spurious;" or, as I would prefer to say, *between that which is the Cowpock, and the eruptions which are not.*

The terms Spurious Cowpock, to my conception, either convey an erroneous notion, or have no definite meaning; for I am unable to perceive that they can mean any thing but a particular and specific disease, or else they mean any local affection whatever, produced by inoculating animal matter or other substances, or by the mere puncture. Now, first, a specific local affection, which is characterised by a distinguishing set of appearances, occasioned by animal matters of the kinds alluded to, has not, as far as I know, fallen under observation and

description. 2d. The local affections, produced by so many different kinds of animal, or other extraneous matter, or by mere punctures, not yet discriminated by specific phænomena cannot have notions of them excited by the words Spurious Cowpock, because their just import is what is defined in the mind. Here there is a gross violation of the laws of Philology, well calculated for producing confusion, mistakes, and disputes. According to this representation, then, in order to disabuse the public from the errors of the terms Spurious Cowpock, it appears to me we should substitute the phrase, local affection not having the distinguishing characters of the Cowpock, and excited by an agent intended to produce the Cowpock.

Hence I hope these remarks may serve to explode the misleading terms *Spurious Cowpox*, and introduce a precise meaning in the place of an indeterminate one. I entirely agree with the author, that to avoid error, from using unfit matter, " the first object should be to learn the distinguishing properties of the Cowpock: until experience has determined this, we view our object through a mist."—(p. 9.)

" Let us suppose that the Smallpox and Chickenpox were at the same time to spread among the inhabitants of a country which had never been visited by *either of those distempers*; and where they were quite unknown before; what con-

fusion would arise! The patient who had gone through the Chickenpox to any extent would feel equally easy with regard to his future security from the Smallpox, as the person who had actually passed through that disease. *Time and future observation would draw the line of distinction: so I presume it will be with the Cowpox.* Until it is more generally understood, "all cavilling on the mere report of those who tell us they have had the Cowpox, and are afterwards found to be susceptible of the Smallpox, should be suspended."

If the author was impressed with the importance of ascertaining these distinguishing properties, one would have expected from him a description of them in his very *first* publication, which, though less splendid, would have been infinitely more useful than the plates given in that work; or indeed they seemed especially the less useful, as the vaccine pocks were said to resemble the Smallpox "so exactly, that an experienced inoculator could not distinguish them from one another."

I desire to be understood as by no means disallowing the usefulness of delineations of eruptions on plates: I only mean to speak comparatively in affirming, that a good verbal description without plates, is more valuable than the best likenesses without a description. Unfortunately for the public, the author not only, as it seems, was unable to give a verbal description

of the characters of the Cowpock, as it appears from inoculation, owing to the paucity of instances (about seven cases only having fallen under his observation) when he published his work in 1798; but the unlucky oversight of not contrasting the drawing of the Smallpox with that of the Cowpock; and the omitting to delineate by the drawing even the Cowpock in its principal different stages; rendered the plates in his work quite inadequate to the exciting a just notion of this eruption. The effect of such a contrast is manifest from the inspection of the subjoined plate: a similar representation in the work on the Variolæ Vaccinæ in 1798, especially if accompanied by a description, would have greatly accelerated the progress of knowledge of the Vaccina, and prevented many mistakes in the new inoculation. That the author should have continued in subsequent editions of his publication to have given no further distinctions; but repeated the assertion of the similarity of the inoculated vaccine pock to the Smallpox, is to me a procedure utterly inexplicable.

The author ought therefore, perhaps, to have been less urgent in his complaints of the errors committed in the practice of the new inoculation, since practitioners furnished with vaccine matter by Dr. Woodville and myself* exclusively for

* To remove all doubt, and repel the insinuations that the matter first employed, in 1799, by Dr. Woodville and myself,

some time were at sea without a compass—they had indeed the comparison with Smallpox, but that served to mislead. Hence in vain we search in the author's second work now before us for the distinctions between the * vaccine

and distributed by me, was not real Cowpock matter, it will be sufficient to appeal to the Reports printed in the public Medical and Philosophical Journals in the years 1799 and 1800. As an example, I cite the following: "The vaccine virus which I received from Mr. Addington, was originally sent to him by Dr. Pearson, of St. George's Hospital. On the 8th June, I used that sent me by Dr. Jenner. I used no other during the remainder of my practice. The appearance of an eruption on the two first patients surprized me greatly, as well as those subsequently inoculated; and after I was favoured with vaccine virus by Dr. Jenner, I was convinced from the exact similarity of the effects, that what I had received from Mr. Addington was genuine."—Evan's Letter, Med. and Phys. Journal, vol. II. p. 312.

* It is very extraordinary, that even at the time of the second publication the author should not have noticed the distinguishing properties between the Cowpock and Smallpox; yet at p. 30, he says, the inoculated Cowpock so much resembles the Smallpox, that a surgeon declared he could not perceive the difference: nay, in the daily reports of the cases of inoculated Cowpock, the pock is not seen to differ from the Smallpox in *figure*, *milky whiteness*, *areola*, or *scab*; which were certainly distinctly remarked at that time in London. See p. 30, 31.—And it is hardly credible, that at the close of this publication, p. 57, 58, in detailing two cases further, the author speaks of them as resembling the Smallpox. In 18 cases by Mr. Hickes, p. 59, in the infant 20 hours old, p. 62, and another, p. 63, no account is given of the cha-

pock, variolous, and other eruptions: to whom the public is indebted for these, has been above related.

On the point of the claim, *preserving matter*, we are informed that "Cowpox matter" has been kept possessing all its specific properties for three months, "by drying it in the open air on some compact body, as a quill or a piece of glass, and afterwards securing it in a small phial." But by keeping it moist and warm, the matter cannot be depended upon for producing a *perfect* disease, although it may produce a resembling one—that the first-formed virus, or what constitutes the true Cowpock pustule, invariably possesses the power he has ascribed to it, namely, that of destroying the susceptibility to the Smallpox—that when the vaccine pustule becomes an ulcer, *(to which state it is often disposed to pass, unless timely checked)* the matter is suspected of possessing very different properties, so as to produce an ulcer in a sore, and excite a constitutional affection, "*imitating*" the genuine Cowpox.—At page 42, the author acknowledges he does not yet know at what stage the matter of the Cowpock loses its specific power, for which reason all that had hitherto been inoculated ought to submit to variolous inoculation.—P. 42, 43.

racteristic properties of the Cowpock. Nor in any of these cases is mention made of the day after inoculation at which the matter was taken.

In the course of the summer and winter, 1799, and the whole year 1800, in the public Journals, references will be found to my letters, stating that the vaccine matter is efficacious commonly between the 8th and 11th day, but that later it often fails; and that when the *vesicle* becomes a *pustule*, it cannot be depended upon. This direction appears to me at this time all that is requisite, and the mystery about taking and not taking matter with certain appearances of the areola, or halo around the Pock, and the particular day or sooner than the 9th, I am sure are all ill-founded, and therefore hurtful cautions.

But I only mean these as general rules; for, as hath been before observed, matter may be as efficacious in one case on the 6th or 7th, as in another on the 8th or 9th, and in another on the 11th and 12th, as at any former period. There is no direction wanted according to my experience with respect to taking matter, but what is commonly understood in the variolous inoculation. It is not the time after inoculation which should constantly determine the choice of matter so much as the state of the vaccine pock; nor can the selection of matter prevent the deceptions and mistakes in practice of persons being supposed to have gone through the Vaccina who had a local affection from inoculation of a different kind. It is the knowledge of the characters of the vaccine pock, which is

the best guide, and has never failed in my experience to direct me without meeting a single disappointment. How the selection of matter without this knowledge can secure from error, I am unable to comprehend. As a proof that I was not unmindful in my extensive correspondence, when I first disseminated the vaccine matter, to remind the Inoculator, that it should, as in the Smallpox, not be taken in too advanced a stage, or when some adventitious change had taken place, I shall extract a few lines from the communication of Dr. Huggan, one of the early able promoters of the new inoculation. "Dr. P. directs, that the matter be not taken if it *be purulent*, as it cannot be depended upon—That the matter may be preserved without losing its active properties, it should be kept in a phial quite dry, and closely stopped, or in hydrogen or nitrogen gas, as Dr. P. recommends. The matter is in an efficacious state from the 8th to the 11th day generally. Med. and Phys. Journal, April 1800, p. 347.—As a proof that judicious Inoculators in course avoided the matter after the 11th day generally, I quote Dr. Stromeyer's letter, Hanover, March 24, 1800: "After the 11th day I have hitherto desisted to repeat collecting more matter, yet I wish to know how long it might be continued."

But still we have not exhausted the search into the sources of information from the author's

works, for the " selecting and distinguishing " fit matter exclusively imputed to him as a discovery, because the third essay entitled, " A Continuation of Facts and Observations relative to the Variolæ Vaccinæ, &c. by Edward Jenner, M.D. &c. published April 1800, is yet unexamined.

The first observation I find in this treatise relative to the object of inquiry, is occasioned by the unexpected appearance of variolous-like eruption alone with the Vaccine disease in the Smallpox Hospital, to avoid which eruptions, Dr. Woodville, by experience, was taught to select matter from cases *without eruptions, and with well characterised Cowpock;* in consequence of which precaution, Dr. W. says the disease became milder, with a much smaller proportion of eruptive cases. He concludes, that the Cowpox, from certain circumstances, is not only liable to lose the characters which distinguish it from the Smallpox, but also to continue to propagate itself under this new and casual modification. *The Vaccinæ Variolæ and the Human Variolæ ought therefore to be considered as only varieties of the same disease, rather than as distinct species.* (Woodville's Reports, &c. 8vo. p. 153, published May 1799.)—Dr. Jenner, in the treatise before us, rejects the above inference, alleging, that " the decline, and finally the total extinction nearly of these pustules, are more fairly

attributed to the Cowpox virus, assimilating the variolous, the former being probably the original, the latter the same disease under a peculiar and at present an inexplicable modification." Farther: the author observes, that in his former work he was of opinion that the Smallpox and the Cowpox were the same disease under different modifications.

These observations are relative in this place to show that neither of these authors came near the truth in their conjectures; and according to these conjectures, they could not with certainty explain how to select pure vaccine matter. It is no imputation that both conjectured erroneously, for then the new inoculation did not furnish sufficient evidence to manifest what may be considered as either a new law, (more truly two new laws), or an exception to a law of the animal œconomy, *to wit*, that two different species of morbific poisons, the variolous and vaccine, can produce their specific effects at the same time in the same constitution, and in a mode unthought of, as well as contrary to the established laws of agency of the variolous poison. If this new law had been understood at the time of these publications, it would have been known that matter taken from a vaccine pock in the inoculated part, attended by the Smallpox, would produce singly and distinctly the Vaccina on Inoculation, as well as the

matter of the attending variolous eruptions would produce fairly and distinctly the Smallpox on Inoculation: also that the Cowpock can never become Smallpox, nor the Smallpox change into Cowpock; nor the poison of the one disease be destroyed (assimilated as above cited) by the other; nor does it appear that the Vaccine Poison differs in its properties according to its production by the Cows in London, in the provincial farms of any part of England, in Ireland, in Italy, and in America. The misrepresentation of Dr. Jenner, from no doubt inadvertency, which Dr. Woodville alleges against him respecting the effects of matter on incoculation, was in reality taken at the Smallpox Hospital, but stated to have been obtained from Mr. Clark's Cow, is one of the proofs of what I have above asserted at p. 113, *Note.*—(Observations on Cowpox, by Woodville, 8vo. 1800, p. 9.)

