

A letter, in reply to the report of the surgeons of the vaccine institution, Edinburgh : with a variety of interesting letters on the subject of vaccination, and including a correspondence with Dr. Duncan, Dr. Lee, and Mr. Bryce.

Contributors

Brown, Thomas, 1778-1820.
Duncan, Andrew, 1744-1828.
Lee, John, 1779-1859.
Brice, James.
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Publication/Creation

Edinburgh : G. Ramsay, 1809.

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LETTER,

IN REPLY TO

THE REPORT OF THE SURGEONS

OF THE

VACCINE INSTITUTION,

EDINBURGH.

LETTER
IN REPLY TO
THE REPORT OF THE SURGEONS
OF THE
VACCINE INSTITUTION
CONTAINING
WITH AN APPENDIX

THE READER

Is requested to peruse the Correspondence with Mr Bryce, Dr Duncan, and Dr Lee, contained in the Appendix, before reading the Letter to the Surgeons of the Vaccine Institution.

BY THOMAS BROWN

RECTOR, NEWCASTLE

THE UNIVERSITY OF EDINBURGH

EDINBURGH

Printed by J. G. & Co. Edinburgh
FOR THE PATRONS AND DONORS OF THE
VACCINE INSTITUTION, AND
FOR THE SURGEONS OF THE INSTITUTION

1809

A
LETTER,
IN REPLY TO
THE REPORT OF THE SURGEONS
OF THE
VACCINE INSTITUTION,
EDINBURGH ;
WITH AN APPENDIX,
CONTAINING A VARIETY OF INTERESTING LETTERS
ON THE
SUBJECT OF VACCINATION,
AND INCLUDING A CORRESPONDENCE WITH DR DUNCAN,
DR LEE, AND MR BRYCE :
FROM WHICH ALSO
THE PUBLIC WILL BE ABLE TO APPRETIATE
THE AUTHORITY OF THE SURGEONS OF THE VACCINE INSTITUTION,
AND TO FORM A CORRECT OPINION
OF THE WHOLE SUBJECT.

BY THOMAS BROWN,
SURGEON, MUSSELBURGH.

Aut nunquam tentes, aut perfice.

EDINBURGH :

Printed by George Ramsay and Co.
FOR JOHN BALLANTYNE AND COMPANY, EDINBURGH ; AND
JOHN MURRAY, AND S. HIGHLEY, LONDON.

1809.



LETTER

IN REPLY TO
THE REPORT OF THE SURGEONS
OF THE
VACCINE INSTITUTION,
EDINBURGH;
WITH AN APPENDIX

CONTAINING A TABLE OF INTERESTING FACTS
OF THE
SUBJECT OF VACCINATION,
AND INCLUDING A CORRESPONDENCE WITH DR DUNCAN,
DR LEE, AND MR WELCH;

FROM WHICH ALSO
THE READER WILL BE ABLE TO APPRECIATE
THE AUTHORITY OF THE SURGEONS OF THE VACCINE INSTITUTION,
AND TO FORM A CORRECT OPINION
OF THE MATTER WHICH IS DISCUSSED.

BY THOMAS BROWN,

EDINBURGH.

EDINBURGH:

Printed by George Murray and Co.
FOR JOHN BALLANTYNE AND COMPANY, EDINBURGH; AND
JOHN MURRAY, AND S. BRIGHT, LONDON.

TO THE
SURGEONS
OF THE
VACCINE INSTITUTION,
EDINBURGH.

GENTLEMEN,

It is with much regret I have determined to reply to the Report you have published, containing what you have been pleased to call, an examination of my opinions and statements. Indeed, you must allow me to observe, it has been a source of infinite distress to my mind, and I make no doubt it must have also been to the feelings of every member of the profession, to find four individuals of their body, professing, too, to be the organ of their brethren, and the guide of the public opinion, coming forward with a rapidity, levity, and rancour, of which nothing in the history of medicine, vaccination excepted, can afford any example. You ought to have been sensible you have a duty to discharge to the public, which admits of no preconceived opinions, no hasty determinations, no violent oppositions: that a subject of this importance ought to have been cautiously and coolly dis-

cussed ; and as it admitted of the testimony of experiment and experience, you ought to have taken every method for collecting the opinion and evidence of others, and not have substituted assertions for facts, declamation for reasoning, and cavilling and frivolity for candour and gravity. Allow me, nevertheless, Gentlemen, to offer you my most sincere and grateful thanks for the honour you have done me, and to assure you, I shall ever feel grateful for your thinking it necessary, to bestow so much time and attention, and for adopting such measures in opposition to one, who could not venture to flatter himself, that those very individuals, who wished to crush both the writer and the doctrines, should have, from some unaccountable error in judgment, adopted the very best method of being useful to the one, and extending the influence of the other.

But it is not merely for these reasons, Gentlemen, I have to express my satisfaction at your conduct ;—I have also to acknowledge the favour you have done me, in condescending to come forward, and give your patronage and protection to the doctrines of one of your body. I trust, from the correspondence I have had with Mr Bryce, it will appear to you, but, at all events, I am confident it will to the public,—there is every reason to conclude, he is not only the sole author of your Report, but that it is expressly to be considered as a defence of the opinions and doctrines of your colleague, without any regard to the benefit of the public ; and from reasons which I dare say must be quite obvious, without condescending to mention them, he has contrived to give them a greater influence and protection than he supposed they would have obtained, had he manfully and candidly come forward to answer for himself. I can assure you I neither grudge him those advantages, nor do I envy you the share of merit you must have expected will be derived from so glori-

ous and so formidable a coalition. To me, I trust, it will prove a combination of the greatest importance, and, to the question at issue, of the most decisive tendency.

I hope, Gentlemen, you will do me the justice to believe, my declining to answer Mr Bryce did not proceed from any terror or aversion at the nature, or impossibility of the task ; and it was owing entirely to the opinion I entertained, that it was derogatory to the duty I owed myself, to condescend to sit down and answer a string of interrogatories, which included an explanation of Mr Bryce's publication, which not only appeared to me inexplicable, but even to make it understood by the author himself, and to sit down and defend my own opinions before they were attacked.

Although, Gentlemen, there is not a doubt in my mind, but I might safely leave your puerile Examination and Report to the contempt and neglect of every medical man, and to the effects of that inquiry to which it professes to be a refutation ; yet, as your object is evidently not a fair investigation of the subject of vaccination, but to support what I am convinced you now perceive to be tottering upon the brink of destruction, by producing a work capable of making an impression upon the public,—I am compelled, however reluctantly, not only in justice to myself, but in duty to the public, to make a reply.

Before entering upon a refutation of those charges you have preferred against me, and applying the discussion, as far as seems necessary, to convey a distinct idea of the real state of the practice of vaccination, it is absolutely necessary to get rid of a number of circumstances with which your conduct has clouded and incumbered the subject ; and however distressing and repugnant it is to my feelings, to pay the smallest attention to such contemptible and insignificant particulars, in a matter of this importance, yet I trust both you

and the public will admit the propriety of—wiping away all reproach.

I. This naturally leads me to the imputations of rashness, ignorance, and cruelty, which you, Gentlemen, have so liberally bestowed, for presuming to call in question the infallibility of vaccination.

I must first observe, that Dr Jenner recommended his discovery as a perfect and permanent antidote to the influence of the variolous poison; and while he distinctly stated this to be the result of vaccination, he accompanied the declaration with such a multitude of circumstances, which might create an opposite effect, and distinctly admitted a number of cases of an opposite tendency. The Royal College of Physicians in London also characterized the affection as having no analogy in nature; and it was admitted by all parties, that the disease went through all its stages without producing any sensible constitutional effect. To those cases of a contradictory nature stated by Dr Jenner, many others have been brought forward on the best authority; and when, to all this, we shall add the short time which has been allowed for ascertaining the truth of the discovery, I trust there is not only any reason for giving implicit faith to the practice, but even sufficient grounds existed for exciting a strict inquiry, without any additional evidence. But if, to all these circumstances, we shall add those cases I have met with, accompanied with such uniformity, and condensed into such a short space of time as were capable of influencing the most dogmatic vaccinator, I really, Gentlemen, flatter myself, that not only the public, but even yourselves, would have thought me highly culpable had I remained still so obstinate in favour of vaccination, as to pay no attention to such striking evidence. Do you, Gentlemen, mean to contend, that there is less merit or less virtue in endeavouring to cor-

rect a public error, than in propagating what is good, when both parties must be supposed to be influenced by the purest motives? or do you really imagine the subject neither admits nor requires any more proof? You are perhaps not aware, that, by such conduct, if you do not become contemptible, you may at least become guilty, and entail trouble, disappointment, and danger, upon a very great portion of the human race. I am afraid the motives of its greatest advocates are not more disinterested than those of its greatest enemies. The mind of man is composed of curious materials; not only does system warp the judgment, but having once unequivocally adopted an opinion, and having gone great lengths in propagating it, few have candour, resolution, and honesty to retract. In many professions, but in none more than the science of medicine, is the mind inclined to systematize. As the field is extensive and difficult of accurate observation, the danger of system is the greater; a thousand errors may be committed without the least perception of guilt; and hundreds of our fellow creatures may perish without producing the smallest amendment. I discharged what seemed to me an indispensable duty; and I trust it has appeared, I have been anxious rather to address the judgment than the feelings of my readers. While my own mind acquits me of any improper motives, I shall pay but little attention to the insinuations of others. It surely does not betray a want of candour, honesty, or contempt of self-interest, to come forward and confute the opinions I have formerly given, and the assertions I have made for nearly nine years, and to render almost nugatory twelve hundred cases for which I have received remuneration. It remains to be seen, Gentlemen, whether I shall be guilty in having simply stated my facts and reasonings to the public, and called for experiment and experience,—or you, for having en-

deavoured to crush all inquiry, with a spirit bordering upon envy and despair.

But farther, you must allow me to observe, that, whatever are the merits of my publication, I certainly consider myself not deserving of those malicious schemes of opposition, which, in your frenzy, you have adopted. Was it honourable, was it just, or was it even prudent, the moment the advertisement made its first appearance, to go about, proclaiming the folly, the madness, the wickedness of the man, who dared to call in question, the merits of the discovery? Was it like the conduct of gentlemen, but more especially medical gentlemen, intrusted with the care and direction of the public opinion, gravely to arrange matters for crushing the work, and destroying the character of the individual, by determining, that a sermon should be preached for the benefit of the Vaccine Institution *. Why did you select, with more than demoniac policy, the Rev. Mr Lee, *who be it observed is also Doctor of Medicine*, to preach this sermon? You determined to attack me with the powers of heaven and earth, and the qualities of matter and spirit combined. It is unworthy of the smallest attention to say, that this sermon had no connection with this business; for although it was preached four days before my book was published, still, from your future conduct in publishing this sermon—prefixing the address by the Managers of the Dispensary—Dr Duncan's acknowledgment of his anxiety, that something should be done to remove those fears, which had in your and his opinion been cruelly excited,—observe not from the merits of what my work might contain, but recollect, Gentlemen, *merely from the advertisements*,—no one, not even yourselves, can entertain any doubt of the motives of your conduct. But here, Gentlemen, I must not omit to mention a circumstance,

* Good God, Gentlemen! what expence attends vaccination?

which every one will agree does you infinite credit. No sooner was it understood I intended to dedicate my work to Dr Monro, than you all felt alarmed. It was industriously circulated, that, to presume to take such a step, without permission, was quite contrary to established custom, and opposite to the rules of politeness and propriety. But when the contents were known, your zeal and impatience could no longer brook restraint; and means were adopted, not only to prevent the appearance of the dedication, but also to deprive me of any benefit that might result from it, either as to the doctrine, or sale of the work. The day before the book was ready for publication, I was favoured with a letter from Dr Monro, declining the honour of the dedication, and declaring his complete conviction of the perfect powers of vaccination, as a preventative of small-pox, if the operation is properly conducted, to which I returned an immediate answer. It rests with the Doctor, whether or not our correspondence on the subject shall be published; but I am inclined to flatter myself the Doctor has more judgment and discretion, than to follow the example you have shown him. Although I did not perceive the propriety, or possibility of compromising my own honour, by complying with the request of the Doctor, yet I despised taking advantage of its insertion, in the smallest degree, and have carefully refrained from taking any notice of it in my advertisements. As to your plea of custom, it is quite contrary to general experience; and as to politeness, and propriety, it surely has little resemblance to either, to wait upon a man, and request if he will accept of a *flattering* testimonial of esteem and respect. The dexterity, too, with which you persuaded Dr Lee, that he was more particularly connected with my letter to Dr Duncan, then either the Doctor or yourselves, must not escape observation. I shall leave it, Gentlemen, to your own judgment, whether or not it was paying

but a poor compliment to the justness of the cause, or the sincerity of your friendship. It certainly appears suspicious, that four individuals of the medical profession, most intimately connected with the whole subject, should push forward any man, but more especially a Reverend Doctor, whose principles ought to be like his blessed Master, peace and charity with all men, to defend a medical dispute, and meanly skulk under his ægis. Thanks, however, to those immutable laws, which ultimately protect and reward moral rectitude;—honesty will eventually appear to be the best policy, and truth will prove a match even for the devil.