I have met with a few further observations of the author, concerning the "choice of matter," or which are asserted on his recommendation. "It should not be taken later than the 9th day." Med. and Phys. Journal. (Vol. iv. p. 489.) —"Dr. J. never uses any matter that is not taken before the areola is fully formed. When taken later it is not to be depended upon as a preventive of Smallpox, although it will produce a disease imitative of the true vaccine."—(Vol. vi. p. 121.)—"A correspondent, under the

signature M, as I think, very justly remarks," 'that, in a sufficient number of cases, he has not been able to remark any difference in the appearances of the pock, from matter after the full formation of the areola, and those accounted of the genuine vaccine."—(Ibid. p. 218.)—But another correspondent, (Ibid. p. 326.) on the authority of Dr. J. replies, that it is fully ascertained that at a certain indetermined period, but always a late one, the Cowpock, "virus," "is capable of producing morbid and phagedænic ulceration, considerable erysipelatous inflammation, and a train of effects wholly dissimilar to those of pure and recently formed virus*."

* It is truly grievous to read, and humiliating to reflect on the conduct of men who either become partizans of personal interests, and whose reasoning becomes warped by such interests; or who, independent of prejudice, can reason oppositely on the same facts, to men esteemed generally to judge with justice. So it has happened where it was proved,

1. That mischief which was imputed to virulent matter after the areola was formed, *namely*, of the 12th day, was not occasioned by the age of the vesicle, because matter from the same vesicle at a later period produced the mildest Vaccina; and because in other cases experiments purposely made, shewed the Vaccina excited by matter from a vesicle on the 8th day, or sooner, (when it can be had) is not milder than that from matter of a vesicle on the 11th day or 12th day.

2. Where there was no proof of the matter being purulent, or if it had been so, that there were any facts to show such matter was the cause of excessive inflammation and ulceration,

Hence matter, not later than the 8th or 9th day, should be used; and, provided the progress be regular, "*no alteration in its qualities can occur.*"

To these affirmations I add one more on the same side of the question, from a paper of

3. Although extensive experience in the hands of able practitioners has shown that escharotics and caustics are not wanted; nor is admissible evidence in the general estimation of such men yet produced, although the practice is urged.

4. Although all the world knows it is imprudent to make numerous and deep incisions—to mix different animal fluids in practising inoculation, even healthy ones—that puncturing or cutting a pustule surrounded by inflammation, especially with a rusty instrument, or one armed with some morbid matter, is liable to do mischief: I say, notwithstanding these facts, we find some authors imputing unfavourable consequences to other agents, against the evidence of such facts, and referring to Dr. Jenner's book for directions, which either are not contained in it, or which belong in common to the inoculation of the Smallpox and of the Vaccina. This is not all; we find connected with these strictures a censure, on those who by their zeal supported the vaccine inoculation, for mistaking the Smallpox matter for the Cowpock, which is without proof; but if admitted, would only justly prove, that for want of a description of the characters of the Cowpock instead of plates; and on account of the Cowpock being said to be exactly like the Smallpox in the first instance, such mistakes had been made.

To crown all; we find persons without pretensions from a studious life, and who have had little experience, charge men who have consumed not a short life wholly in practice and contemplation, with gross ignorance, merely because they have been guilty of the misdemeanour of stating facts, and differing in opinion from their authority.

" instruction," signed Ed. Jenner; the date I know not, but think it was printed in 1801.— " Let the vaccine fluid be taken, for inoculation, from a *pustule* that is making its progress regularly, and which possesses the true vaccine character, on any day from the fifth to the eighth, or even *a day or two later, provided the efflorescence be not then formed around it.*" The author adds, " the vaccine fluid is liable to undergo a decomposition." This decomposition is proved by its producing a " spurious pustule," *i. e.* in such a state a *change* has been produced in the matter; but that the change consists in *decomposition*, is the mere coinage of fancy, and with equal right I would affirm it consists in *composition*. But the assertion of decomposition, and the use of the term, *Spurious Cowpock*, I cannot avoid saying, in spite of my wish to abstain from criticism, are unworthy of sound judgment.

The rule of not taking matter, is not allowed to be founded in experience on the other side of the Atlantic, any more than in this country: as Dr. Currie, of Philadelphia, observes, in a written note to p. 13 of his Letters, on the Kine-pox, &c. sent to me, July 1802. " Dr. J. says, the fluid should never be taken from the vesicle after the areola is completely formed. I have, however, taken it till the areola began to fade, and have produced the disease in its genuine form, with equal certainty as when taken at an

earlier period. And the matter that succeeded in communicating and propagating the disease at Norfolk, was taken by Dr. Balfour, from a patient in Philadelphia, on the 10th day, when the areola was completely formed."

I think it advisable to be on the safe side, and, therefore, to be attentive to the mode of inoculation, to the quantity, and to the kind of matter; yet I believe, that, in at least nine cases out of ten, when violent inflammation, gangrene, and death ensue from a puncture or cut, although animal matter be at the same time applied, or some other extraneous matter, it is the peculiar state of the constitution, and not the matter applied, nor the kind of cut or puncture, which is the occasion of those serious consequences. Because, 1. Such consequences take place from puncture or incision, by a perfectly clean steel instrument. 2. From fresh animal matter applied to the cut. 3. Because no such consequences take place in general, although even the matter of many kinds of ulcers, and animal morbid poisons be introduced.

The late I. H. M. pricked his thumb with a thorn. Inflammation and gangrene came on, which killed him. M. C. punctured one arm with a lancet which had a little blood upon it. Inflammation of the punctured part, redness, with hardness and swelling of the lymphatic vessels, first took place; then suppuration and

swelling of the axilla of the arm wounded. He recovered.

In dissecting dead bodies Students very often have inflammations, swelled lymphatics, swelling of the axillary glands, suppuration, &c. merely from a cut with a clean knife or needle, as well as when animal matter is introduced.

A woman pricked the end of her thumb with a splintered bone of mutton. Inflammation came on, with vesicles, which proved fatal in ten days time.—London Med. Review, Sept. 1798.

The following direction is all we have found necessary in practice, and which is among the *printed directions of the Vaccine Pock Institution*, long before the preceding author informed the public in the same way. " For inoculation matter may be taken between the 7th and 13th days, *generally;* but *probably* it is most efficacious, and is in greatest quantity on the 9th and 10th days." To judge of the proper kind of pock from which matter is to be taken, the following information is given by the Institution: ' 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 8th and 11th day a slight fever often takes place; by the 14th 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." I hope the Institution will not suffer much by the comparisons with Dr. J's. information in his printed instructions, as follows: "A little spot will appear on the punctured part on the *third* day, if the operation succeed, which on the fourth or fifth becomes perceptibly vesicated. It goes on increasing till the tenth day, when it is generally surrounded by a rose-coloured efflorescence, which remains nearly stationary for a day or two. The efflorescence then fades away, and the pustule is gradually converted into a hard glossy scab of a dark grey colour. These progressive stages of the pustule are commonly completed in sixteen or seventeen days."

To this place belong the observations of the author, on the preservation of vaccine matter: "Various methods have been proposed, but, from the test of long experience, it may be asserted, that preserving it between two plates of glass is the most eligible. Let a piece of common window glass be cut into squares, of about an inch each, so that they shall lie smooth when placed upon each other. Let the collected vaccine fluid be confined to a small space,

(about the size of a split pea) upon the centre of one of these glasses, which should be suffered to dry in the common heat of the atmosphere, without exposure to the heat of fire, or of the sun. When dry, it should be immediately secured, by placing over it the other piece of glass. Nothing more is necessary for its preservation than wrapping it in clean writing paper.—*Instructions* above cited. In this way we are told "it may be sent to China, and *never* fail to communicate the disease."

I have thus carefully collected all the observations I could find of the Petitioner's, which I supposed afforded any sort of evidence for the claim asserted by the Honourable Committee in such emphatic terms, *to wit.* "The mode of transferring indefinitely the vaccine matter without any diminution of its specific power, to which it does not appear that any person has ever alleged a title." And these observations include all I could find relative *to the proper selection and distinction of matter for inoculation*, stated in the Report, by two or three evidences, to have been learned from the Petitioner's writings.

I now refer to competent judges the following questions, which I trust may be fairly proposed:

1. Whether or no the Petitioner's direction, concerning the time of selecting matter, are not

according to unproved facts, or, indeed, are against ascertained facts; and if so, whether, by thus introducing error, the progress in the history of the Vaccina has not been impeded?

2. Whether the introduction of the term Spurious Cowpock, for considerations above stated, is not productive of mistake and false notions?

3. Whether the pointing out the sources of animal matter, which, on inoculation, would produce what was called Spurious Cowpock, is not nugatory, in case the discriminating characters of the Cowpock had been described; and as undescribed, the account of these sources would not be adequate to the intention of preventing mistakes into which any intelligent Practiser would ever fall.

4. Whether some of the effects, imputed to the sources of Spurious Cowpock, are as I affirm, from most extensive experience, merely imaginary, or at most but varieties. Such as "when the Cowpock pustule has degenerated into an ulcer, (to which state it is often disposed to pass, unless timely checked,) I suspect the matter, possessing very different properties may sooner or later be produced; and although it may have passed that stage wherein the specific properties of the matter secreted are no longer present in it; yet, when applied to a sore, (as in the casual way,) it might dispose

that sore to ulceration, and from its irritation the system would probably become affected; and thus, by assuming some of its strongest characters, it would *imitate* the genuine Cowpox.—(Jenner, Further Observations, p. 7.) On the rock of experience, 1, I must contradict the assertion of the proneness of Cowpock to degenerate into ulcer. 2. I say, that nothing but Cowpock matter ever produces any pock, which by its resemblance can impose upon an experienced eye, and will be considered as the Cowpock.

5. Whether the not describing the vaccine pock; the not noticing the day of the pocks represented by the plates; and the alleged precise resemblance of the Smallpock to the Cowpock; were the occasion of the mistakes among the Inoculators for the new disease, and of the impediments in practice.

6. Whether or no there is any evidence of the Petitioner having discovered any new method of preserving vaccine matter in an efficacious state; or of any new mode of inoculating. I may here remark, that the only new mode of preserving the matter, is that which I employed, and which answered so well on sending it for the inoculation at Paris in May 1800, *viz.* including it in hydrogen gas. Further; the use for the first time by me of a platina lancet, which cannot be

oxided, or become rusty, furnishes a new mode of keeping it on the lancet.