II. With regard to your insinuation, I ought to have known such opinions were not new, and that they have been refuted in the most satisfactory manner. I must really take the liberty to say, I certainly have never uttered one word about the novelty of my opinions; on the contrary, I have allowed such opinions existed. But while I have done this, I must, in justice to myself, contend, that my publication has no farther resemblance to these productions*. Beside the contents, and mode of treating the subject, there is still one material difference, which I beg leave to press upon your attentive consideration. Dr Moseley, and others, had the indiscretion to come forward, and attack the discovery, merely from a preconceived system, without a shadow of proof, but what analogy afforded; while other men, eminent in their profession, declared their opinion, with nearly equal decision, but certainly not with more candour, and had the prudence and discretion to keep out of the press. As such opinions were at first wholly unsupported by experience, and quite in opposition to all the proof the subject afforded, they were neither difficult to combat, or refute. But Gentlemen, I hope

* For the proof of this assertion, see the article upon this subject in No. XVII, of the Edinburgh Review.

your intellects are not so far overshadowed, as to contend circumstances have not materially changed, and that such a variety of cases have occurred, as to derange entirely all the leading facts, and principles, which were at first proclaimed by Dr Jenner, and others; that a necessity has arisen for the admission of a variety of causes, by which vaccination may be foiled; and in fact, that such a species of vaccination has been agreed upon to exist, which may *sometimes completely secure, and at other times imperfectly protect* the constitution, from the influence of small-pox.

Whatever, therefore, was the merit of the first opposers of the practice, experience has but too well confirmed their fears and apprehensions: and however improper and unsupported their opinions were, it certainly affords no just ground, that we should continue to oppose such doctrines, merely for the sake of our own consistency, at the expence of the comfort and happiness of society.

III. In proceeding, Gentlemen, to reply to the various circumstances contained in your Report, I shall first attend to those particulars which are to be found in the Appendix, and shall give a preference to what is more especially connected with your colleague, Mr Bryce; as the examination of these points will enable us more clearly to comprehend all the succeeding parts of the discussion.

It may perhaps be necessary to premise, that Mr Bryce has published twice on the subject of vaccination, and has brought forward, in a particular manner, two proposals, of which he has certainly, in a great degree, the *honour* of being the author, viz. recommending a substitute for the active limpid virus, and a practice for ascertaining, as he thinks, the constitutional and complete action of the cow-pox inoculation. Both of these proposals I have thought it my duty to examine,

and have endeavoured to shew, that the one is uncertain and fallacious, and the other entitled to no more attention than the phenomena of the disease itself.

This inquiry, gentlemen, you have noticed, and have characterized as a violent attack on Mr Bryce's discovery of the vaccine scab, which, you say, is ascertained by ample experience, and to which I have opposed nothing but *invective and reasoning**. As the best and most satisfactory answer to these charges, I shall beg leave to refresh your memories with the whole of what I have wrote upon the subject; and shall take the liberty to call your attention to that species of modesty, wherein you have accused me of having mutilated and misrepresented the meaning of different authors, when you are absolutely guilty of the same charge, in the most palpable and flagrant manner.

But to proceed :

“ As the vaccinists only contend, that the constitutional, perfect, or complete vaccination, has the power of giving protection from the variolous poison, we must, in our inquiry, attend to every circumstance, which has been found to influence the production of this state of the disease.

“ Here the author of the practice stated, that the antivariolous effect of vaccination might be entirely defeated, by using virus in an improper state.

“ This assertion was supported, and confirmed in the most positive manner, by every author who wrote upon the subject; and it was looked upon as a settled point, in the practice of vaccination, that the most anxious care was necessary in selecting the proper period for taking virus; nay, indeed, so nice and important was this esteemed by its author, that I was credibly informed, he once restricted the period to a few hours. However this may be, it was agreed, upon all hands, that it was absolutely necessary to use the virus in an active, limpid state, and that it ought to be taken before the vesicle is surrounded with an inflamed margin, and not begun to decay; including, in general, a period between the seventh and ninth day. That, if virus is taken when the vesicle is decaying, or in a state of visciduity, it will fail to produce the perfect disease, or, if it should succeed, it will give

* A strange and unnatural association.

all the characteristics of the affection on an imperfect scale, and to a diminished extent.

“ This opinion is certainly consistent with every fact hitherto known, with regard to the effects of fluids introduced into the system by inoculation. It is perfectly in unison with our former experience in inoculation for small-pox, and is also particularly so with regard to vaccination. For whoever has had but a moderate experience in this practice, would readily find, that, in proportion to his deviating from this rule, his disappointments would increase in the same ratio.

“ Although it is unnecessary, for the attainment of my object, to endeavour to elucidate this disputed point, yet, as it does show to what an extent the difference of opinion may really extend, and how fond the human mind is of invention, I shall bestow a little more attention on the subject.

“ Mr Bryce claims the *merit* of dissenting from an universally acknowledged fact, not only with regard to vaccination, but, I will venture to assert, every specific virus whatever. This, too, he does with the full conviction of the great delicacy and niceness of distinction, for ascertaining the perfect or constitutional disease, and with a thorough sense of the importance of using virus in a limpid state *. The substitute he recommends for limpid virus, is the scab which remains, after the disease is finished, upwards of ten or twelve days, and which, he says, may be used for giving the perfect vesicle, many months after.

“ Independent of all reasoning upon the subject, I must assert, that either Dr Jenner and his followers are all wrong, or that Mr Bryce's substitute is not to be trusted. It is evidently a most

* “ A proper attention to the state of the virus to be inserted, is a circumstance of much importance in conducting the inoculation for cow-pox. If matter for inoculation be taken at an improper period of the ailment, or be not properly preserved after it is taken, it may be so far changed in its nature, as to be utterly unfit to produce cow-pox in the person to whom it is applied.” See *Mr Bryce on Vaccination*, p. 108.

“ With regard to the proper period of the cow-pox affection, for obtaining virus for inoculation, it is to be observed, that, during the seventh, eighth, and ninth days, the vesicle appears to be completely formed, and the virus is then judged to be in a state of the greatest activity.” *Ibid.*

“ About the end of the ninth, or beginning of the tenth day from inoculation, the areola is fully formed; and this is said to be a mark, that the virus begins to be less active, and therefore improper to be used.” *Ibid.*, p. 110.

“ A second cause of failure in producing the desired effect from a first inoculation, and that by far the most frequent, will be found to proceed from the quality of the virus; for this may have been taken at an improper stage of the disease, or it may have undergone some change by keeping,” &c. &c. See *Appendix, Ibid.*, p. 120.

palpable contradiction ; and if it is really true, that it does give the perfect vesicle and constitutional disease, then all Dr Jenner's, and other authors' facts and assertions, must fall to the ground ; that all those important distinctions, and hardly perceptible peculiarities, which are contended for, must be visionary and false ; and the whole phenomena of the disease, must be still overshadowed in mystery, and confusion.

“ Mr Bryce asserts, that the scab, or crust, is *equally* capable of producing the constitutional, or perfect disease, with the most active limpid virus ; is one of the best modes for preserving the vaccine virus fit for use, and that it is not liable to the same objections, as when in a viscid and opaque state. He contends, that the limpid fluid is entirely converted into the semi-transparent hard crust, and that a pus is formed below it, from the irritation which the scab produces on the raw tender surface, and also, that pus is frequently contained in the extremity of the circle of the vesicle, at an advanced period of the disease*.

“ It appears to me impossible to conceive, by any of the hitherto known laws of the animal economy, or by any knowledge of anatomy, that when a pustule or vesicle changes into the form of a scab, that this scab consists of matter, possessing stronger powers than what it retained when in a state of fluidity, *even although somewhat viscid and opaque, and from which fluid the scab merely follows as the natural consequence of acquiring greater solidity, by the processes of absorption and evaporation*†.

* See Mr Bryce on vaccination, page 117 to 125.—The Surgeons of the Vaccine Institution observe, that this doctrine of Mr Bryce's is confirmed by ample experience. Now I will venture to assert, there is not one surgeon in Great Britain, who will vaccinate with the scab, if he can obtain limpid virus ; there is not one who will say, it is equally capable of producing the disease of cow-pox with the same regularity and satisfaction as the limpid virus, and there is not one in a hundred *who have ever used it*.

† This is the sentence where the conduct, either of the Surgeons of the Vaccine Institution, collectively, or Mr Bryce, singly, is liable to the most serious charge of wilful and gross misrepresentation. In order to be detected, the sentences only require to be compared. The Report of the Surgeons has made me to say. “ It appears impossible to conceive, by any of the hitherto known laws of the animal economy, or by any knowledge of anatomy, that when a pustule or vesicle changes into the form of a scab, that this scab consists of matter possessing *stronger* powers than what it retained when in a state of fluidity,” &c. Here these candid gentlemen have concluded the sentence, and proceed to add—“ here Mr Brown artfully changes the statement made by Mr Bryce, by the introduction of the word *stronger*.” The reader has only to attend to those words in Italics, which make the remainder of the sentence, and also to the whole paragraph, when he will instantly perceive the modesty, sincerity, and candour of those gentlemen.—See Report, &c. Appendix, p. 6.

It might, perhaps, have been possible to conceive, that, had the virus contained in the vesicle been found to acquire additional virulence as it became viscid, that the scab might have been still stronger; but this is known to be quite otherwise, and, as I have already said, the laws with regard to these fluids are in perfect contradiction to it. It appears to me quite hypothetical to suppose, that the fluid in which the properties of vaccination consists, can, by some unaccountable power of attraction, or locomotion, withdraw itself from the extremity of the circle of the pustule, and lodge itself in the centre, and leave nothing but pus, or inert viscid lymph, in the extremity; and this more especially, when the structure of the vesicle is recollected; for, as it is *allowed* to be formed of a number of small cells, *even described* by Mr Bryce as resembling a *honey-comb*, an effectual bar must be presented to every such change of situation in the virus, and the virus contained in each cell originally, must remain in the same situation, and undergo all its changes. Besides, through all the preceding stages, we have evidence of the centre containing no virus whatever; for, if you attempt to open the vesicle at this point, you will almost be certain to draw blood, however careful you may be,—showing that, at this point, there is really no vesicle, but a strong vascular connection with the vessels of the surface; and, if you attempt to vaccinate with the lancet infected from this part of the vesicle, you will seldom or never impart the disease. As a proof of this, too, the centre of the scab is the last to be disengaged, the scar being always deepest in the middle; and these appearances are not merely connected with the vaccine vesicle, but with every pustule and process produced by puncture, which ends in a scab.