7. Whether or no the representation of the great inflammation in the inoculated part for which escharotic and caustic applications were recommended, subsequently found not to exist as stated; and when it does occur, not requiring such applications; did impede the new practice. Dr. Woodville very early observes against Dr. J.'s representation, "We have been told that the Cowpox tumour has frequently produced erysipelatous inflammation and phagedænic ulcers; but the inoculated part has not ulcerated in any of the cases which have been under my care, nor have I observed inflammation to occasion any inconvenience, except in one instance, when it was soon subdued by the application of Aqua Lithargyri Acetati.—Reports, 1799, p. 156.—These observations I confirmed in my paper of August 1799: and in the practice of the Vaccine Institution, out of one thousand cases certainly sore arms have been found to be a much more rare occurrence than in the inoculated variola.

Finally, On the head of "the right of the Petitioner to claim the discovery," the Honourable Committee affirm, that this is not limited to certain parts of the new practice, for "that

the world became acquainted with this discovery by *no other means* than by his ample and unreserved communications."—P. 7, Report.

I apprehend the terms of this declaration may be understood in two senses ; but as I am unable to determine which of them is here meant, I must examine the pretentions according to either meaning.

1. What is here meant may be that the Petitioner discovered all the facts, and established the rules which are the guides of the new practice.

2. The meaning may be, that the Petitioner was by his communications to the public, the immediate or direct occasion of the new practice ; by making known or rendering probable some of the fundamental facts, which by the subsequent industry of several other persons, occasioned the discovery of other truths, and the experience which established the present rules.

Now as to the former meaning : In the progress of the investigation of the justice of particular claims asserted for the Petitioner, many facts from the history of Vaccine Inoculation have been exposed to view, which, if justly stated, have already shewn that this representation of the Honourable Committee is not, perhaps, correct ; but the exclusive and unqualified claim here vindicated is so weakly grounded, I believe on the other facts of history, that I must, as the

Assertor of truth, in the next place make an appeal to such facts as probably will be allowed to invalidate, if not to extinguish, the claim alleged.

1. From the experience of some cases of casual Cowpock, under the observation of the Petitioner, and the common opinion of farmers, it was asserted that the Cowpock did not endanger life, but was attended with considerable painful inflammation, oftentimes of long duration.—*Jenner's Inquiry*, 4to. 1798.

2. From the same source of experience the Cowpock was declared to be a preservative from the Smallpox.—*Inquiry*, 4to. 1798.

3. From the same source of experience the Cowpock was affirmed to be not infectious by effluvia.—*Inquiry*, 4to. 1798.

4. The Cowpock was asserted not to be attended by eruptions.—*Inquiry*, 4to. 1798.

5. The Cowpock was declared to be derived from the Grease, " which makes its progress from the horse to the nipple of the Cow, and from the Cow to the human subject."—*Inquiry*, 4to. 1798, p. 6.

6. " The human body is again and again susceptible of the Cowpock."—*Inquiry*, 4to. 1798, p. 81.

7. Persons who have gone through the Smallpox are commonly susceptible of the Cowpock. *Inquiry*, 4to. p. 17.

In attempting to determine the question at issue, it is required that the preceding just asserted facts and observations, be considered in due order; having the objects above-stated in view.

1. Concerning the four first assertions, they all belong principally to the casual Vaccina, *to wit*, the disorder being dangerless; its being a preservative from the Smallpox; its being incommunicable by effluvia; and its not being attended by eruptions like Smallpox. I most willingly allow that the public are indebted to the author for the communication of these facts; but I apprehend that the small number of instances, and the want of testimonies, were far from being sufficient to prove the truth of them, and to command assent. These testimonies were furnished by the inquiries which I made into most parts of the island, and published in 1798. The requisite evidence from the vaccine inoculation practice, as hath been shewn, was furnished in the subsequent year; and by whom, has been above-stated.

2. Concerning the 5th proposition, p. 57, however immaterial whether it be true or not, with respect to the practice of the vaccine inoculation, it may be right to remark, that the author gives no proof by inoculating either the Cow, or the human subject with the matter of Grease. Even the circumstantial evidence offered, I am of opinion was so little satisfactory, that the

credit of the other important facts communicated by the author was much injured by the proposition under notice. Further: the assertion of the origin of the Cowpock in the Grease excited a prejudice, however unreasonable, which also contributed to produce adversaries to the new practice. It must be understood that I now speak merely of the effects of this opinion on the public mind by the first publication of the author. I do not mean to enter into the account of all that has been said upon this point; but think Mr. Coleman's evidence worth relating. —Also as it is among the numerous misrepresentations of correspondents with foreigners as inserted in the *Bibl. Brit.* vol. XVI. p. 397, and copied in Husson's Recherches, *Paris*, 1801.

" Une Lettre de Londres nous apprend, que Mr. Coleman a enfin réussi à inoculer les *eaux aux jambes* d'un cheval à une vache; que cette inoculation a produit un ulcère sur le pis de la vache, et qu' avec virus pris sur cet ulcère on a inoculé un enfant qui a eu une vaccine bien caractérisée." I had strong reason for disbelieving this statement, but was compelled to obtain the authorized disavowal, which I received in the following terms:

My Dear Sir,

There is only *one word* left out in the account of my experiments on the matter of Grease, *viz.*

That I have NOT been able to produce the Cowpox with any matter taken from horses.

Your's very faithfully,

E. Coleman.

Veterinary College,
July 16, 1802.

3. On the 6th proposition, that in the same person the Vaccina may be repeatedly excited, I remark, 1. that it was not manifested by a single instance of inoculation in the author's work, published in 1798, so often cited; but the assertion was founded on cases of casual affection from the vaccine matter; and Dr. Jenner not being acquainted at that time with the diagnostic characters of the vaccine pock, attended by the specific constitutional affection, it is too obvious to need explanation, that such cases might be analogous to those of repeated local affections, in the same person, from the variolous poison.—2. The fact asserted by the author of a person being incapable of taking the Smallpox after undergoing the Cowpock, but of being again incidental to the same disorder, viz. the Cowpock, it appeared so strong against reason, (see p. 60,) as to greatly weaken, indeed in a great measure to destroy the credit of the author's other statements.—3. Those who believed the fact, spoke of it as a disadvantage; alleging, however unfairly, that the introducing into human society a new kind

of infection, which could excite a disease an indefinite number of times, notwithstanding the advantages displayed, did not receive a compensation in the incapability induced of taking the Smallpox infection. On this ground indeed some degree of clamour was raised against the proposed new practice, and the Innovators. That the objections to the commutation were not confined to this island, appears from the following passages in Dr. Currie's Letters on the Kinepox, Philadelphia, 1801, p. 11: " I should have inoculated two years ago, having received an infected thread for the purpose from Dr. G. Pearson; but was deterred at that time by the opinion mentioned by Dr. Jenner, of a person being liable to be infected with the Kinepox more than once, though he was thereby rendered for ever secure against receiving the Smallpox. To substitute the Kinepox, therefore, on these conditions appeared to me too much like exchanging a temporary evil, limited in extent, for one of frequent occurrence, and to which we should be perpetually liable. But the proofs of the superior mildness of the Kinepox, and the great difficulty and extremely small chance of ever taking it in the natural way, collected and published since that time by Mr. Ch. Aiken, and the intelligent and benevolent Dr. Lettsom, and also the statement of Dr.

Pearson, in Duncan's Annals of Medicine for 1800, have removed all my apprehensions, and of course all my objections."

It may be seen in my Inquiry, 1798, that I shewed how ill-grounded this assertion was by the author; and I offer the experiments referred to in August, 1799, p. 48, and in other publications, as positive evidence to disprove the proposition. A number of persons have repeated my experiments, and uniformly I believe with the same result. Among these whom I recollect at this moment are Mr. Kelson, of Seven Oaks; Mr. Branson, of Doncaster; Dr. de Carro, of Vienna; Doctors Ballhorn and Stromeyer, of Hanover; Dr. Sacco, in the Milanese.—See also my experiments in the Medical Annals, 1799, p. 318.

It is truly astonishing that foreigners should so often misquote the words of authors: accordingly the very learned and ingenious physician, Dr. Sacco, (who discovered the Cowpox among the Cows of Lombardy and Switzerland, as it had been in Holstein) having been so obliging as to present me with his work, entitled, "Ozzervazioni pratiche sull' uso del Vajuolo Vaccino, come preservativo del Vajuolo Umano, 8vo. *Milan*," I say this author does me the honour to quote my opinion as coinciding with Dr. Jenner, that a person can take the Cowpox after having had the Smallpox. To disprove

this opinion, Dr. Arragoni, who had had the confluent Smallpox, was inoculated for the Cowpock with fresh matter, but it only produced what is called the Spurious Cowpock.

Dr. Sacco has equally misrepresented my opinion concerning the other fact in question, by saying, that I also agree with Dr. Jenner, that a person can have the Cowpock more than once; to shew the mistake, he was himself repeatedly inoculated with the vaccine matter, with the same effect as that produced on repeatedly inoculating the variolous matter. Dr. Sacco, by the way, is the first author who has given the world a drawing of the vaccine eruptions on the teats and udders of the Cow.

4. As to the 7th proposition (p. 132) that persons are commonly susceptible of the Cowpock, although they had undergone the Smallpox. 1. This assertion, like the former, was only supported by cases of casual Cowpock; and how equivocal they are, has been above exposed. 2. The apparent, and almost mathematical demonstration of the impossibility of its being true, has been attempted to be shewn, (p. 67, 68.) 3. The clamour against the proposal of the new inoculation was partly on account of the apprehensions that persons who had already gone through the Smallpox, would be in a worse state of society by the introduction of a new infection. 4. To the direct experiments positively against this assertion, p. 60,

65, I have only seen one in support of it by the author in his third treatise, 1800, p. 26, on the authority of Mr. Fewster. Much as I value Mr. Fewster's Observations, I cannot allow any weight to this adverse case against the numerous experiments I have made; and some of which are published, (see the paper referred to, August, 1799, p. 60, and Medical Annals, 1799, p. 318,) besides those above (p. 137,): especially as it is not proved by a description of the pock, that the disorder excited was the vaccine pock, attended with the constitutional disorder, which destroys the susceptibily to the Smallpox.

If the preceding statement of facts be authentic, it is proved,

1. That the new practice was obstructed by the obvious objections on account of the assertions concerning them by the Petitioner.

2. That these objections were obviated by the experiments of others, which made appear that these facts were not established.

We next must look again over the Petitioner's second Treatise, (Further Observations, 1799,) to determine the question before us, and stated, p. 131.

Certain applications of a caustic or escharotic nature are recommended "to stop the progress of the pustule;" with the observation, that "a secondary disease, if the pustule is left to chance, often comes on."—P. 32, 34.