“As to the description given of the production of pus, it would appear, Mr Bryce hardly contends, that this appearance is general at the latter period of the vesicle, and formation of the scab. If so, it scarcely deserves notice; because we uniformly find, in all vesicles, that the virus loses its powers in proportion to its period of decay, not depending upon any accidental production of pus, or any other cause. From my own experience, I can assert, that, in all those cases where pus has been particularly produced at this period, it has uniformly proceeded from an injury to the vesicle, by which it was reduced to an ulceration, and, if the scab had not then been completely formed, its appearance also was changed.

“But if Mr Bryce means to convey, that pus really forms in every vesicle, towards its conclusion, at the extremity of the circle, then it is evident, there can be no just grounds for the distinction of vesicle and pustule, because it is also only in the

advanced period of the small-pox inoculated pustule, that it assumes this appearance. I apprehend, however, from Mr Bryce's anxiety in employing the terms vesicle and pustule, he means to convey, not only that there is a material difference in their structure, but also in their contents, and seems anxious to infer, that the vaccine vesicle may possess very remarkable properties, from its very singular and uncommon organization.

" I confess, however, with the most careful examination by the best glasses, and the most minute attention to the subject, I can see no grounds for this distinction, from the structure, and but very little from the contents of the two pustules.

" The skin may be *safely* described as consisting of secreting, exhaling, and inhaling tubes, surrounded with mucus, nerves, and blood-vessels, over all which the thin cuticle is expanded, and, upon being examined with good glasses, gives the appearance of cells, as it were, sealed hermetically by the cuticle. If, upon the introduction of either vaccine or variolous virus, an inflamed point is produced, this account of the formation of the external part of the skin becomes very evident, and little vesicular points are now distinctly perceived, all separated from each other, and as yet forming no distinct vesicle, but gradually extending themselves from the punctured point, to the extremity of the inflamed spot. In a little time, generally from the third to the fifth day, these vesications become large and distinct, and unite into a cluster, forming at last a vesicle or pustule, by being considerably enlarged, and elevated above the rest of the inflamed spot. During the whole of this progress, the point where the lancet was introduced appears not to be altered in the smallest degree, but remains, as it were, firmly tied down, by the adhesion produced from the puncture, and preserves this appearance through the whole progress of the vesicle and pustule. It is this cause that produces the pit, or depression in the centre; it is from this point, that the pustule or vesicle begins to decay, and, in the appearance of a crust, gradually extends itself over the whole. This account applies both to the formation of the vaccine and variolous inoculated pustule; and in no instance have I ever found either of them to vary, unless they had sustained some injury*.

" But besides what we have already described, we shall find, that they also agree in many other respects. At no period can

* In some cases of both vesicle and pustule, (but more especially of the pustule) where they are large, and the inflammation severe and extensive, the punctured point seems disengaged from its situation, and they assume the appearance of a sac or abscess; but this, too, only at the latter period of the process.

the virus in either of the vesicles be emptied of its contents by one puncture, and I apprehend for a very obvious reason, for, independent of the cellular structure, the centre of the pustule or vesicle is absolutely obliterated, by its adhesion from the puncture, and the fluid is contained as it were in a ring; and, upon an opening being made on one side, the fluid, in order to be discharged, must necessarily pass through a great portion of the circle, which is not to be so readily effected, even were no opposition made from the cells. But I apprehend it is from this very circumstance, that the vaccine vesicle is exposed to the danger of losing all title to possessing the power of exerting any extensive or permanent influence over the system; for here it expressly agrees with every vesication produced from whatever cause. It is perfectly well known, that if such vesications are ruptured, they will continue to discharge a much greater quantity of limpid fluid than even they contained when whole; and the scab, too, that follows such affections, is always dark-coloured, shining, and hard, if they are allowed to go through their natural course. The fact, too, that has been observed of the vaccine virus losing its activity, after the vesicle has discharged a considerable quantity, shews that its local effects are so weak, and partial, as not to impart a sufficient strength of organization, capable of *preserving* its specific quality.

“ I am of opinion, that those who made the account of the two pustules to differ so considerably, drew their conclusions, from comparing the vaccine vesicle, with the variolous pustule, produced by eruption. There the description is nearly correct, but certainly the conclusion is not warranted; for there can be no affinity in appearance, between a pustule produced from virus introduced on the point of an instrument, and one following an eruptive fever.

“ But if any doubts still remain, they appear to me to be entirely settled, by what we observe take place in those pustules produced by eruption; for the circumference exactly resembles the appearance already described to exist, of that from inoculation, with the centre at first depressed, but which gradually rises, and assumes a more prominent appearance than the circumference, and seems distinctly to resemble a bag containing fluid. Also, upon laying open the pustule, the cavity only corresponds with the extent of the centre, and does not extend to the margin, or that portion of the pustule which first existed. We may besides observe, that the cellular appearance seems clearly to depend upon the extent of the inflammation; for we find that, in those secondary vesicles, which sometimes attend vaccination, they are far from being distinct, and approach nearly in appear-

ance to the small-pox pustular eruption; for there no central crusts are to be found, the whole fluid may be readily discharged by one puncture, and, upon removing the surface of the vesicle, a distinct cavity is found to exist.

“ As to their contents, there really exists, in this respect, but little cause for the introduction of a new term. The fluid contained in each has the most exact resemblance, until the ninth or tenth day, being limpid and fluid; they soon after become gradually viscid and opaque, and not only assume the appearance, but actually have become pustular. The only difference to be remarked is, that the inoculated pustule more distinctly assumes the appearance of perfect pus, is larger and more unequal in its figure; its extremity irregular, and jagged; its period of decay more protracted; and the scab or crust in general of a paler colour. We may, however, remark, that very frequently the severe cases of the one, and the mild cases of the other, so nearly approach, in every respect, as hardly to be distinguished by the most experienced inoculator; from which it would appear, that the greater resemblance of pus, entirely depends upon the extent of the inflammation, as it is well known, that it is always much more severe and extensive in inoculation than in vaccination.

“ While I am thus so strongly confirmed in my opinion, of the scab being deficient in point of activity, I am far from asserting, that it possesses no power. Besides the ample testimony given by Mr Bryce, and other practitioners, I am also convinced, from my own experience, that it is capable of producing the regular vesicle, and perfect disease, but farther than this I cannot go *. *We might, with equal justice assert, that the crust of small-pox is equally proper for inoculation, with the limpid virus; because we all know perfectly, that it retains a sufficient quantity*

* Here, again, are these gentlemen busy in misrepresenting one whom they have accused and arraigned for the same conduct; and instead of proceeding to give the next and following sentences of the same paragraph, which complete the sense of the whole discussion, they have abruptly stopt short with one sentence, extracted, too, immediately after one which, had they quoted also, would have put that which they selected in its proper light. With the assistance of this deceit they proceed to observe, “ It is to be regretted that Mr Brown has not told us what he thinks the most active limpid virus of cow-pox can produce, more than the regular vesicle and perfect disease.” I need hardly observe, that the perusal of the whole paragraph will distinctly refute this charge, and clearly evince the desperate state of the doctrine of the perfect vaccine powers retained by the scab. Indeed, to defend a proposal which runs counter to every thing that experience and reason can suggest, is certainly a task not only laborious but impossible.—See Appendix to Report, &c. page 7th.

of the variolous contagion for communicating the disease. I have no hesitation in asserting, that the same deficiency of strength, and activity, will be found to attend the vaccine scab, and that it will very frequently fail, unless the mode of introduction is much more severe; it will also only produce a vesicle, slow in its progress, smaller in its size, and with a very small, and feeble ring-like inflammation. Upon the whole, I think we are warranted to conclude, that, if the vaccine scab, or crust, really possesses the power of imparting the complete effect of vaccination to the system, to the same extent with the limpid virus, it is not only in direct contradiction to general experience, and analogy, but also clearly evinces the imperfection, and inconsistency of the whole subject."—Vide Brown's Inquiry, from page 100 to 117.

IV. THE TEST.—On this subject, Gentlemen, you observe, "Mr Brown has mentioned Mr Bryce as contending, that all the variety of vesicles have been found capable of giving the constitutional security. Now, one great object of Mr Bryce's book on the cow-pox has been, *to maintain the contrary in the most particular manner.* Mr Brown goes on to state, in the same page: 'Besides, he (Mr Bryce) apprehends, that a test can be obtained, by which it may be uniformly ascertained, whether or not the vaccine vesicle has exerted its antivariolous powers upon the system; and, therefore, as we are no longer dependent upon the phenomena attending the progress of the vesicle, all its different appearances may be disregarded.' This is quite contrary to the doctrine stated in Mr Bryce's book, and shews Mr Brown to be totally ignorant of the nature of the test of perfect vaccination proposed by Mr Bryce; for it is only by particular attention to the *appearances* of the vesicles, so as to be able to contrast the *progress* of them with each other, that any advantage is to be obtained by performing this test."

Before proceeding, Gentlemen, to shew that I have stated, in the most correct manner, what not only really is, but must be the sum of Mr Bryce's statements and

doctrines upon this subject, I must take the liberty to observe, you have certainly never bestowed one moment's thought upon this subject, otherwise you must have at once perceived the necessity for admitting, what you seem to think me so highly reprehensible for stating as Mr Bryce's opinion, and that, in truth, I was representing Mr Bryce as consistent and harmonious, while you or himself, wished to make him appear ridiculous and incomprehensible. Did it never occur to you, Gentlemen, how absurd it must certainly be for any one seriously to come forward, and recommend a practice for detecting the existence of a constitutional affection, if the process by which the constitution was to be influenced was uniform and distinct? But whatever has been the cause of this infatuation, I shall proceed to submit such extracts as I am certain must convince every one possessed only of, as you say, common sense, that I have stated in concise, but intelligible terms, Mr Bryce's statements and opinions upon this subject.

“ Dr Jenner has declared, that it is only those who have undergone the constitutional as well as the local affection of cow-pox, who are rendered unsusceptible of small-pox by the new inoculation: It becomes, therefore, a circumstance of the very first importance, in conducting the inoculation for cow-pox, to be able to ascertain the presence of the constitutional affection. In some cases this, by a little attention, is easily accomplished; for soon after the areola begins to be formed, that is, about the eighth day, the person becomes hot and feverish, and continues so for one or two days; and this feverish state is more or less plainly marked according to circumstances. In other cases, however, and these, according to the accounts given by authors, by far the most numerous, no fever can be detected; and no other symptom, independent of the appearances of the affection at the part inoculated, *which we shall afterwards find may be deceitful*, has been mentioned, whereby we may judge concerning the presence of the antivariolous process in the constitution. In children, who are the most frequent subjects of cow-pox inocu-

lation, this absence of fever has been particularly noticed, it being remarked, that by far the greater number of them pass through all the stages of cow-pox, without any sickness or fever being observed. If the affection of cow-pox at the part inoculated has proceeded regularly through all its different stages, and if each stage has been clearly and distinctly marked, we think ourselves authorised, from the united testimony of many eminent in the medical profession, to conclude, that the general affection, and, consequently, the antivariolous process has taken place in the constitution, even although no fever may have been detected. But in many instances these different stages are not regular, neither are they distinctly marked; and how far these irregularities may take place without frustrating the purpose of the inoculation, and what may be the exact degree of the size of the vesicle, or of the surrounding inflammation and hardness, which is to mark a constitutional affection, or to assure us that the antivariolous process has been accomplished, *we must confess we have no certain rule to determine.* On this point, then, assuredly the most important to be ascertained in the progress of the symptoms of the cow-pox, every person is left to form his opinion, from a comparison, in his own mind, of the case under consideration, with what he may have read in the writings of authors, or with what he may have observed in other cases, which, to his own knowledge, had proved effectual. But it will be allowed, that a judgment thus formed must often be very inaccurate, and thus bring disappointment, or worse, to all concerned, as well as discredit upon the new inoculation."—See Practical Observations by Mr Bryce, p. 137 to 140.