How unfavourable to the introduction of the vaccine practice this proposal must have been, is obvious, and has been noticed. That the practice recommended was unnecessary, I nearly demonstrated in my circular letter, p. 45; but Dr. Woodville next very early testified against such measures. "We have been told," says he, "that the Cowpox tumour has frequently produced erysipelatous inflammation and phagedænic ulceration; but the inoculated part has not ulcerated in any of the cases which have been under my care; nor have I observed inflammation to occasion any inconvenience but in one instance, when it was soon subdued by the application of aqua lithargyri acetati."--*Reports*, 1799, p. 150. The use of caustics was thus betimes shewn to be not wanted, and was prevented; except in a few instances, where oil of vitriol (sulphuric acid) was employed, "in rude hands;" of indeed persons neither authorised to practise, nor possessed of adequate elementary knowledge. I published in my Paper of August 1799, the result of my experience, shewing, that such applications were not required; and the practice in one thousand cases at the Vaccine Institution, registered twice every week, during two years, shew that not a single case has occurred in which there was any temptation to use them. In the Petitioner's third Treatise, published about April 1800, be-

sides the observations already cited, it remains to take notice of one in this place.

The author accounts for the appearance of eruptions in Dr. Woodville's practice, "from the inoculation of a great number of the patients with variolous matter, (some on the third, others on the fifth day) after the vaccine had been applied."—p. 7 and 8. Dr. Woodville has, I am pretty sure, remarked on this observation; that it is without proof, and that the fact is not as here stated; but if the assertions were truly grounded, I would say that the explanation is merely hypothetical, and I am able to shew from experience that it is not the true one.

1. I have already ascertained by the many trials I have made of inoculating variolous matter, even a day later than the vaccine inoculation, that if this latter took effect, the variolous infection only produced, at the most, a pimple for the three or four first days, and an imperfect Smallpock vesicle during the succeeding days, which seldom suppurated, but usually began to change into a scab before the tenth day, without any Smallpox like eruptions; meanwhile the vaccine pock continued its usual march through its different stages. When the variolous inoculation was instituted at a later period after the vaccine, but before the 6th or 7th day, the pimple only, was sometimes produced, in the

inoculated part, which disappeared in a few days; but at other times a small vesicle succeeded the pimple, which, however, became a small scab usually on the 9th or 10th day, without leaving a cicatrix; and this pimple never suppurated. If the Smallpox poison be inoculated as late as the 7th, 8th, or 9th days, I have frequently seen a small pimple produced, but oftentimes with not even more effect than that from a puncture or scratch with an unstained lancet.

2. In the reverse order of Insition with the two poisons, at least with the vaccine, within three or four days from the variolous, the Smallpox was excited in the usual manner; and the Vaccina observed the march, as above described in the variolous inoculated part.

3. When the two kinds of infection were inserted on the same day, usually both of them took effect; and the two affections pursued their course pretty exactly, with equal paces, at the same periods, and with the same phænomena as when they take place singly. In such cases the matter of the part inoculated with variolous infection, and of the eruptions, were found to produce the Smallpox; and the matter of the vaccine pock excited the Vaccina, on inoculation. In these instances a cicatrix was left in each arm.

4. It has been already represented, that the fact above stated, now under remark, is referable to a new law of agency of morbific poisons, *to wit*, the Smallpox effluvia being introduced into the constitution, nearly cotemporary with the introduction of the vaccine matter by inoculation; the former exerts its specific power of producing the Smallpox in four, five, or six days sooner than it usually does singly, so as to keep pace with the constitutional affection (as far as can be perceived) of the Vaccina, or nearly so. This coincidence which was not suspected by any physician (who, like Dr. Woodville, knows so accurately the history of the facts of infectious diseases) to depend upon a new law, seems to be the truth; for there was no pretence for doubting that the vaccine inoculation, analogous to the variolous, would supersede the agency of the variolous poison admitted casually in the state of effluvia. Dr. Woodville, however, did not scruple to recall his opinion in January 1801, (Med. and Phys. Journal, p. 6,) by which time the facts of experience had afforded indications of the law, now, I believe, generally admitted to furnish a satisfactory explanation.

5. The fact that the Smallpox by effluvia, or in the casual way, can take place within a limited time after the Cowpock, was first observed

in Mr. Malim's case, see Med. and Chir. Review, No. 58; and I think Mr. Bevan's case (Med. and Phys. Journal, p. 455, vol. V.) is an instance of the same kind; but such occurrences are extremely rare, unless some of them occurred, as I suspect, although unobserved, among the eruptive patients at the Smallpox Hospital. However, I see no known principle to which these facts can be referred; therefore it will be for further contemplation to determine whether or no they also indicate a distinct new law.

Hence it appears there are two different sets of eruptive instances, *to wit*, 1. Those of the casual Smallpox contemporary with the Vaccina: 2. Those of the casual Smallpox supervening a few days after the constitutional affection in the Vaccina. These phænomena observed in the Cowpock inoculation practice, open new prospects in the animal œconomy.

The line of order, also, of the phænomena in the instances of the cotemporary introduction by inoculation of the vaccine and variolous poison, of the inoculation of the variolous poison within five or six days after that of the vaccine; and of the vaccine within five or six days after the variolous; afford materials for contemplation, from which, useful applications may be made in practice, and interpretations be afforded in physiology.

But it does not appear "ample," as the Committee affirm "the communications of the Petitioner" to have been, that the public owe any thing to him on these accounts.

In the preceding pages I have stated but a part of the facts which belong to the history of the Vaccina; yet I have consciously omitted none of those asserted to have been the discovery of the Petitioner. I might therefore now deliver the remarks which are occasioned by the preceding historical statement, with a view to the objects of this publication set forth at p. 5; but to avoid repetition, and to render those remarks more instructive, I shall first go through the examination, judged necessary, of the next division of the subject of the petition.

3. The *third head* of the petition, and the last (p. 6,) which remains unexamined, is stated to be, "The advantage in point of medical practice, and the pecuniary emolument which he has derived from it" (the discovery.)

The Petitioner sets forth in his petition, that "after a most attentive and laborious investigation, setting aside considerations of private and personal advantage, and anxious to promote the safety and welfare of his countrymen, and of mankind in general, did not wish to conceal the discovery he so made, or 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 discovery and the benefit of his labours as widely as possible."——" That the series of experiments by which this discovery was developed and completed, have not only occupied a considerable portion of your Petitioner's life, and have not merely been a cause of great expence and anxiety to him, but have so interrupted him 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."

The ground of this claim is allowed and asserted in the following words of the Honourable Committee:—" Evidence has been received from persons who were acquainted with the medical practice and former situation of Dr. Jenner, (No. 40,) which confirms the allegation contained in the petition, that he has been a considerable loser by the persevering attention which he has bestowed upon this one subject, to the neglect of his other business, and without an opportunity of replacing himself in the situation which a desire of publishing and diffusing more extensively, and establishing beyond the reach of controversy, the practice itself, induced him to quit; what his gains might probably have been, if he had been solicitous to keep the secret

within his own practice, and that of his immediate pupils, as far as medical men, in great practice themselves, can form a conjectural opinion, may be collected from the testimonies expressed in Nos. 35 to 43, in which no more than justice is done to the liberality and public spirit of the Petitioner, in pursuing the propagation and extension of the important discovery, and in rendering it rather of universal utility to the human race, than of emolument to himself."—Report, p. 7.

The evidences heard by the Honourable Committee in vindication of these claims, as appears in the Appendix to the Report, gave the following testimonies:—

He was acquainted with the extent of Dr. Jenner's practice before he left Gloucestershire, where he was situated in a very *populous neighbourhood*, without any practising physician within 16 miles; well supported, and of course *in the most considerable practice;* and he thought that in consequence of his quitting his situation in the country, and coming to town, he had lessened his income most considerably, as two physicians had succeeded to the situation which Dr. Jenner had left, *both of whom are in considerable practice*, and of course Dr. J.'s situation cannot be re-attainable.—*Taylor*, p. 32, No. 40. To this point I find no other evidence, but the Committee mention "persons acquaint-

ed with Dr. J.'s situation".—The next in order speak to the other point, or claim—He thinks that if Dr. Jenner had settled in London, and kept *the practice a secret*, he might have made 10,000l. per annum for the first five years, and double that sum afterwards; for notwithstanding the assiduous labour of Dr. Jenner and others to instruct practitioners, important errors are committed in it, both at home and in foreign parts. (Bradley, p. 30.)—Thinks Dr. Jenner has suffered materially in his fortune by making this discovery public: that on its being first-mentioned to him by Mr. Cline, he said, that if Dr. Jenner was confident of its success, and would reside in London, *he would insure him* 10,000*l. per annum;* but that, if he suffered the secret to be divulged, every practitioner would get hold of it, and Dr. Jenner lose all chance of emolument. This has actually happened, and he has therefore lost the opportunity of making his fortune. (*Farquhar*, p. 30.)—He thinks if Dr. Jenner had kept it a secret, as he might have done, he might, during his life, have become the richest man in these kingdoms. (*Sims*, p. 31.)—If Dr. Jenner had kept this discovery to himself, his practice might have been worth 10,000*l.* per annum. (*Ring*, p. 31.)—If Dr. J. had rendered the subject more studiously mysterious, and by that means secured to himself in some degree a monopoly of the practice, &c. it

would have been a source of much greater emolument to him. (*Saunders*, p. 32.)—If Dr. J. had kept this practice a secret to himself, he might have derived immense pecuniary profits; and that, considering the apparent incredibility of the practice, to common observation, and the secrecy with which the Suttonians long monopolised the inoculation of Smallpox, he was fully convinced that Dr. Jenner might have exclusively kept the practice to himself for a long period. (*Lettsom*, p. 34.)—He did not imagine that he could long have kept this new practice an entire secret, although, by not making it public, he might undoubtedly have reaped much greater emolument. (*Frampton*, p. 35.) —In the present improved state of Society and of Physic, it might be difficult to keep any discovery of this sort altogether a secret; but if Dr. J. had not chosen openly and honourably to have explained to the public all he knew, he might, considering the difficulties of selecting matter, have acquired a considerable fortune. (*Baillie*, p. 95.)