"From the very first time that I had occasion to conduct the inoculation for cow-pox, the uncertainty of the desired change being operated upon the constitution, partly from the apparent slowness of the affection at the part inoculated, but chiefly from a want of some well-defined mark whereby to judge of a general affection, very forcibly presented itself to my mind; and after having carefully attended to upwards of six hundred cases which have fallen under my immediate care, I am thoroughly convinced, that some clear and well-defined mark of a constitutional affection in cow-pox, different from what has hitherto been observed by those who have written on this subject, is still to be regarded as the grand desideratum in conducting this new inoculation; for, until this be established, our judgment of the efficacy of the cow-pox inoculation in preventing small-pox must often be formed with doubt and anxiety, and too frequently prove ultimately erroneous. The truth of these remarks will be best known to those most conversant with the cow-pox inoculation, and who are ac-

customed to observe *the great variety of appearances which the affection at the part inoculated often assumes.*"—Ibid, p. 156 and 157.

Besides these extracts from the body of the work of your very intelligent colleague, I must beg leave to add one or two more from the Appendix, where it appears he is absolutely endeavouring to shew Mr George Bell, *that the appearances of the cow-pox are really not to be trusted*, even in the hands of intelligent and accurate practitioners.

"With regard to the correctness of the above statement made by Mr Bell, however, we shall appeal to his own opinion delivered in other parts of his treatise. At page 58th, it is said, 'All who have had sufficient experience in inoculating for the cow-pox, know that there is no one certain criterion applicable to every case, by which it can be ascertained that the disease has pervaded the constitution; and it is also known that the surest way (Mr Bell does not say a sure or or a certain way) of judging of this is, by minute attention to the progress of the pustule (vesicle) from its commencement, and being satisfied that all the principal marks of the genuine cow-pox having appeared.' And nearly the same words are repeated at page 66 again: 'But it must be confessed that some patients have been seized with the natural small-pox, or have received the infection by inoculation, who were supposed to have undergone the genuine vaccine disease.'—See page 64.

"And although Mr Bell is inclined to attribute these failures to inattention on the part of the practitioner, yet it is thought they may, with more truth, be attributed to the want of some proper test of the presence of the antivariolous process on the constitution during the progress of the cow-pox. At page 66, and also at page 71, immediately following the above statement, we find Mr Bell not only admitting that doubts may

arise in the minds of practitioners in judging concerning the effect of inoculation, but also recommending the test of repeated vaccination, which was first proposed by Dr George Pearson, to be performed in all doubtful cases."—Vide Appendix to Bryce's Practical Observations, page 123.

It certainly, Gentlemen, would not only be useless, but degrading, to press upon your attention farther extracts. Enough, and more than enough have been given to convince the most infatuated and prejudiced, that if words are able to convey the ideas of their writers, Mr Bryce certainly wishes to impress upon his readers, that the phenomena which attend the process of vaccination are so irregular, as not to be trusted to for ascertaining the existence of the constitutional effect of vaccination, and that the proposal which he offered to the public would determine when that effect was produced, and, consequently, that all the variety of the phenomena may be disregarded.

The dilemma appears to be, that as the constitutional effect of vaccination may be obtained from a great variety in the phenomena of the vaccine process; as these phenomena are in general only such as are connected with the mere appearances of the local process of the inoculated spot; and as the friends of vaccination contend, that sometimes the effect may be constitutional, and at other times local from the same *local* phenomena, how are we to come at the knowledge of the constitutional effect having taken place?

“ We have already seen, that it cannot be from the leading phenomena of the disease itself; accordingly, revaccination, inoculation, and exposure to the effects of the variolous contagion were had recourse to. From the first test, nothing was produced but doubt and uncertainty, and considerable danger was incurred, of bringing the practice into contempt. From the others, the whole props of the discovery were obtained, and the greatest satisfaction universally imparted. The result of these proofs were, that they uniformly resisted inoculation, and the contagion of variola could exert no effect upon them.

“As we shall have occasion to resume these points in another place, I shall only at present observe, that these tests were at the introduction of the affection found, almost uniformly, to follow from every vaccination, where a vesicle was produced, with more or less of the characteristic appearances described by Dr Jenner, and deemed a sufficient proof, not only of its having exerted its constitutional influence, but that this influence was complete. This point seemed to be entirely put to rest, by the immense volume of evidence brought forward; and the characteristic phenomena of the disease were so well understood, as to supersede every other trial. A few years, however, had scarcely elapsed, before cases occurred, which rendered it necessary to investigate the subject more closely; it was found *requisite* to throw considerable doubts upon the phenomena of the disease, and that nothing short of a distinct constitutional influence would afford perfect security. To recur to any of those tests already practised, would certainly appear absurd, and, if used at the same period after vaccination, could afford no better proof.

“In this state of things, Mr Bryce’s expedient was proposed, which should effectually banish, not only all doubt about the constitutional influence having taken place, but also, that it was exerted to the extent necessary for imparting the required security against variolous contagion.

“Your colleague, Mr Bryce, revived, and applied for this purpose, a well-known fact in inoculation; that if you puncture the skin with a lancet infected with the same virus, some days after the first inoculation, if the first produces the disease, the others will rapidly advance, and gain the same maturity as the first, only in every respect less extensive. In repeating this experiment with the vaccine virus, the same result follows; and a vesicle is produced, having all the characteristics of the original puncture, but only on a much smaller scale. This phenomenon, Mr Bryce contends, is a certain, nay indeed the only criterion of ascertaining, that vaccination has exerted its influence completely upon the constitution.

“If double vaccination really exclusively possessed this property, it ought to be certainly universally practised; but I am afraid, upon examination, it will be found to have no better pretensions, than can be afforded from the phenomena we have already examined.

“Independent of every other consideration, it is to be observed, that such a proposal carries upon the face of it, that some doubts hang upon the practice; and besides, this second, or even treble vaccination, is not a proof that will be always submitted to by the parents. But it is also to be particularly remarked, that as the secondary vaccination may fail, and the first vesicle

go through the regular course, you deprive the parent of complete satisfaction; for it is now contended by Dr Jenner, that it is not possible to produce another constitutional vesicle, and of course you cannot afterwards procure the test required, although you should submit to repeated vaccinations.

“ Besides, it appears from Mr Bryce’s cases, that, unless the secondary vesicle has been sufficiently advanced, it cannot be made to assume the appearance of the regular vesicle, or areola, even although the primary one has not yet previously acquired its areola, and not even after it has taken place, although accompanied with constitutional symptoms.

“ But farther, from the examination which has already taken place, of the proofs afforded from the vaccine phenomena, of the antivariolous process having been effected, it would appear, that all the phenomena of the regular vesicle, and constitutional symptoms, may occur repeatedly in the same person: that even in the primary vesicle, this may be obtained, without the existence of the areola, upon which so much stress is laid, even in the secondary vesicle; and surely Mr Bryce cannot say, that he is able to obtain from the secondary vaccination an areola, if it does not exist in the primary.”—See Brown’s Inquiry, page 137, &c.

Nay, indeed, it is evident from all the cases Mr Bryce has brought forward in proof of this test, that the existence of the areola in the primary vaccination was the test whereby the areola in the double or second inoculation was to make its appearance, and that the areola in the second was uniformly produced, and preceded by the existence of that phenomenon in the first. Although the contradiction of this fact is so essential to the importance and utility of this test, Mr Bryce knows the truth of it too well to attempt to deny it; and I will venture to challenge Mr Bryce to produce one instance of a secondary areola, unless it existed in the primary one.

“ But again, from the cases brought forward by Mr Bryce, it would appear, that this areola, attending the secondary vesicle, may exist without the smallest evidence of any constitutional symptoms. Also, in all those cases, which, according to Willan, Ring, Bell, and almost every other writer, are denominated, irregular, and imperfect, it will be found, that the vesicle and are-

ola will be rapidly produced in the double vaccination, if the vesicles are only accompanied with an areola of any kind."

"Dr Willan observes, 'That this test of double vaccination will fail, if the fluid employed for the second puncture be taken from the person's own arm, when the vesicle is one of the irregular kind, which produces disorder of the constitution, but affords only an imperfect security against small-pox.' We cannot resist this opportunity, of putting the attempts to reconcile the most opposite facts, and opinions, in the most conspicuous point of view, and to show, that the abettors of the practice are more *anxious* to preserve consistency, than to *elucidate* the subject."

"Mr Bryce will not allow of a weak or modified action of the antivariolous powers of vaccination, but contends, that if it does exert a constitutional effect, it must, in every instance, be perfect and complete. Dr Willan, Dr Woodville, and even, Dr Jenner, as well as many others, grant, on the contrary, that certain states, and appearance of the vaccine vesicle, give only an imperfect security, and allow of a recurrence of small-pox. Mr Bryce, therefore, having obtained, as must be concluded from what he has said upon this subject, the test of double vaccination from *all* appearances of vesicles and areola, must either give up this favourite improvement, or maintain that these vesicles are all *perfect*, and the constitutional influence imparted. On the other hand, Dr Willan, not being able to deny the test of double vaccination, and having already *distinctly* allowed an imperfect, or incomplete antivariolous influence, must either give up such an opinion entirely, and, along with it, a powerful, and ready excuse for every failure, or find out an expedient for reconciling two such opposite assertions; accordingly, at page 79, he gives the paragraph already noted, and seems willing to meet Mr Bryce half way. Mr Bryce, however, does not seem inclined to accept of the compromise, and requests to know, whether this declaration of the Doctor's, be merely a consequence of the *theory* which he has formed regarding the constitutional action of irregular vesicles, or as a fact founded upon the doctor's own experience? From the opinion I entertain of Dr Willan's discretion and judgment, I apprehend it is a question he will not attempt to answer; and I am afraid it is a request which Mr Bryce would have done well to have avoided, if he was anxious for maintaining the character of vaccination in any *decent* state of consistency*.

*It is evident, according to their respective doctrines, that, as Dr Willan admits, a modified and partial effect may take place from some vaccine inoculations, if a second inoculation from the same vesicle was followed with the appearances described, to form Mr Bryce's infallible test, then of course it must be admitted, the disease was imparted in the most complete

“ I apprehend, from an attentive review of these, and every other fact connected with vaccination, it will distinctly appear, that this test cannot be depended upon, as indicating any action of the system, by which it may be inferred an active or permanent influence has been imparted. At all events, it cannot be considered as better, than what can be obtained from the characteristic phenomena of the vaccine vesicle itself, and is not entitled to more attention, than where the areola exists in the primary vesicle. We have, therefore, an equally certain criterion, without either offending the feelings of the parents, or throwing any doubt or stigma upon the disease.”—See Brown’s Inquiry, page 140, &c.