On the credit of this Report of the Honourable Committee, several Members of the House of Commons, when the question of remuneration was agitated, gave their opinion. *Mr. Windham* said, the Petitioner *had not concealed* the practice for profit, hence was entitled to remuneration. He had the sole merit of the inven-

tion, without any pretentions to the contrary, and had sacrificed his profit. The discovery was the result of years and extensive experience. *Sir John Sinclair Erskine* observed, that the author had, he was assured, expended 6000l. ! ! in propagating the discovery. Had given up 600l. a year in Gloucestershire for the purpose of benefitting his fellow-creatures. In London he had hardly cleared his expences. If he had 10,000l. he would not have more than 4000l. profit. *Mr. Courtney* said, as the Cowpock inoculation was calculated to save 200,000 persons lives annually, he thought the Petitioner entitled to his tithe for the remuneration. *Mr. Grey* considered 10,000l. as only an indemnity for expences, not a reward. *The Chancellor of the Exchequer* thought the sense of the House amply expressed by the sum of 10,000l. *Admiral Berkeley* declared the expences were to the Petitioner from 25 to 30 shillings a day for postage. *Mr. Bankes* said, he was persuaded the discovery was of great utility. If he felt more niggardly than any other Member, it was because there was one paramount duty, which, as a Member of the House of Commons, outweighed all other duties—the essence; the strength of the constitution was, that the Commons should watch as a strict guard over the purse of the people. The public purse was a large one, but still every man should not be

suffered to dip his hand in it who pleased. The public was a liberal remunerator.—*Did not think a case had been made out for so large a sum as* 10,000*l.* In other cases the invention could not pay itself. Rewards were given by the public in the way of a bargain for the invention, and that the present was not one of those inventions of this description. The discovery would pay itself to the author. *He always looked upon the Report of a Committee with some degree of jealousy, as he considers them in the light of Nominees to try the merits of a controverted election, as being the friends of the Petitioners.*

It was determined accordingly on Wednesday, June 2d, 1802, (see the daily newspapers,) that the sum of 10,000l. (clear of expences of the House) be paid to Dr. Jenner, for promulgating the discovery of the Vaccine Inoculation, by which mode that dreadful malady, the Smallpox, was prevented.

I. According to the Petitioner's representation on this division of the subject of the Report, he has not only communicated to the public the matchless discovery of Vaccine Inoculation, for which benefaction, I think, one cannot satisfactorily set limits to the remuneration merited from human societies; but further, that the series of experiments for this discovery had occupied great part of his life, and been attended with

considerable pecuniary, and other sacrifices; while for the public benefit, by the disclosure of the new practice, he forewent the private advantages which were in his reach. I feel a strong disinclination to scrutinize this part of the petition with rigour, and to decide with the severity exacted by truth. Accordingly I leave it to others to judge from the preceding history of facts, except declaring my opinion, that concealment would here have prevented the author from enjoying any advantage whatever; *first*, because he had not established the necessary data from experience: *secondly*, because the public, in all likelihood, would not have accepted the new inoculation on any one person's authority: *thirdly*, the circumstances of what was already known of the Vaccine Pock History were such (as will appear hereafter) that it was impossible to have concealed from others the kind of matter inoculated.

II. With regard to the claim asserted by the Committee on account of the Petitioner's quitting his situation to introduce the vaccine inoculation, I am unable, from my own feelings, and from apprehensions of being suspected to be actuated by invidious motives, to examine the statement. Let then the history I have above given of the Vaccina speak to that question, and tell whether or no the introduction and establishment of the

inoculation required, and depended upon the Petitioner's changing his mode of life and residence.

III. We are now advanced in the line of order to remark on the testimonies of the evidences. p. 147—149.

The attestations delivered are the opinions of several professional gentlemen, that the Petitioner, by concealing the discovery of Vaccine Inoculation, and appropriating it to himself, might certainly have acquired a great fortune—Such a fortune indeed, as no one ever acquired by physic in this, or in any other country—far exceeding the greatest ever known; those of Sir Theodore Mayerne in the first half of the 17th century, and of the still greater one of Dr. Ratcliffe in the early part of the last century; for we may safely affirm, that neither of them received from the public 150,000l. in ten years, as it is attested might have been effected by preserving secrecy of the new inoculation. Ten thousand pounds a year appears to have been the lowest computation of the evidences on the point under examination.

Although in my remembrance there has been nothing, as I judge, more romantic affirmed on a question of opinion concerning a fact, I would not write a single contradictory word to these assertions, but for two reasons: 1. To shew that a Committee on such occasions as the

present, do not think it necessary to inquire for, or at least to report, countervailing evidence. 2. Because the admission of these assertions implies what I apprehend is disproved by historical truths, *to wit*, that the Petitioner did by his own experience—*suo Marte*—ascertain, and divulge the practical rules necessary for the justification of the Vaccine Inoculation.

In forming a just opinion, it must also be recollected, that the authority of any one Practitioner, being able to effect the introduction and establishment of the new practice, has been already disallowed.

Lastly, It was reserved for this place to endeavour to make appear, that the circumstances of the present discovery were such as to render, as I think, the preservation of the secret proposed impracticable. It is manifest from the preceding pages of this publication: 1. That the fact of the casual pock in preserving from the Smallpox, was known in a great number of provincial situations; and that it was not attended with eruptions, but was a perfectly dangerless disease. 2. These facts had been published before the Petitioner even instituted his experiments of inoculation. 3. Experiments of Vaccine Inoculation had been performed by several persons now living. 4. I had myself knowledge of these effects of the casual vaccine inoculation, and so must several hundreds of my

pupils, to whom they had been communicated. Hence, I apprehend, it will be allowed, from these circumstances, that on the practice of the Vaccine Inoculation being once begun, although privately, of course the advantages of it must have been spoken of; and I appeal to common-sense, whether it could well have escaped scores of persons, that the new secret matter of inoculation must have been recognised to have been that of the Cowpock. 5. That vaccine matter could have been procured independently of the Petitioner, has been already plainly demonstrated; for by the attention of the London Practitioners, it was so obtained in January 1799; and the matter used, in all probability, at this day, is principally, if not solely, that which has been generated successively in the human animal, beginning in the first instance with the matter of the London Cows.

As the demonstration of truths depends upon the evidence of sense, and the power of reason; which I have opposed to mere opinions, unsupported by assigned reasons and facts, it is not exacted of me to explain the grounds of these attested opinions, in order to establish what I have asserted. I might therefore be well contented to leave it to others to determine for themselves. But as I perceive that the above opinions are not well founded, it may perhaps

be deemed proper in me to give an explanation. It is then I think plain from the other parts of the testimonies of these gentlemen, that however well informed and superior their judgment in the just estimation of the public, yet they were not possessed of historical truths enow to capacitate them for delivering opinions, founded on the basis of facts and reason. They do not seem to have had motives to investigate the origin and first advances of the practice of vaccine inoculation. They risqued nothing in the early period of vindicating the new practice for the public; if it had failed, as they were then perfectly *hors de combat*, they would not have experienced discredit; so having been established, they were not interested in claims of credit. As to discoveries, all the part they had in them, as Falconbridge says, " you might have eaten on Good Friday without breaking your fast." Hence these testimonies, although of the first order on other accounts, ought not to be considered as of proportional weight on the present question; their information being only derivative from the discoveries and experience of others, by whom the battle may be said to have been won before they appeared in the field. As then the evidences were unacquainted with that branch of the history which was necessary to inform them, and doubtless were interested as

friends of the Petitioner, (I mean very warrantably so) the attestations above cited will on this explanation cease to excite our wonder.

From the Committee we proceed to remark on the testimonies of the Members in the House of Commons.

Here, as it was not likely that the Honourable Members would have any information, but that derived from the representation in the printed Report; and the suggestions of friends as on a canvas at an election; no new observations on the history of the Vaccina were to have been expected. Accordingly we find what was said were nothing else but echoes of the Report, and some statements; which were considered to be the usual exaggerated accounts of friends, to the pecuniary interests of the petition. What has been above represented, as incorrect in the Report of the Committee in point of historical fact, and therefore unwarrantable in the inferences; must in course again have been manifested in the House of Commons—

Quicquid delirant reges plectuntur Achivi.

And the only question of debate was, the *quantum meruit.*

We find the Honourable Members apparently spoke with a degree of ardor and confidence, which denoted that they felt themselves perfectly competent to decide, not only on the

merits of the new practice, but on those of the Petitioner. The preceding pages may, perhaps, tend to capacitate persons, who desire information, in establishing a wellgrounded opinion on the merits of at least one of these questions.

On this occasion the wisdom of a Member (who himself was one of the Committee *) was conspicuous; in admonishing the House of the duties they owed to the public; and in explaining that the Report ought to be considered as a partial representation, being that of friends. He thus shewed, in the public estimation, the superiority of his judgment, and prudence.

The preceding pages contain all the facts of the *Cowpock*, which to my knowledge have been asserted as the original observations of Dr. Jenner; and although they do not contain all those I know belonging to the history of this disease, which have been found out by other Inquirers; yet I believe what I have delivered will be equal to the design proposed at the beginning of the work. Before I reason upon the particulars of this statement, I think it is a matter of justice to myself to explain, that although my intention has been to give credit to whom due for the discovery of facts, and to make no inferences but

* Mr. Bankes.

such as seemed unequivocal, I am aware that the statement may be judged by others to have been differently executed from what is professed. I may unconsciously have been warped by the interest I have in the effect of the publication; and I may independently of such interest have judged erroneously. In the disposition of mind now declared, I feel no inclination to vindicate error, and injustice; accordingly I will chearfully unspeak what shall be manifested to be false, and without a pang I can acknowledge mistakes wherever they shall be made appear. As I sincerely mean to fulfil this proposal, I trust I have, in the mean time, an indisputable right to argue from the statements recited, with the objects of contemplation in view as above represented, p. 5.

Accordingly if these historic statements be void of error, and be complete, it is, I conclude, demonstrated by them,

I. That the facts communicated to the public by the Petitioner in June 1798, were either such as were not established by commonly acceptable evidence; or if they had been established, they would hot have been alone sufficient, to instruct or teach the practice of Vaccine Inoculation. What is most of all to this point, is contained in p. 41, 42, 132.

II. The communications of the Petitioner in 1798, propagated several errors, which must have been redressed before the new practice

could be introduced. The statements which bear especially upon this point, may be found in p. 132—141.

III. The convincing evidences, with a good part of the medical public, for the assertions just alluded to, (I. 159,) were obtained by other Practitioners subsequently in 1798 and 1799; who at the same times discovered a sufficient additional number of facts to set on foot the new practice. For the principal relations to these points, see p. 36, 38, 40, 42—76, 85—89—97, 102, 131—134.

IV. Many of the errors above alluded to, (II.) were, subsequent to the Petitioner's publication, rectified in 1798 and 1799; and by whom and in what particulars, are shown in p. 45, 57, 68, 69, 90, 97—112—130, 132—144.

V. New facts have been discovered, which, although perhaps not essential to the vaccine inoculation practice, yet render the basis of it stronger, and improve the practice by giving it more certainty, and affording a better knowledge of the nature of it. For the proofs of these assertions, see p. 74, 115—130, 141—144.

To what extent, or whether the Petitioner contributed at all to these improvements, may be judged from the statements, p. 74—144.

VI. The propagation of the new practice, by intercourse with Practitioners in different parts of the world, has been actively conducted; the

part taken therein may be in some measure judged of from p. 46—48, 50—57, 71—74.