V. I come now, Gentlemen, to the subject of quotations; and here I must confess I am totally at a loss how to act, your conduct appears to me so singular, and so exposed to the most ample and satisfactory refutation, that I cannot believe you are serious, when you have preferred this charge. Were I conscious you yet entertained the smallest anxiety for a fair investigation; that you did not wish the destruction of the character of the individual; or even, that you had the smallest compunction for your past conduct, I should cheerfully draw a veil over your nakedness; but the seriousness of the charge, admits of no alternative, and self-defence surmounts every other consideration.

constitutional manner. Again, if Mr Bryce was to admit such a fact, he must of course agree to the possibility of a constitutional influence being imparted, by such imperfect vesicles, and therefore his test could be of no use. Indeed Mr Bryce appears to be fully aware of the dreadful effects of this doctrine of Dr Willan’s, upon the whole discovery; for, if it was admitted, then the advocates of the practice are reduced to the distressing and insurmountable dilemma of admitting one of two circumstances, either of which are sufficient to overthrow the whole fabric: viz. That although the vaccine phenomena exert a constitutional influence, yet in one case it may be complete, and in another incomplete; or, that there must be two kinds of cow-pox virus, possessing an antivariolous influence, but the one complete and the other incomplete, and yet both possessing characters which cannot in general be distinguished from each other. This is certainly so absurd a doctrine, that no man in his senses can possible assent to it; nevertheless, it is exactly the amount of the present state of the practice, *if we shall persevere in contending for the permanent influence of vaccination.*

The first point which this subject involves is, that of only quoting those passages which make for my own opinions. Here I must observe, such an objection is not only new, but absurd. You must, surely, Gentlemen, be aware, it is not only conformable to experience and custom, but *necessity* even requires you should only state the doctrine you intend to examine, *in the most precise and correct terms*, without paying any minute attention to the words of the author. You must surely be sensible, you are not only at liberty, and it is perfectly fair and just, to attack your antagonist with every weapon of your own, but also, with whatever he shall have been so imprudent and inattentive as to furnish you with. You must certainly be satisfied, that if you were to give extracts equally on both sides, you must in fact quote the whole work, and in place of writing one book, you must actually produce two; a task which I have not the least inclination for, and which I shall cheerfully leave to yourselves.

The next feature in this charge is also of minor importance, and wholly unworthy of so serious a subject. *i. e.* neglecting to give the pages where the different quotations are to be found, and making up a large extract by a collection of sentences. Although it is merely enough to mention such frivolous attacks, yet I shall observe, that although it certainly appears to have been an omission of great consequence to the surgeons of the Vaccine Institution, yet I am convinced an attentive and judicious reader could, with very little trouble, find out the passages, were they merely alluded to, independent of being quoted; besides, the passage reads more agreeably, and is a saving of time and trouble. I must also observe, such a charge is not wholly warranted by custom, cannot have the smallest influence upon the present discussion, and is in many respects, wholly disregarded by your colleague.

With regard to the extracts from different authors, formed by a collection of quotations, it is to be observed, that such a plan appeared to me not only preferable to throwing them promiscuously throughout the publication, but also gave a more distinct and comprehensive view of the opinions of the different authors. It is for this last reason alone, Gentlemen, I am well aware they are obnoxious to you ; for certainly when upwards of *a page or two* are given at a time, together with many long letters and paragraphs, they are not entitled to the appellation of garbled extracts, and more especially too, wherever an interruption has taken place, a new paragraph is always commenced. But it may be farther observed, this circumstance cannot possibly be of the smallest importance, when *you dare not deny the simple fact*, that such opinions are to be found in the respective publications.

Before proceeding to the most serious, and indeed, the only point in this charge worthy of the smallest attention, I must beg leave to remind you, Gentlemen, of what you appear to have entirely overlooked ; that I have judged it necessary, in the plan of my work, to arrange under distinct heads, all the different opinions and circumstances, stated by different authors. In doing this, I collected them from the works of the vaccinists themselves, and did not think it prudent, in a discussion of this nature, to influence my mind by reading the work of a single antivaccinist. The general inferences extend from page 32 to 59 ; and, I will venture to affirm, none but yourselves could be found capable of asserting I had not acted fairly and honourably, after perusing these pages. Nay, Gentlemen, I will go a step farther, and assert, that you shall not be able to produce one book, either on vaccination, or any medical dispute, where such a fair, particular, and copious statement of every circumstance upon the opposite side of the question has been given. My reason

for adopting this plan was, not only to give a distinct account of the leading features of the doctrine, and practice of vaccination, but also to avoid the awkward and disagreeable effects of quotations, upon the chain of reasoning; and I now, Gentlemen, beg leave to request, if I have represented, in these general inferences, *any one thing contrary to the spirit of the different publications upon this subject, you will have the goodness to bring forward your charge, and I shall engage to shew sufficient grounds for the truth of them.*

To enter into a detailed reasoning and defence of the paragraphs you have objected to, I consider as an insult to the understanding, and feelings of my readers, contrary to my own judgment, and wholly unnecessary for the ultimate object of this discussion. I shall therefore content myself with laying before you, in the following manner, what I conceive will be sufficient, not only to overturn the charges of misquoting, and changing extracts to my own purpose, but I firmly hope, will convince every impartial reader, that your charge is not only frivolous and vexatious, but malicious.

Report of the Surgeons of the Vaccine Institution.

“It is admitted by the committee, that a few cases have been brought before them of persons having the small-pox, who had *apparently* * gone through the cow-pox in a regular way.”—Report Royal Jennerian Society.

I shall take the liberty to add other two paragraphs from the Report of the Jennerian Society, which I hope gentlemen you did not omit from design: “That cases supported by evidence equally strong, have also been brought before them, of persons, who, after having once regularly passed through the small-pox, either by inoculation, or natural affection, have had that disease a second time.”

“That in many cases in which the small-pox has occurred a second time after inoculation, or the natural disease, such recurrence has been particularly severe, and often fatal; whereas,

* It is upon the omission of this word *apparently*, that the surgeons have founded the whole charge of misquoting.

when it has appeared to occur after vaccination, the disease has generally been so mild, as to lose some of its characteristic marks, and even sometimes to render its existence doubtful."

"The security derived from vaccination against the small-pox, if not absolutely perfect, is as nearly so as can perhaps be expected from any human discovery; for among several hundred thousand cases, with the results of which the College have been made acquainted, the number of alleged failures have been surprisingly small, so much so, as to form certainly no reasonable objection to the general adoption of vaccination."—Report of the Royal College of Physicians, page 4th.

The College ascribe some of these failures "to the inexperience of the early vaccinators, and state, that it is not unreasonable to expect, that further observations will yet suggest many improvements, that will reduce the number of anomalous cases, and furnish the means of determining, with greater precision, when the vaccine disease has been effectually received."—Ibid, page 5th.

The truth (i. e. of the antivariolous powers, or of the propriety of vaccination) seems to be as firmly established, as the nature of such a question admits.*—See Appendix, page 7th.

Brown's Inquiry into the Antivariolous Powers, &c.

"The medical Council of the Jennerian Society admit, that a few cases have been brought before them, where persons have taken the small-pox, after having passed through the cow-pox in a regular way; but endeavour to remove the objection, by adding that they have also cases, supported by evidence equally strong, where persons, after having regularly passed through the small-pox, either by inoculation, or the epidemic disease,

* Upon the difference betwixt those passages in the respective publications, which are in italics, the surgeons of the Vaccine Institution have been pleased to make the following comment: "Now in the first place, the practice of vaccination is not a question; and in the second place, this statement of Mr Brown's is quite different from the meaning of the College." What the College exactly meant, I shall not pretend to determine; but I apprehend they will readily allow that their report was intended to be, in all its features, a defence and recommendation of the practice of vaccination, and therefore it must be presumed, the propriety of such a practice was a question not yet decided. If Mr Bryce or his colleagues can perceive, even without this explanation, any real difference betwixt the paragraphs, they must be left to hug themselves in their own superior understandings, for I confess myself unable to detect or comprehend any.

have had the affection a second time, and such second attack is in general very severe, and often fatal; whereas, when it has appeared after vaccination, it has been always so mild and trifling as even to render its existence doubtful."—p. 52.

"The very able report of the London College allows, there is nothing analogous to this discovery in nature; also that there is sufficient evidence where the antivariolous power of vaccination has failed, although it seemed to be communicated in its most perfect form; but these cases are comparatively few, and by no means capable of overturning the immense mass of evidence brought forward in its favour: indeed, those cases of alleged failure, not being greater than the proportion of deaths arising from inoculation. That, where such cases have occurred, they have uniformly varied much from the usual severity of small-pox, and assumed a very trifling appearance."

"The college also conclude, that they are equally safe from the epidemic small-pox, as well as from the inoculated; and observe, that towns and villages have resisted the natural small-pox. They scout the idea of its being only a temporary security, not only upon the grounds already before them, of a practical nature, but also from analogy, of which they add, there is nothing similar in nature."

"The disease, too, when contracted by milkers, has been subjected to a long test; as the College allege, there are no instances where they have not resisted the small-pox."—pages 50, 51, and 52.

The College conceive the practice of vaccination to be as completely established as the nature of such a question admits, and look forward to the period when all opposition shall cease, and the ravages, if not the existence of small-pox shall terminate."—Pages 50, 51, and 52.

All vaccinists agree in opinion, the perfect, or constitutional vaccination, imparts such complete security against the disease of variola, as was obtained under the practice of inoculation; and also, on the contrary, the imperfect, local, spurious, or irregular vesicle, or disease, does not."—page 41.

It is contended strenuously by nearly every author, and by almost every practitioner, that it is a perfect antidote against the small-pox, if the disease is properly communicated; and Dr Jenner, and his relative Mr G. Jenner, positively assert, that they have not had one instance of failure in their own practice. They all therefore, and without hesitation, refer the whole of them that have been brought forward, to the sweeping power of improper vaccination, or to the blindness, and stupidity, of the medical

practitioners, who could not distinguish the difference between small-pox, and chicken-pox, a rash or bug-bites."—Page 47.

"In the seventeenth number of the Edinburgh Review, there is a most excellent, comprehensive, and distinct view of the subject, where, in addition to the particulars already observed, are the following circumstances. They think there are about twenty well authenticated instances, where persons have had the small-pox, after having gone through inoculation regularly, and allege, there are not ten well authenticated cases of small-pox occurring after perfect vaccination; although, from the report of the medical council, they observe, there are nearly as many have undergone vaccination, as have been inoculated since the commencement of the practice, with this additional circumstance, that a very great proportion have been subjected to inoculation after vaccination; thus, in their opinion, subjecting it to a severe test."—Page 53.

Besides submitting these extracts, Gentlemen, to your perusal, as proofs of the total want of truth and candour, in the charge you have preferred, you must forgive me, if I shall take the liberty also to observe, in the first place, the words (for they do not form a sentence) you have selected, *were neither given nor intended by me to be considered as a quotation*, but merely to shew the general scope of the information which had reached those respectable bodies. In the second place, with regard to perverting the sense of the authors, the extracts I have given, must convince every impartial and unprejudiced reader, that I have given the meaning, even of the warmest advocates of vaccination, in the most extensive and liberal sense, although the above extracts, and others which shall appear in another place, shew, that these public bodies considered the cases actually cases of small pox, after the most perfect vaccination; for what other conclusion can be drawn, when they gravely state, that small-pox have also been frequently known to recur a second time, and still, as a farther defence, which I must say is not only unworthy of these societies, but wholly unsupported, nay, even

repugnant to experience, *i. e.* if small-pox does recur, they are always severe* ; and in the last place, the omission of the word *apparently*, upon which, Gentlemen, you have founded the whole charge, and have rung all your changes, is entirely compensated by the other paragraphs I have quoted. But farther, we have already shewn ample grounds for concluding, that the omission of the word *apparently*, is neither in point of fact, considered by the Jennerian Society, nor indeed, by any vaccinator of experience, of the smallest consequence. They, and also you, Gentlemen, know well, the whole characteristic and diagnostic symptoms of cow-pox, can only, in general, be distinguished by *appearances*, and that, if any individual has *apparently* gone through the disease, he has also *actually* done so.