VII. The expenditure of time and labor, &c. can be only appreciated by professional men, and even by those only who have studied the Vaccine Pock History; but some estimate may be made by others on reading the whole of the preceding history, and considering the situations of the different Enterprisers.

The foregoing applications or inferences may, I trust, assist the public in judging for themselves, on the proposed objects as stated at p. 5: and I shall proceed to no further statements, but I take leave to propose and discuss two questions.

1. Whether or no the Vaccine Inoculation would have been introduced, at all; or to what extent, independent of the communications of the Petitioner?

This question, according to the acknowledgments already delivered, I answer without hesitation. It is not manifested, from the preceding historical recitals, through what other channel the new practice would have been brought forward; although it now appears very unreasonable to suppose, that it would have long remained in darkness.

2. The other question I have to propose is; supposing other inquirers had not stirred to in-

vestigate the subject, what would be the probable state of it at the present time?

I submit to the decision of others, whether or no it is probable that the Petitioner, singly, would have had inclination, or opportunity, to proceed with the experiments, so as to have made them of practical utility, as hath been effected; 1st, Considering the long interval, according to history, between the time of the facts of casual inoculation being known, and the experiments of his inoculations purposely.

2dly, Considering what the Petitioner contributed from the time of his publication in 1798, up to the close of the year 1799. See p. 43—86—159, 160.

3dly, Considering his opinion given of what might be the effects of the practice, p. 41—43.

4thly, Considering the errors of facts which were redressed by others, p. 57—67, 127—130.

Although the above series of facts belonging to the subject of Vaccine Inoculation, if rightly stated, will not allow the claims vindicated in the printed Report, yet they will serve to establish, in my judgment, one equally valid for procuring remuneration. And with regard to the honour of the discovery of the new practice, I know not whether, what is on the basis of the history, as I have stated it, (for my statement

and reasoning may differ from those of more judicious men,) will satisfy the Petitioner; but this I know, that in the estimation of mankind in general, it is pre-eminent. It is what I asserted for Dr. J. to the Committee, *to wit*, That the advantages which human society already enjoy, or may hereafter enjoy, from the Vaccine Inoculation, are fairly owing to his communications to the public in 1798. Nor did I mean to consider these communications otherwise than as of the greatest moment; for I considered them as furnishing strong evidence of the truth of facts which have a principal share in the foundation of the present practice. The value of these facts no one has appreciated more highly than myself, on every proper occasion. Witness, in particular, in what terms I spoke of them in my papers already referred to, of 1798 and 1799; the most important period of the Cow-pock history. When I said, in conversation to the Committee, that I considered Dr. Jenner's services as entitling him to the honours of the greatest inventors in physic; when I remember I named, as a parallel, Harvey himself, in point of usefulness, and as I now affirm, that, considering what he has done, he ought to be considered as the fountain from which so many beneficial streams have been made to flow:—when I allow that all that has been subsequently done are derivatives from this origin; and therefore

that the author may justly assert, on the atchievements of any other Enterpriser, in the sense of the terms of Ulysses—

Opera illius mea sunt.

Finally, when no remuneration was claimed at all, nor any honour but secondary, or a mere acknowledgment was hoped for; I say when these things are known, perhaps I shall rather be blamed by most persons for extravagance of credit, than accused of disparagement. This ground being respected as the rightful property of the Petitioner, I gave it as my opinion, to the Committee, that the question of remuneration could not be affected, or at least ought not to be so, by any prior instances of Vaccine Inoculation; unless it could be shown that the Claimant had unfairly appropriated to himself the facts of another person. I farther allow, it appeared, to me that instances of Vaccine Inoculation, antecedent to Dr. J. had been instituted; yet being of opinion that such cases should be judged of liberally, on the side of the greater Deserver; I acted accordingly, when I was asked whether I imagined the Petitioner learned to inoculate the Cowpock from the persons attested to have inoculated antecedently, that I apprehended the trials were independent of each other. (Report, p. 36.)—It should be noticed that the inquiry respecting the origin of the in-

oculation, was provoked by the questions of the Committee; and if any instances are known, although unfavourable to the Claimant's interests, the evidence is either bound in duty to relate them, or if not so bound, then the judges, in my opinion, are blameable for proposing them.

From the representation of facts in this work, it perhaps will appear, to impartial and judicious persons in general, that a much more dignified, and more just ground of claim; and I suppose an equally favourable one for remuneration; would have been in terms denoting that the Petitioner had proposed a new kind of inoculation, and actually furnished some instances of the success of it, founded upon facts; of which some were brought to light and use, which heretofore had been only locally known to a very small proportion of persons; and others were discoveries of the author:—further, that in consequence of considerable subsequent investigations, by the author and others, such a body of evidence had been obtained, and such further facts had been discovered, as demonstrated the advantages of the new practice.

I, by reciting these terms, do not mean to dictate, I mean only to explain the principle of what I think the most honourable and just claim, founded on history, and by which justice might

have been obtained by all who had legal expectations of credit.

This discussion is perhaps a matter of indifference to society at large, and parties adverse on some points to one another, must, if they be good moral men, concur in the exultation of the capability obtained, of with certainty, and I think with ease (if governments give aid) annihilating the Smallpox; as I have fully explained in my first paper in 1798.

The present new practice now puts a power into our hands, which the other day stood not within the prospect of belief. The victory to which we are at this time invited, is of immeasurable value; those of your Rodneys, your Howes, your Vincents, your Nelsons, &c. lose their splendor—all fade before it.

Society are under the obligation, for this capability, to the author of the Petition before us,

> Jam labor in fine est. Obstantia fata removit.
> Altaque, *posse capi faciendo*, Pergama cepit.

Whether it was exacted in the late inquiry of the Legislative Body, that the exclusive claims should be maintained to compass the pecuniary reward, I have not legal knowledge to determine; but I have some authority for stating, that the members of the Committee did *not unanimously* think such exclusive claims were just.

I had some reason to expect that the representation of the Committee in their Report, would have been such as to have satisfied the expectations, not exorbitant, of Dr. Woodville * and myself; such as would have cost the Petitioner nothing, *to wit*, a mere acknowledgment of services. The most unqualified and exclusive claims having been decreed, this bounty of course has been withheld, either because it was judged to be not owing, or from some other motive which I will not name; but it is fitting that I disclaim any insinuation of unworthy motives, actuating those with whom the judgment was invested. Having the advantage of being personally known to several of the Members of the Honourable Committee, I sometimes flattered myself, but vainly, that perhaps considerations of friendship, though slight, (for such motives confessedly do operate on these occasions) might have had an influence with, probably, more than one—Et tu Brute!—" Miror te amicitiam nostram—age, mitto amicitiam: humanitatem, æquitatem, omnium consuetudinem usque adeo neglexisse, ac parvi fecisse; ut mihi meas vindemiolas præripere, mearumque vigiliarum fructum præcerpere conareris.——Estne hominis po-

* Dr. Woodville being acquainted with the design of this work, and having seen a part of it while printing, I can say that it receives his approbation.

liti, et communem hominum societatem sanctam et inviolatam tueri cupientis, partes alienas sibi ultro arrogare, et vendicare * ?"

Besides the labours of experience, perhaps something might justly have been expected for the risque undergone in the first year of the new practice, *viz*, in 1799. If at the close of that year experience had shewn, that so far from gaining advantages by the Vaccine Inoculation, it was found to have been attended by hurtful effects, the Petitioner might fairly have vindicated his conduct; by alleging that he had only offered a few cases for consideration, and future determination, which were merely in the form of queries: but if other persons had thought fit to introduce it as safe and advantageous practice, in consequence of which mischief had been done, they were responsible. And however respectable, on many accounts, the evidences in the printed Report, who gave such unqualified attestations, they took no ostensible part in the most arduous period, *viz.* the *year* 1799. How the new practice was sneered at by some: how it was reprobated as a gross and most mischievous imposition: how it was stigmatized with the appellation of, *the Gloucestershire bubble:* and how the Inquirers were considered, by many persons, as fit candidates for a certain asylum; to say nothing of the

* Lambinus Mureto.

villainous jests made on the occasion * ; are recent in our memory. Nor did it escape our observation that many Practitioners of note; who either objected to the new practice, or were at best passive only ; accepted of offers to inoculate from prudential considerations—from "commodity"

That daily break-vow, he that wins of all,
—That same purpose changer, that sly devil,
That smooth fac'd gentleman, tickling *Commodity*—
Commodity, the bias of the world.
This sway of motion, this *Commodity*,
Made them take heed from all *indifferency*.
Nor had they then the power to clutch the hand,
When their fair *Angels* would salute the palm. *K. John.*

* Among the satirical verses, as a specimen, the following are from the Prologus ad Phormionem, at the Westminster Anniversary Dramatic Representation, 1800:—

Respuo Vaccini idcirco contagia morbi,
Proxima progenies *ne vitulina boet.*

"I have attempted to improve the plan of mitigating the Smallpox in the human species, by passing it through the medium of the Cow. Now as every one is not in possession of a Cow, I shall propose a plan of passing it through the medium of animals most people are in possession of, I mean *Cats*; and therefore shall only alter the title of the plan, by calling it the Catpox. When my plan is matured and fit for publication, the ingenious writer shall hear and see more upon the subject."

"For ridicule shall frequently prevail,
"And cut the knot, when graver reasons fail."
Gentleman's Magazine, August 1799, p. 666.

I am now desirous of knowing the sentiments of the impartial and worthy part of my fellow members of society, on the present publication; whether it was fitting it should be issued, even supposing all that has been stated be true; whether the statements will be allowed to be just or otherwise; whether the inferences from the facts will be granted to be legal or not; are questions to be determined. As I mean to keep my promised word of acknowledging such errors as shall be made to appear, and to listen to proposals of further necessary inquiry, I trust I shall not be deemed unreasonable in insisting upon the conditions; that the statements and reasonings against me be delivered with equal temper to mine; and also that the adverse parties take care that their assertions be supported by facts. In case of failure in these conditions, I shall feel no obligation to answer.

I am aware that, in the setting forth and reasoning upon such a variety and so numerous a body of evidence, however wishful I have been not to offend by the terms employed; yet, from the imperfections of language, or from ignorance, I may not have succeeded; in such a case I shall offer the apology of Hamlet, "That I have shot mine arrow o'er the house and hurt a brother."

Although, in the circumstance of the event being disapprobation, I shall console myself with

having acted from not unworthy motives, yet I pretend not to be endowed with such a constitution of fibres, as renders me indifferent to a contrary reception.

Hæc, si displicui, fuerint solatia nobis:
Hæc fuerint nobis præmia, si placui.

Martial.

APPENDIX.

The following Notes belong to the pages to which they are referred.

PAGE 27, Note.. The latin line is not accurately cited; it should have been

Simia quam similis, turpissima bestia nobis.
Cicero de Nat. Deor. from Ennius.

P. 47, l. 8. "The vaccine matter which first succeeded in America, with Professor Waterhouse, was transmitted from England in a bottle, with a glass stopper. Lettsom's Observations on the Cowpock, 1801, p. 24.—This matter was furnished by the Institution, where the method, here alluded to, of transporting matter was first adopted. Hence then, in addition to so many others, we have the credit of introducing the Vaccine Inoculation into America as well as France, &c.

Through the learned Dr. W. Turton, I introduced the Cowpock into Wales, who gives the following account in a printed paper: "I came to town for information, having nearly lost my son in the Smallpox; I attended Dr. P. to the villages near Oatlands, where I saw about 300 in the Cowpock. Every scruple was removed. Dr. P. furnished me with matter on thread, and June 1799, I inoculated my own two children with it. One that had gone through the Smallpox did not take the disease; the other did; she was christened by the name of *Vaccania*, to record the introduction, and by whom, *being the first Cambrian ever inoculated.*" Since this event thousands have been inoculated, without any accident, or apparent

danger, as reported by the Doctor, in his letter to me, dated Swansea, Aug. 6th, 1802.

P. 53, l. 10. It was not ascertained till after some months practice by Dr. Woodville and myself, *viz.* from January 1799, till May following; that it was very common for patients to go through the Cowpock without any observable constitutional affection. This may be considered as a new fact, not expected from what had been published and communicated to me by Dr. Jenner. In this particular the Vaccina resembles the Chicken-pox, or Varicella; for, according to the observation of the most accurate of accurate observers, this latter disease takes place sometimes without any such general disorder.—In quibusdam oriuntur sine febre aut ullo signo antecedente; in aliis fit levis horror, lassitudo, vigilia, dolores vagi, fastidium cibi et quædam febricula, &c.—Gul. Heberden, Commentarii de Morb. Historia, p. 387.

P. 75, l. 5. As one of the Journals, remarkable now for its great partiality, states a conversation of Dr. Jenner at the Committee, to insinuate that the matter which I disseminated was not the Cowpock matter, when I was not present to repel the assertion; I quote the following from one of his own letters, and refer further to the accounts he gives of the cases of Vaccine Inoculation, in his Treatise, published about April 1799.

"Twelve patients have been inoculated with the London virus. This is the 9th day, and most of them are a little ill. The character of the pustules is just that of the Cowpox. I am the more induced to believe this to be genuine Cowpox, from the following circumstance, &c."—Extract from Dr. Jenner's Letter, dated Berkley, March 13, 1799.

P. 90, l. 20. Mr. *Carpue*, who has so very diligently attended the Cowpock Institution, in the discharge of his duty as a Surgeon, and to whom the Establishment owes very much

for the support of its credit, and present flourishing state, favors me with the following answers to my questions respecting the choice of matter:—

1. What difference, or have you observed any difference in the effects of vaccine matter taken *before* the red areola is formed, and when it is formed, and whatever be the age of the vesicle, provided it be a distinct regular pock, and has not begun to scab?

A. No difference whatever in my experience, which has been generally to use matter of the 8th, 11th, and 12th day from the inoculation. In a few cases of inoculating matter as late as the 15th day, from necessity or experiment; even when the scabbing process had made much progress; the matter produced as well characterised a pock, and mild an affection as usual.

2. What are the differences, if there be any, in the effects of matter taken from a vesicle which has advanced considerably in the scabbing process, and matter taken at any earlier period?

A. I cannot well answer that question, not using such matter, as I have already said, in common practice; but when used, I have seen no bad consequences from it.

3. In what proportion do inflamed arms occur, requiring topical application, and what are those applications?

A. In perhaps not one case out of 100, even at the Institution, have such cases occurred; and when they did, I believe they usually were occasioned by the bad management of allowing the linen to stick to the burst vesicle. The inflammation of the arm, in these instances, gave way to the application merely of *cold water*, which I think is one of the best local ones.

The following cases confirm Mr. Carpue's statement:

On Tuesday, August 3d, 1802, eleven persons were inoculated under my direction with 12th day matter, in each

arm, from a patient present. The vesicle was beginning to scab.

Fourth day, Friday, August 6th: nine of these patients were observed to have taken the infection, the other two I did not see.

Eight day, Tuesday, August 10th: one of the two not seen on the 3d, attended, and I found had taken; but the other, not before seen, having failed, was reinoculated in the left arm with 15th day matter, and in the right arm with that of 8th day.

The other patients, viz. nine in number, going on with the usual appearances. Two patients had got a rash, but otherwise well.

Eleventh day, Friday, August 13th: the ten patients who took on the 3d, exhibited the common appearance on the arms; with the exception of the areola being less than usual. Two more patients, affected with a rash. Eruptions of the same kind, appeared in as great a proportion, at this time in the Institution, with 8th day matter. They were imputed to the very hot weather for the last ten days, and disappeared in a few days further. Patient inoculated with 15th day matter not taken, but the 8th has.

On Wednesday, July 21, 1802, I inoculated an infant, aged two months, from the vaccine pock of a patient present, being the 5th day from inoculation. The infection took, and the Vaccina went through its stages of filling of the vesicle; of inflaming round the pock; of affecting slightly the constitution on the 9th day; of scabbing; but on one arm more inflammation remained than usual, with hardness about the drying pock, so as to occasion some uneasiness, and render a little topical application necessary, on Friday, August 6th, being the 17th day.

If this patient had been inoculated with 11th or 12th day matter, certain Inoculators would have imputed the rather more painful effects than usual, to using such matter.

P. 117, l. 29. La matiere vaccine est efficace depuis le 7e. Jour jusqu'au 12e.; on doit la recuillir pendant ce temps là. Il faut cependant observer qu'en général l'epoque la plus favorable ne dure que depuis le 8e. Jour jusqu'au 11e. puisque des que la pustule vient à suppurer, la matière n'à plus toutes les qualités requises pour la communication compléte du virus.

Lettre de Dr. Pearson, 5 May, 1800, à M. Stromeyer.

P. 125, l. 5. If the thing (Cowpock matter) could have been procured from *greasy heeled horses*, I should have had the means of propagating the disease, as *I left no experiment untried upon my poor Cows to produce it.*—Kelson's Letter.

P. 130, l. 3. In the Medical Annals for 1800, p. 437, I alluded to a method of preserving vaccine matter fluid, in an efficacious state, by keeping it in a half ounce bottle, on a spoonlike stopper withinside, with a bit of sponge included, which is impregnated with a drop of alcohol or sulphurous æther.

" I have also found that the vaccine poison will retain its infectious power for, perhaps, an unlimited time, if kept in dry hydrogen or nitrogen gas—I find a platina lancet, made as I have directed, by Stoddart, sufficiently hard and strong, for introducing vaccine matter under the cuticle, in most cases; and in all it does very well, if a slight incision or puncture be first made with a common lancet. I need not explain the advantages of the platina lancet to be, that it does not oxidify with matter upon it, and consequently it will preserve efficacious matter upon it for a very long time. It also does not require grinding like a steel lancet."—Medical Annals, for 1800, p. 439.

P. 141, l. 14. In January 1801, Dr. Woodville's vaccine practice amounted to 4000 hospital patients, and " with none

of the patients did the infection occasion a severe disorder, or excite one alarming symptom."—January 1801, London Medical Review.

Copy of Dr. Jenner's Petition above referred to in p. 4.

To the Honourable the Commons of the United Kingdom of Great Britain and Ireland, in Parliament assembled,

Sheweth,

That your Petitioner having discovered that a disease, which occasionally exists in a particular farm among cattle, known by the name of the Cowpox, 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 Smallpox.

That your Petitioner, after a most attentive and laborious investigation of the subject, setting aside coonsiderations of private and personal advantage, and anxious to promote the safety and welfare of his countrymen, and of mankind in general; did not wish to conceal the discovery he so made, or 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 discovery, and the benefit of his labours, as widely as possible.

That in this latter respect the views and wishes of your 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.

That the said inoculation hath already checked the progress of the Smallpox; and from its nature, must finally annihilate that dreadful disorder.

That the series of experiments by which this discovery was developed and completed, have not only occupied a considerable portion of your Petitioner's life, and have not merely been a cause of great expence and anxiety to him, but have so interrupted him 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.

Your Petitioner, therefore, with the full persuasion that he shall meet with that attention and indulgence, of which this Honourable House may deem him worthy, humbly prays this Honourable House, to take the premises into consideration, and to grant him such remuneration as to their wisdom shall seem to meet.

EDW^{d}. JENNER.

Ille crucem sceleris pretium tulit, hic diadema.

Juv.

One of the Medical Journalists, Dr. Bradley, has thought proper to step aside, in numerous instances, from what I apprehend is the path of his duty, which is simply to record what is passing from literary publications, and from original communications, to become voluntarily a *partizan*, and set up for a *Judge*. The propriety of such conduct in general, and the calumny he has published in his last number, (Med. and Physical Journal for August 1802.) I should not have noticed in print, but that he has communicated to the world a part, not printed by the Committtee, of my evidence and examination, with even conversations. These details he has accompanied with false statements, and with remarks, to say the least, in unbecoming language. But the Journalist has omitted my evidence, as

printed in the Report, (see p. 36.) which is a distinct one, and delivered on a different day from that which I recognise to be mine, as given in the Journal. The injustice, and perhaps breach of trust, committed by this procedure, I imagine will not escape notice; although, if the evidence had been printed without its accompanying remarks, it would not have been offensive, because it would have enabled me to manifest more fully my conduct, in attempting to shew grounds of remuneration, as I think more dignified and more consistent with the truths of history, than those asserted by the Committee.

The sense of the oral statement which I gave, though in some parts, as printed in the Journal, it is incorrect, is agreeable to what is set forth in the preceding pages; and I think it proper to avail myself of reprinting it, with the necessary corrections, desiring no other justification (if any be required) than the very transcript which is seemingly destined to excite prejudice against me. I do not, however, offer this oral evidence as a complete historical statement, but it may be useful, and serve to enable the public to judge whether the Journalist had a right to call it, deridingly, an "Oration."

"I have admitted Dr. Jenner was the gentleman who first set on foot the inquiry into the advantages of vaccine inoculation; but I apprehend that the practice of vaccine inoculation, which was first promulgated by Dr. Jenner, has been established almost entirely by other practitioners; and that his new facts, or which I consider to be new, have been in my opinion disproved by subsequent observers—that in consequence of those facts being disproved, together with the very ample experience of other persons, we owe the present extensive practice of the vaccine inoculation.

Will you inform the Committee, who those practitioners and persons are to whom you refer?

The Cowpock inoculation after Dr. Jenner's book was published in May or June, 1798, which contained seven or eight cases, the whole result of his experience, was not practiced by any person that I know of, till January, 1799, neither Dr.