VI. The last circumstance, Gentlemen, which you have noted, as connected with Mr Bryce, appears to me so totally beneath every thing which merits attention in the consideration of such an important subject, I can hardly persuade myself to condescend to attend to it†. You observe, Mr Brown says: “ He (Mr Bryce) also states several cases of experiments where it would appear, and which he says, *shews distinctly*, that if you vaccinate a day or two previous to introducing small-

* The extent and force of this insinuation does not appear at first sight, but requires to be particularly pointed out, as it shews with what care and anxiety the advocates of vaccination have guarded their darling offspring. If it was really true, when small-pox did recur, that they were always more particularly severe than on their first attack, it not only recommends vaccination, on account of the comparative mildness with which they have in general succeeded to that affection; but observe, it also inculcates the principle, that the constitution is not more secured by the severe indisposition, from the previous disease of small-pox, and it would appear, such constitutional influence is as likely to wear out, as the mild and trifling constitutional influence of cow-pox.

† If any thing more was wanting to convince the public that this Examination and Report is not only solely the production of Mr Bryce, but in fact was expressly undertaken for his defence, this part of the subject puts it out of all doubt.

pox virus, you will uniformly find, that the variolous pustule proceeds, not only slowly in its progress, *but (has) its size and period of maturation considerably diminished.*" You then proceed: "In so far as this statement can be understood, it appears to involve a complete contradiction; for the meaning of a pustule having its period of maturation considerably diminished, can only be, that it arrives at maturity in a shorter period of time, or more quickly than usual. The statement then stands thus, viz. if you vaccinate a day or two previous to introducing small-pox virus, you will uniformly find, that the variolous pustule proceeds *not only slowly in its progress, but more quickly than usual.* Mr Bryce never, with his knowledge, made any experiments which could entitle him to say, that they *shew distinctly* such an absurdity." See Report, Appendix, p. 5.

I have no doubt, Gentlemen, although you have preferred this charge, you know perfectly the whole of this enigma, and as you would wish to convey, complete contradiction, can be readily and satisfactorily explained. It is only necessary for this purpose to observe, that although the term pustule may be used to denote the whole local process of inoculation, yet it is perfectly conformable to experience, that the progress of such pustule may be divided into two stages; and it is no less consistent with truth, that such pustule may proceed slowly in its early stages, and afterwards pass quickly through the period of maturation, which peculiarity is in general attended with a diminution of the size of the pustule; and on the contrary, if the pustule proceeds rapidly through its first stages, the period of maturation is much lengthened, and is, in general, accompanied with a considerable increase of size. Nay, indeed, the truth is, that these are the uniform consequences, not only of variolous and vaccine inoculation, but also of the progress of any pustule, produced from the insertion of every virus; for it is evident, that the

consequences must be regulated by the extent of the previous inflammation. It is only necessary farther to observe, that, in the history of those cases stated by Mr Bryce in No VI. of his Appendix, the general inference I have given is distinctly confirmed.

VII. Having thus, Gentlemen, replied to the different circumstances contained in your Appendix, and, I flatter myself, satisfactorily explained and refuted every charge which you have there condescended to bring forward, I shall now proceed to discuss those points which are contained in the Report itself.

In prosecuting this subject, the first circumstance worthy of attention is, the manner in which you have been pleased to state the sum of my opposition to the practice of vaccination. You have set out with observing, that you have perused my book with *much* attention; and then proceed to state, that my opinions may be referred to two heads, viz. That the whole subject is involved in contradictions and obscurities, even in the writings of its most strenuous advocates; and that although I allow the security afforded by the practice of vaccination to be nearly perfect, immediately after vaccination, yet that the antivariolous power of cow-pox gradually wears out of the constitution, “*so that after three or four years, the person is as liable to be affected by small-pox contagion, and after five or six years by inoculation, as if he had never been vaccinated.*”—See Report, p. 2.

With regard to the contradictions and obscurities which I allege attend this subject, you have certainly stated my opinion correctly; but I must take the liberty to observe, it is impossible you can have perused my book with much attention, nay I will go farther—with any attention,—and to have declared it inculcated what you have also here asserted. In order to prove this in the most satisfactory manner, it is only necessary to

subjoin the following propositions, as given at page 244 of my Inquiry, which contain a summary of my opinions on the subject, and also the sentence referred to in your report.

“ 1. That the cases which have occurred, afford ground for concluding, that the antivariolous influence, directly after vaccination, is to be considered as *nearly* perfect.

“ 2. That in proportion to the distance from the period of vaccination, the antivariolous power is *proportionally* diminished.

“ 3. That about three years after vaccination, the constitutional influence is so much diminished, as readily to allow the operation of the variolous contagion, but still exerting a considerable effect, in *mitigating* the disease.

“ 4. That at the distance of *five* or *six* years from vaccination, the facility is so much increased, as hardly to impart *any* security, and so much diminished in its powers of *mitigating* the disease, that, at this period, the cases *very nearly* approach to the most common form of the *distinct* disease.

“ 5. That the eruptive fever, and all the other peculiarities of small-pox, increase in severity, and assume the characteristic phenomena, according to the foregoing rule, so as to *approach* to the natural disease.

“ 6. That the *period of security*, as well as the *severity* of symptoms, are evidently influenced by the *manner* in which the contagion is applied.

“ 7. That the powers of variolous contagion are evidently increased by the accumulation of individuals, although not attended with small-pox eruptions, and also, in proportion to the number of cases, and extent of eruption.

“ 8. They show, in the most *irresistible* manner, that small-pox, either from the natural disease, or from inoculation, are not so liable to recur, or, are not so imperfect a protection against their own future poison, as that which is produced by vaccination, as there was not *one* instance, where a single individual was in the smallest degree *again* affected.

“ 9. They afford grounds for concluding, that cases where the constitution resists the small-pox, although neither inoculated, nor vaccinated, are either not so very uncommon, or that they must have previously passed through the disease in such a slight way as not to be perceptible.

“ 10. They show there is *really* no difficulty, or *great* delicacy in conducting vaccination; for those instances that were vaccinated by the *mother*, and a *farrier*, were shown to be equally constitutional from their effects, with those conducted by the whole of the medical practitioners.

" 11. They show distinctly, that the *pretence* of the disease of vaccination, being so little understood at its commencement, is wholly destitute of foundation, and cannot be admitted as an excuse for the occurrence of small-pox.

" 12. They prove distinctly, that, by increasing the number of vesicles, you give no additional security to your patient; and that, although you may thereby increase the appearance of constitutional symptoms, you do not render the antivariolous influence of vaccination complete.

" 13. That the cases of reinoculation, exactly correspond in their effects with the influence of the epidemic disease, always making a nearer approach, both to the external characters of an inoculated pustule, and to the constitutional affection, exactly in proportion to the distance they are removed from vaccination.

" 14. They also distinctly show, that there is a material difference betwixt the powers of the small-pox contagion, exerted in its epidemic form, and when imparted by inoculation.

" 15. These cases, and the whole phenomena and circumstances of vaccination, shew, that there are just grounds for concluding, that a specific action may exist, *minus*, or *negatively*, in the constitution; that therefore it would be improper, in the event of vaccination being found inadequate to maintain its antivariolous character, to re-inoculate those cases which have previously undergone vaccination, before it was capable of producing a distinct constitutional effect.

" *Lastly*, That they afford strong grounds for concluding, that this distinct constitutional influence cannot be depended upon to take place, sooner than about six years from vaccination."—See Inquiry, p. 244 to 249.

" We have also seen, that this period of security seems, in general, only to extend to the distance of three or four years after vaccination, if the individual is exposed to the *epidemic contagion*; but if the infection is introduced in the form of *inoculation*, it in general requires a distance, at least, of *five years* from vaccination, before you can produce either an *areola*, or *constitutional* symptoms."—See page 310 Inquiry.

After these quotations, I apprehend, Gentlemen, you will be perfectly satisfied, that if you have read my book with much attention, you have either not understood, what will appear I trust to every one quite distinct, and evident, or you have been guilty of the grossest inattention, and the most uncandid and incorrect statement. It is impossible you can here plead the smallest excuse; for the manner I have adopted to con-

vey my opinions upon this subject, absolutely preclude even the shadow of an apology, and in every part of the work, the same opinions are expressly conveyed.

VIII. With regard to the contradictions and obscurities which I have stated to exist upon this subject, I trust I shall be able to establish this point, even, Gentlemen, to your own conviction.

I may begin by observing, that, from the examination which has already taken place, of several important points connected with this practice, not a little progress has been made towards the proof of this opinion. We have already seen Dr Jenner, and nearly every author, not only gave a decided preference to the most active limpid virus, but made it an indispensable circumstance, for the purpose of obtaining perfect vaccination ; while your colleague, Mr Bryce, positively contends for an equal degree of merit to the scab, and that this scab too, is actually preferable to the virus, *in the latter stages of the vesicle, even although it is only viscid, and somewhat opaque.* We have also found your consistent friend, notwithstanding the doctrine that the scab is of equal efficacy with the most active limpid virus, contend the appearances of the vaccine vesicle are the only means of ascertaining the completion of vaccination, and then seriously proposing a test for deciding when this process has actually affected the constitution ; and what is still more unaccountable, we have him abusing me for saying, that the appearances which attend vaccination are deceitful, and not to be trusted ; but in his appendix he is absolutely attacking and scolding Mr George Bell, for saying, that if the cow-pox vesicle goes through its regular course, it affords the only certain criterion of the disease having effected the antivariolous process.

But these form but a very insignificant part of the proof which this point admits of. Dr Jenner and many

others, you well know, are of opinion, the source of this affection is from the heels of horses in that state of disease called grease, while Dr Pearson and others entertain opposite sentiments*. You are well aware, Dr Jenner states several cases, where the virus, or matter, seemed to impart security against small-pox, and then again, others of a contrary tendency, and, upon the whole, was inclined to think, that although this might be the source of the affection, yet it was made more effectual, or potent, by passing through the medium of the cow; and even, after all, it was only some states of this grease which seemed to have the antivariolous quality. Although this uncertainty and contradiction concerning so fundamental and important a point, were to be regarded as of no consequence, still you must also be well acquainted, that the same Doctor Jenner, when adducing his cases of the antivariolous influence of cow-pox, produced others where it failed in giving protection. But to all this it is a matter of notoriety, when the discovery was introduced, it was proclaimed by its author, that the constitutional symptoms which ensued were not necessary to insure its efficacy; that it was a process so easy, safe, and certain, as to be trusted out of the hands of medical practitioners; that although cow-pox imparted such an effect to the constitution, as to resist the influence of small-pox, yet, still those who had undergone small-pox, might be affected with cow pox; that the same system might be vaccinated repeatedly, even from the cow, so as to pass through all the characteristic appearances of cow-pox, constitutional symptoms not excepted; that cow-pox could subdue the influence of small-pox, although previously exerted upon the system; that cow-pox was the original disease, and small-pox merely a modifica-

* Dr Parr, says Dr Pearson, entertains the most unfavourable opinion of the whole of Dr Jenner's facts and reasonings, and considers the subject of vaccination a libel on the cleanliness of the dairies in the county of Gloucester.

tion of it; and that it was certain proof against the variolous epidemic. Now, however, the great dilemma is, the obtaining and ascertaining a constitutional effect; the process has not only become delicate and nice to ascertain, but even difficult to be conducted with precision and effect; those who have passed through the small-pox are found to resist, in a great degree, the cow-pox; the constitutional influence of cow-pox cannot be communicated more than once; the vaccine process cannot subdue the antivariolous influence, even although introduced at the same time; that they are two distinct diseases; and, to crown all, a modified and partial constitutional influence is allowed to exist, in consequence of the occurrence of many cases of small-pox succeeding to vaccination.

But, to make this subject complete, you know also, some vaccinists contend, the constitutional security is only imparted from *certain* appearances of the cow-pox inoculation, while others, equally anxious for the success of the discovery, admit, that such security is imparted from *every* variety of the phenomena which can attend the process of vaccination. That the vesicle may vary from the size of a sixpence to that of a split pea; that it may either be blue or white, convex or concave, or may assume more or less the appearance of suppuration; that the areola may vary in size, from half an inch to two inches in circumference, nay may be even wanting; that the constitutional symptoms, even in infants, cannot be in most cases detected, and that even when they do occur, they are as frequently found to attend those phenomena of vaccination, which have been denominated spurious and imperfect, as well as those arising from the most genuine and perfect kind,—and still, notwithstanding this variety, the constitutional effect imparted, so as to resist the tests of inoculation, and exposure to the small-pox contagion.

I make no doubt, Gentlemen, you would willingly

rest satisfied with this enumeration, but I must still beg leave to encroach upon your patience, and request your best attention to the following quotations.

I shall begin with offering to your attention the following letter from Dr Jenner to Dr Willan, dated in February 1806, and who, you must recollect, contended for the complete antivariolous power of vaccination.

In answer to the question from Dr Willan,—What are the changes produced in the vesicle, when a person is affected with the shingles, vesicular ring-worm, or impetigo? Dr Jenner observes, “ they usually produce a striking deviation from the character of the vaccine pustule, at some period or another of its progress, but more frequently in its early than its declining stages ; indeed, it is commonly perceptible in *a day or two* after inoculation (vaccination). It would be difficult, perhaps impossible, without the aid of drawings, to give a correct description of the varieties which an herpetic state of the skin is capable of producing, from those trifling deviations which prove no impediment to the vaccine security, up to that point of imperfection in the pustule which affords no security at all. In saying no security at all, perhaps I commit an error ; *for it strikes me, that the constitution loses its susceptibility of small-pox contagion, and its capability of producing the disease in its perfect and ordinary state, in proportion to the degree of perfection which the vaccine pustule has put on in its progress ; and that the small pox, if taken subsequently, is modified accordingly.* When no deviation takes place in the ordinary course of the vaccine pustules, or when it is inconsiderable, the herpetic blotches or vesicles, of whatever kind they may be, often assume (sometimes as early as the *third* or *fourth* day * after the insertion of the vaccine fluid) a new character, not unlike the vaccine, and keeping

* It would be easy to shew, that this is not only quite contrary to general experience on the subject, either of vaccination, or inoculation, but is

pace, in their progress, with the pustules on the arm, die away with them, leaving the skin smooth.

“ What appearances the variolated arm puts on when the skin is affected with irritative eruptions, I have *not* an opportunity of ascertaining.

“ That the small-pox inoculation, like the cow-pox, sometimes fails when the skin is at the same time diseased, I have *abundant* facts before me to prove*.

“ I have often been astonished at seeing how *small*, and apparently how *trifling*, a local affection of any part of the skin, is capable of occasioning derangements in its action in parts at a distance, although its disordered state be of such a nature, as not to be *discernible by the eye*. For example; a *small* excoriation behind the ear—*two or three* vesicles, even though of *cattarhal* origin, on the lips, or about the nostrils—a *few* scurfy spots on any part of the body—and even those vesicles, and the

also *completely impossible to be effected, by the vaccine puncture, at the period mentioned*, and I do not hesitate to assert, that this declaration of Dr Jenner's is sufficient to destroy the credit due to his testimony, with regard to the whole facts which are connected with the subject of vaccination.

* The two last paragraphs follow each other in the letter almost in close succession, and to me appear in downright opposition to each other, although perhaps Dr Jenner may be able to reconcile them. Every practitioner of even moderate experience, either in inoculation, or the epidemic disease of small-pox, must know, that no such obstacle or modification is opposed by any cutaneous disease whatever; that, on the contrary, these diseased states of the surface are not an uncommon cause, of a severe fever, and numerous eruption; that wherever those cutaneous affections exist, there, in general, the number of small-pox are most numerous. For my own part I can declare, that I have seen the small-pox (whether from inoculation, or the epidemic,) exist in every cutaneous affection, from the most severe itch, to the most trifling herpetic affection, and that, so far from these affording any obstruction to the regular progress of the variolous affection, those diseases, on the contrary, were either entirely cured, or underwent a very material change, and improvement. But when we attend to what the Doctor states in the following paragraph, quoted above, the two affections not only lose all similarity, but vaccination is absolutely exposed to ridicule, and contempt, and the profession run some risk of being charged with corruption, for seriously recommending, and enforcing, so weak, so trifling, and so uncertain a disease, as a preventative of the severe, dangerous, and extensive affection of small-pox.

subsequent state of the skin, that are produced by *external* injury, (as I lately witnessed on vaccinating a boy whose face was injured by the explosion of gun-powder), appear as *capable* of producing irregularity in the progress of the vaccine vesicle, as more extensive cuticular affections. Vaccination, when these maladies are present, seems to shew, that the whole surface of the skin is influenced at the same time, but in *separate* portions ; for on *one* arm I often produce a perfect vaccine pock, and on the *other*, from the insertion of a portion of the *same* virus, one that is *imperfect*, and which would afford no security. Indeed, on the *same* arm, within the space of an *inch* from each other, there will often be this difference in the appearance of the pocks—one putting on the *perfect* character, and the other deviating so widely, as to resemble more nearly that of an *herpetic* vesicle, accompanied with inflammation, and commonly ending in a soft, amber-coloured, or blackish scab—and sometimes, especially if it be much disturbed by scratching, in ulceration. The probability then is, that the skin, at the *point* of insertion, is sound and in its natural state in the *one* instance, and diseased in the *other*, but not so, as I have before observed, as to be *perceptible* to the eye*.”

Extract of a letter from Dr Jenner to Dr Pearson, dated Chiltenham, 27th Sept. 1798 :

“ You may be assured, that a person may be repeatedly affected, both locally and generally, by the cow-pox, two instances of which I have adduced, and have many more in my recollection. But nevertheless, on this *important point*, I have some reason to suspect, that my discriminations have not been, *till lately*, sufficiently nice.

“ It is painful to me to tell you, that I have not an atom of the matter that I can depend upon for conti-

* After this extract from the authority of the author of the practice, it is almost useless to give more.

nuing the experiments. Mr ———, when he inoculated the boy, did not take matter early enough from the pustule to secure its efficacy ; for after it has lost its limpid quality, and becomes pus, I fear its specific effects cease. Much precaution is therefore necessary, in the progress of the inquiry, and that is my grand fear, that the discovery may fall into discredit, from a want of that attention, in conducting the experiments, which the subject requires.”

Dr Jenner also, in his letter to Dr Willan in 1806, observes, that, “ vaccination gives complete security to the constitution, when no indisposition has been perceptible through the whole progress of the pustules (vesicles) on the arms. I once had some doubt on this point, but I am now, and have been for many years past, perfectly convinced they were groundless.”

Dr Willan, whom I need not remind you, Gentlemen, is also an advocate for the practice of vaccination, but whose integrity and discrimination has compelled him to admit certain circumstances with regard to the discovery which you all know, but particularly your good friend Mr Bryce, must, if true, ultimately destroy the whole practice. The Doctor observes, that “ imperfect vaccination is not characterized by any uniform sign, or criterion, but exhibits, in different cases, very different appearances, as pustules, ulcerations, or vesicles of an irregular form. Inoculators are now generally acquainted with these appearances ; but the chief nicety, and difficulty of vaccination is, in distinguishing from the genuine vesicle, some irregular vesicles, *which have often been mistaken for it, and which do not wholly secure the constitution from the small-pox.*

“ Since the vaccine virus, compared with that of the small-pox, appears to be more *delicate*, and more liable to *degenerate*, or to *fail* in its operation from various causes, several practitioners are of opinion,

that the *variolous* is preferable to the vaccine inoculation, and that it may be conducted with equal safety.

“ The right inference, from the mistakes or failures above stated, and from the *nicety* of vaccine inoculation is, that only those should be inoculators, who have had a sufficient *education*, and who have *particularly* attended to the subject of vaccination.

“ The effect of vaccination, when there are irregular vesicles, is different in different cases. They appear fully to secure some individuals from the infection of small-pox ; in others, the constitution is but imperfectly guarded against the small-pox by those vesicles, the disease taking place after them at different intervals, under a particular form.” Again, “ Imperfect vaccination is not characterized by any uniform sign or criterion, but exhibits, in different cases, very different appearances, as pustules, ulcerations, or vesicles of an irregular form ”

Dr Adams, Physician to the Inoculation Hospital in London, and who, I hope, you will also allow to be respectable authority, in answer to a letter from Dr Hervey, addressed to him by desire of the College of Physicians, writes thus :

“ Besides the *prudent* backwardness of most in admitting novelties into practice, without ample proof of their utility, the causes which have prevented the general adoption of vaccination appear to me to have been, principally, the *mistaken* zeal of its *friends*. It could not be expected that men, who value themselves on their talents at investigation, and feel conscious of their scrupulous adherence to truth, could patiently submit to be uncandidly treated for a scepticism, induced by events however accidental. When their accuracy was questioned, whilst they disregarded the assertions of their accusers, they became diligent in collecting collateral evidence, and when their reasoning was ridiculed, instead of expressing only their doubts, they became parties in their own defence.

“ Another inconvenience has arisen from a *too great forwardness* at answering objections, before they were sufficiently matured ; hence, when variola appeared after vaccination, the event

was *either denied, or explained by so many minute causes, as were sufficient to frighten the ignorant, disgust the candid, and induce the prudent to avoid an experiment, the result of which was not sufficiently understood.*

“ A practice, at *one time* represented as so simple, that the clergy and females were invited to undertake it, became at *once so mysterious*, that only a *chosen few* were said to understand vaccination; every untoward event was imputed to *ignorance between the true and spurious pustule; to taking matter at too late a period; and to other causes, still less satisfactory.*

“ Had these uncertainties *really* existed, they would have been *sufficient* objections against a practice, the object of which is to secure the subject from a formidable disease, and from which he might be secured by another, certainly less desirable, but *well ascertained* operation. But the *truth* is, that vaccination is as *simple* as it was at *first* announced; that the true character of its vesicle is *more certain* than the local effect of any other morbid poison; that it is impossible to confound it with a pustule of any kind; and, that every difficulty might have been avoided, by requiring a correct register of the progress, from the period of insertion, to cicatrization, or for the most part, of perfect scabbing*.”—See Adams on the Cow-pox, Appendix, p. 149, &c.

The Doctor also, in an inquiry into the laws of epidemics, *published only this year*, enters into the subject of exterminating the small-pox, and only notices vaccination as one of the means, in the following terms, which I shall, Gentlemen, lay before you at full length, as it will not only clearly point out the great delicacy with which the Doctor ventures to speak of vaccination, but will also shew, that, in fact, he does not consider the subject as at all decided; and the dreadful state of uncertainty that must hang over the mind, if any attempt is made to prevent the proper security being obtained by inoculating for the small-pox, as he seems to consider it as clearly proved from their history, that it is impossible to prevent or destroy the variolous contagion.