Jenner nor any person that I could find being in possession of matter; but in January, 1799, in consequence of a general inquiry, which I had instituted immediately after Dr. Jenner's publication, information was given of the Cowpock disease breaking out in two of the Cow-stables near London, and from these sources Dr. Woodville and myself collected matter, by which, in the course of about three months, not fewer, I think, than 300 persons were inoculated for the Cowpock in addition to the seven or eight cases of Dr. Jenner, then the whole stock of facts of inoculation before the public. Besides carrying on the inoculation ourselves in this manner, we disseminated the matter throughout the country, in particular to Dr. Jenner * himself, and particularly also, I within that time issued a printed letter, directed to upwards of two hundred practitioners in different parts of the kingdom, containing thread impregnated with Cowpock matter. In the course of this practice we already learnt that *young infants* might be inoculated with safety, which I considered to be then a new fact, Dr. Jenner not having had the experience, and being apprehensive of serious consequence from inoculating them. Secondly, That the inoculated arms, so far from requiring caustic or escarotic, or other topical applications, were sooner cured than in the inoculated Smallpox; that Dr. Woodville's publication in June, 1799, appeared, containing the cases of upwards of 400 inoculated at that time; and in August, 1799, I published a statement of inoculations, referring to many practitioners, who had furnished me with reports of inoculation, with matter which I myself had furnished; among these I beg leave to mention Mr. Kelson of Seven Oaks, Dr. Mitchel of Chatham, and Dr. Harrison's cases, as communicated to me

* Dr. Jenner, both in letters to Dr. Woodville and myself owns this matter excited the genuine Cowpock, although he afterwards in the Committee said, as stated by the Journalist, it produced the Smallpox. In these letters he also expresses his great apprehensions for infants.

by Sir Joseph Banks: and by that time I had also introduced it into the army, through the hands of the Surgeon General Mr. Keate, and reports frequently came into my hands by his direction from the army; I had also by that time introduced the vaccine inoculation into many parts of the continent, and received reports of the successful practice of it, in particular from Dr. De Carro of Vienna. In addition to these testimonies contained in the paper above alluded to, is the result of my own practice in three parishes of poor people inoculated under my superintendance, so that, in that paper, I believe it will be found that two thousand cases had by that time been afforded for the public by Dr. Woodville and myself, and the persons with whom I was in correspondence, and who are mentioned in the papers alluded to. By this time too, some difficulties appear to have been removed in a great measure occasioned by some facts stated to the public by Dr. Jenner: in particular I published experiments of inoculation in the paper alluded to of inoculating persons with the Cowpock, who had undergone the Smallpox, to shew that they *could not take the Cowpock after the Smallpox*, contrary to Dr. Jenner. Secondly, experiments to shew that persons could not take the Cowpock both locally and constitutionally, who had already gone through the Cowpock, also contrary to Dr. Jenner. Thirdly, many persons had at this period, made experiments to shew that the *Cowpox did not originate in the grease of horses' heels*, as Dr. Jenner had asserted; these sentiments will be found in a printed statement which I beg to deliver in, as published by me. In the spring of the year 1799, when the above stated evidence was collected, a second publication appeared from Dr. Jenner, adding nothing but a few cases of inoculation further of the Cowpox, but recommending caustic or escarotic applications to the inoculated parts, in the Cowpox, not found necessary by the medical persons alluded to in my evidence; and I consider that the distinctive characters of the Cowpock were understood better by some of the above alluded to persons than by Dr.

Jenner. The vaccine inoculation was next considerably established by the Cowpock Institution, of which I was one of the founders, commencing at the very close of the year 1799; which Institution has been the principal office, I apprehend, for supplying the world in general, and the army and navy in particular, with matter; and where a regular register is kept of each of the cases inoculated, more fully and accurately than had been done any where before or since that time; where the authenticity of the cases, from the nature of the institution, is established in a manner that I apprehend will be considered as unexceptionable; this appears from a register of above seven houndred cases already entered, and open to the inspection of the subscribers. By this time, namely, the close of the year 1799, I think I can make it appear that about four thousand persons had been inoculated by Dr. Woodville, myself, and correspondents, which can be referred to. I here close my evidence, as I consider it of very small importance, comparatively, what was done by others after this time, all the facts that I recollect of use in practice being by this time established, as they have been since confirmed."

Having so fully explained, in this publication, what was proposed in the cross-examination, I do not think it necessary to notice it. But as in a note there is something like an insinuation that I was not correct in what I stated, on the authority of Dr. Heberden, it may be right to say I was strictly so, except that his information did not come directly from Mr. Battiscombe, but from him through Dr. Lind; and I stated the fact with the previous entire approbation of Dr. Heberden.

The author, in his Journal, affirms that all present were astonished at my asserting that I was convinced Mr. Nash had been an experienced Vaccine Inoculator, and that it was not supposed I could make such an assertion without plausible proof. If I had not had such proof, I certainly should not have made the assertion, and a part of that proof may be found at p. 24——27 of this work.

And as I asserted Mr. Nash knew some facts of the vaccine disease, which certainly were either unknown to any one else, or not published, as appears also from the extract I have made. But I repeatedly said at the Committee that I did not see how the date of any experiments of vaccine inoculation ought to affect the Petitioner's claim; because, 1. The public owed nothing for those experiments, they not having been rendered useful. 2. There was no proof that the Petitioner derived his information from them; or if he had, that was even of no consequence to the public. This inquiry seemed to me a matter of curiosity and use for the history; very proper to be instituted for those purposes only.

With regard to Mr. Nash's M.S.S. the author of the Journal owns he had not examined them, yet he does not hesitate to pronounce, I spoke "without having plausible proof."

The same writer tells the public that I "depreciated" Dr. Jenner's discovery and merit as much as possible, and extolled myself. For this we have *the assertion* of the author only; and against that assertion I am willing to depend on the evidence before delivered, as taken from the Journal, and especially on the work now published. But if I thought Dr. J. had taken ground for his claims, to which he had not any right, it was not only fair, but it was my duty to depreciate as far as related to such pretensions.

We are told too of the great forbearance of the Journalist, "in wishing to avoid *the censure I passed on the Committee.*" For this I owe no gratitude; because if I thought the Committee merited censure, I not only, as I have already said of the Petitioner, should have considered I had an indisputable right to censure them, or any other body of men; but I should not have discharged my bounden duty unless I had delivered it. But the truth is, I do not know that the Honourable body were at all censurable. Some of the Members I regarded as taking a very active part in favour of the Petitioner; but that

is not I believe censurable; because it is understood that the Committee is chiefly a body of such partial friends. The Committee, did not give in a report on such just, and even dignified grounds as I think might have been taken; for which excluded individuals may complain; but no censure is on that account merited; nor does the assertion of incompetency to judge of medical evidence imply censure.

I know not whether I shall stand excused for troubling myself to notice any other parts of the strictures on my conduct; especially on matters, which, if true, are perhaps not worth answering; yet such notice may be useful in serving to capacitate others to take measure of the writer, as to the points of *judgment*, *accuracy*, and *candour*.

1. What is said at p. 144, of the Journal, of my "great astonishment" at finding the whole oration (as my evidence is often sneeringly so called) not taken down, is not true; I knew what was then delivered was not related in the way of evidence, to be taken down; what I supposed might have been taken down, (but there was no astonishment) related to *my first evidence*, when Sir G. Baker was present, at which a conversation took place, and some questions were then asked, not quite in a formal way of inquiry; however, I was doubtful how far notice had been taken of what then passed, and I thought it right to ascertain that matter, by asking "to correct my former evidence." When the minutes were read, I found they did not attach to the subject of the conversation alluded to, which was on the origin and progress of vaccine inoculation; this being ascertained to be the case, it was doubtful whether my evidence could be resumed; but after some explanation, which has been called "an oration," a connection was perceived, and it being then late in the afternoon, I proceeded the day following to deliver the evidence given at p. 179—180.

At p. 148, (Journal) it is stated, that while I was attacking "the originality of Dr. Jenner's discovery, Dr. Heberden entering the room, &c." This I notice only to enable others to judge of the dependence to be placed upon this writer's state-

ments, otherwise it is of not the least importance. So far from this account being *true*, I did not see Dr. Heberden at the Committee, he had left it before I arrived, if I was there on the same day at all. But this I remember, that I met him in the course of that day elsewhere, and I then learned on what point he had been questioned, which was on the case of Mr. Nash, above spoken of.

Of the *judgment* of the writer of the Journal, who has bestowed such pains to misrepresent me, let the public form their estimate, from the six or seven experiments of Cowpock inoculation, being considered to be adequate to the establishment of the vaccine new practice, as the same number of experiments by Harvey, were for the discovery of the circulation of the blood.

One thing more I must notice, however even ridiculous it has appeared to several of my friends, who laughed at it as the effect of jealousy, when I mentioned it to them at the time it occurred. Dr. J. we are told, very seriously begged to know with what design I paid a visit to the confidential Clerk of the Committee?

The Chairman would not put the question, and it had been determined to close the evidence; now if he had asked, my answer would have been, that the question, as coming from Dr. J. I would not answer; but, that if the Committee even thought it optional with me to answer or not, I would have said, " there is a gentleman in the room, a Member of the Committee, who knows very well my business with the Clerk, for I have been inquiring of him concerning the mode of procuring a copy, not only of the Petition, but for a list of the Members of the Committee, and he very politely offered to procure them for me." It is, I find, understood that copies may be procured of the Clerk, with no more secrecy than any article may be purchased at a shop. Nor can any one understand, whom I have consulted, what is meant by *confidential* Clerk; or conceive what information he could give, but what may be procured at the open Committee.

Explanation of the Plate referred to, p. 113.

OF the three series of figures in the plate, one designated S. P. represents the Smallpox in four different stages of the pock of the inoculated part, viz. the nascent *vesicle*—the vesicle complete, becoming a *pustule*—the pustule subsiding —and the pustule becoming a crust or scab. They were drawn from a fine specimen at the Small Pox Hospital, furnished by the kind attention of Mr. Wachsel, the very able assistant of Dr. Woodville; and who in truth got the first intelligence of the breaking out of the Cowpock among the London Cows, in January, 1799, which has already done the country so much service.

The two series comprehended under the bracket, with the title C. P. are two examples of the Cowpock also in four stages, viz. of nascent vesicle— completely formed vesicle—vesicle beginning the scabbing process—and the vesicle become in one instance partly a scab, and in another wholly so, with peculiar characters.

Inadequate as drawings without descriptions are to the communicating just notions of eruptions, the plate before us, to my apprehension,

exhibits such palpable differences of form, and other properties, that, as hath been observed in the foregoing pages, p. 107, 113, 114, it seems incredible that any one should not only in the first instances of seeing the Cowpock, have spoken of it as resembling exactly the Smallpox, p. 101; but have continued to repeat that comparison after the differences had been noticed by several observers.

* The Figures are only printed, and if coloured, would no doubt appear more advantageously; but in their present state they will, it is hoped, answer the end in view, and not be discreditable to the modest Artist, Mr. Lee.

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THE END.

H. Bryer, Printer, Bridewell-Hospital, Bridge-Street.