The Doctor observes: “ The discovery of vaccination is certainly a most invaluable acquisition, *and those who are satisfied with it, do right to recommend it to the world. Happy for them-*

* This letter was dated 17th November, 1806.

*selves and others, if they had been contented to recommend it by their example, and by the facility which the practice itself offers**. If they go farther than this, there is only one step more they can conscientiously take, that is, the forcing vaccination on *all* under certain penalties. I know there are many men whose intentions are perfect purity and benevolence, and who would start at such an imputation; but what else are we doing in prohibiting inoculation of small-pox, or even in refusing it to those who are unable to make a pecuniary return, or temporary seclusion? If they do not submit to vaccination, are they not without the chance of escaping six years, at most, many of them less than a month in the metropolis? Of escaping what?—A disease which is said to destroy one sixth of the sufferers, besides maiming, blinding, and disfiguring many more. Do we know of any penalty heavier than an almost double decimation and these additional torments?

“No! it is urged by some; the only intention is to put small-pox inoculation under some restrictions. Nothing can be more reasonable; it is not indeed easy to excuse the omission of so important a duty, from the period that the practice was rendered popular by the Suttonian improvements. But now that you have left it so long unrestrained to the terror of the villagers, at least stop to attend to the probable consequences which may follow any hasty decision in the metropolis. Reflect, that the older your town is, the more numerous must be the sources of contagion from the causes before enumerated, and at least make some provision against these sources, before you interdict a practice, which, till lately, you probably recommended by your advice and example.

“But, it is said, that by preventing inoculation, we lessen one source of contagion. It is my misfortune not clearly to comprehend the meaning of this position. The question is, do we afford any certainty for half an hour? Can we say to one newly arrived in the metropolis: You need not fear the small-pox now, for there is no inoculation permitted but under certain restrictions? Recollect the fate of Miss Joanna Cumberland, almost as soon as she arrived in London. Recollect the fate of the Russian Princess, in a newly built city, before inoculation was known, and where every endeavour was used to prevent the introduction of the disease. Recollect the fate of Queen Mary, consort to William III. married at the age of 15, and probably from that time resident chiefly at the Hague; she escaped the

* These expressions, coming from Dr Adams, who has published a popular work in recommendation of vaccination, together with the consideration of the official situation he holds, and being the tenth year of vaccination, are pretty decisive proofs of the state of the discovery in London, &c.

small-pox till her arrival in England at the age of 27. Five years afterwards she was seized with the disease and died.

“ In a word, is there the mortal who would live in such perpetual fear? Is there an animal of any description whom you would torture with such perpetual anxiety? Can you assure the youth, full of health, and at an age when strong exercise is commendable, and occasional intemperance with difficulty restrained, that in such a moment he will not be seized with a disease, which, under the most favourable circumstances often proves fatal? Can you assure the virgin, that her return from the dance may not prove the introduction to this dreadful calamity, after her escape from which, perhaps, she would readily resign her existence? No, you say, that either of them may be vaccinated. Is this questioned? But does not the inference follow? Such are the penalties if you do not vaccinate!

“ *It is far from my intention to consider any thing here offered as decisive of the question. My only wish is, that it should not be decided like one, every part of which is clearly understood almost without inquiry; that we should be alive to its importance, or at least, that I may not be accused of withholding whatever information the best of my studies, and the office with which I am honoured, may enable me to offer.*”—See Adams’s Inquiry into the Laws of Epidemics, &c. pages 97, 98 and 99*.

I intended, Gentlemen, to have proceeded to lay before you, extracts from Dr Pearson, Dr Woodville, and Mr Bell; but, I hope you will excuse me, for omitting them, and confining our attention to those of your colleague.

Mr Bryce says, “ It must not, however, be concealed, that although the distinction between cow-pox, and the above case of eruptions, which was so similar as to be mistaken for cow-pox, is pretty clearly pointed out, yet this cannot be expected in every case, for even Dr Jenner himself allows that it is extremely difficult, in many cases, to distinguish between the true, and what he calls the spurious cow-pox, as affecting cows.”—See Practical Observations by Mr Bryce, page 88.

* I hope, Gentlemen, you will be so good as transfer your next Report and Examination to Dr Adams.

“It has been recommended by writers on vaccination, *and by others zealous in the good cause*, that persons not of the medical profession should yet undertake to conduct this new inoculation ; and at a very early period of the Jennerian inoculation in this country, a recommendation to this effect was drawn up by Dr Farquharson and myself, and sanctioned by the managers of the Vaccine Institution, established at the Edinburgh Public Dispensary, for the gratuitous inoculation of cow-pox. It was forwarded to the clergy of Scotland, requesting them not only to recommend the adoption of vaccination, as a preventive of small-pox, but actually to engage personally to conduct the operation, and in order to enable them to comply with our request, it was accompanied with a short account of the history of vaccination, with directions for taking and preserving the infection, for performing inoculation, and for judging concerning the sufficiency of the disease produced. We have, however, long since been convinced, that although much benefit may be derived to vaccination from the exertions of the clergy, yet, that it is not by their undertaking to conduct the inoculation, that this is to be effected. We are more and more convinced that this part of the business, together with the responsibility attending it, should be left entirely to medical men ; *and I would add, to such medical men as have made vaccination a particular study.* Mr George Bell, surgeon in Edinburgh, has lately published a second edition of his Treatise on the Cow-pox, addressed to the clergy of Scotland, in which he expresses his opinion, ‘ That the support of the clergy collectively is necessary to complete the ultimate success of the cow-pox inoculation,’ not by recommendation alone, but by actually engaging themselves in performing inoculation. Here then, Mr Bell’s opinion and mine differ considerably ; he thinks that, for the good of society and the cause of vaccination, the clergy should not only

recommend, but practise inoculation for the cow-pox, and I am clearly of opinion, that example and precept are the points to which alone the exertions of the clergy ought to be confined. By adopting the practice in their own families, and by frequently and seriously inculcating the adoption of it, amongst the members of their congregations, clergymen will confer a much greater benefit on society, and do more towards rendering vaccination general, than by undertaking personally to conduct the operation."—See Appendix to Practical Observations by Mr Bryce, pages 60 and 61.

These distinctions, of spurious cow-pox, and of irregular vesicles, many authors have endeavoured to establish, and to describe minutely, so as to be easily detected in practice, but, in my opinion, with little success; for we still hear of many instances, in which the practitioner has been deceived in his opinion, concerning the safety of his patient, notwithstanding of the rules prescribed by those authors, for forming an opinion with precision on this point. And the above quotation, concerning the effects of irregular vesicles on the constitution, shows the distinction made by Dr Willan, to be not only *useless*, but *hurtful* in practice, because, if these irregular vesicles *effectually* secure some constitutions, and only *imperfectly* secure others, how are we to distinguish whether our patient be perfectly or imperfectly protected, and to what degree?

"These terms, therefore, appear to me to be *contrived*, rather with a view of explaining *something* not understood, than from any *correct* observations made on the subject; terms *contrived*, under which the practitioner might *sculk* in case of failure, or mistake; and the more nearly the descriptions of these said spurious and irregular vesicles *are made* to resemble the genuine vesicles, and the greater difficulty there is in distinguishing between them, the more *effectually will this shield and protect those who use it.*"—See Appendix to Mr Bryce, page 111.

“ The introduction of the terms, “ spurious cow-pox,” and, “ irregular vesicles producing imperfect vaccination,” have, in my opinion, therefore, done much injury to the true interests of vaccination ; and I must here, for my own part, declare, that were I, in my practice of inoculation for the cow-pox, obliged to form my opinion concerning the presence and extent of the constitutional affection, and, consequently, concerning the future safety of my patient, from the description of the affection as given by the authors * who adopt these terms, such are the doubts which these descriptions would *constantly* create in my mind, that, however much I value this new inoculation, and few can value it more than I do, *I would infinitely rather prefer at once, to inoculate with the small-pox.*”—See Appendix, page 113.

I shall not, Gentlemen, proceed farther ; abundance have been given to convince any one, that the most *hideous* and *disgusting* contradiction, obscurity, and even absurdity, attend the whole history of vaccination ; and, from those circumstances alone, strong reasons are afforded, not only for instituting a strict inquiry into the whole practice, but sufficient to check the farther credit and progress of the discovery.

IX. The other features, Gentlemen, in your Report, which still remain for discussion, are all included under the examination of the proof, which experience and experiment have produced, of the feeble and temporary power of vaccination, and are by far the most important, so far as regards the truth or falsehood of Dr Jenner’s discovery ; and I can assure you, it would have afforded me much pleasure had the nature of your Report permitted me to attend to no other.

Before proceeding to this examination, it seems absolutely necessary, in order to have a clear view of the

* Recollect, Gentlemen, that this authority is Dr Willan, and who, you contend, is entitled to the most implicit confidence.

subject, to come to some understanding concerning constitutional vaccination; and here the question that naturally occurs, is,—Are there no circumstances by which constitutional vaccination can be ascertained to have taken place?—

We have already seen, according to the warmest abettors of the practice, that none of the phenomena of the disease are to be depended upon, and, that the test which Mr Bryce proposes, is not entitled to more attention. We may indeed exclaim, what is to be done to extricate ourselves from such a tissue of confusion and uncertainty? The way, I apprehend, is nevertheless neither dubious nor difficult: we have only to attend strictly to the phenomena of the disease, and indulge neither in speculation nor conjecture.

If, upon the introduction of vaccine virus, a vesicle is produced, attended with more or less of an areola, or circular inflammation, continued for two or three days, with, or without symptoms of constitutional derangement, we may conclude, that the vaccine virus has exerted every effect upon the constitution it is capable of; and if the vesicle remains whole, and afterwards forms a dark-coloured scab, or crust, which, in two or three weeks, drops off and leaves a scar, we may consider the disease as having run its natural course. It also appears from experience, and the authority of all who have wrote upon the subject, that although the vesicle should vary considerably in size, colour and figure; the erysipelatous inflammation be of greater, or lesser extent; sometimes circular, and sometimes jagged and irregular, either with, or without constitutional derangement; and whether or not a dark-coloured scab is formed, falling off at a certain period, and leaving a small or large scar, yet still the *same* effect is found to be the consequence, viz. if the person is made to undergo inoculation with variolous virus no disease will be produced, or if he is exposed to the in-

fluence of the epidemic contagion, no effect will be the consequence. To say that all this is not enough, that this may be all obtained, and still the vaccine influence not constitutionally exerted, is a solecism beyond all comprehension. It surely cannot be seriously urged, that these effects may be obtained, without the vaccine vesicle exerting any influence; that the constitutional effect is exerted in the *one* case, and *local* in the other, although an *equal* resistance is made to the *same* species of proof; that if the same results are found to follow from one cause, that the one is *complete* and the other *incomplete*; or that if any difference, or variety in the phenomena, should really constitute a different disease, that still the *effect should be the same*. As the phenomena of the affection, and resisting the tests of inoculation, and exposure to the epidemic, afford the most positive testimony, that vaccination has exerted upon the constitution whatever power it is possessed of, I cannot perceive upon what grounds the advocates of the practice can possibly contend, that the phenomena which impart the desired security, are so nice of distinction, none but the most experienced, attentive, and acute practitioners, can vaccinate with precision and effect.

This might be more readily granted, if these gentlemen would be so good as condescend to notice, what really are the appearances to be depended upon. But when we find that all of them admit, that every one of the phenomena may readily undergo every possible variation, that not *one* circumstance can be pointed out, as capable of characterizing its existence, and that all the variety of appearances, and other *cross* and *un-toward* accidents, attend the practice, even when in the *hands* of Dr Jenner or others, who contend for *superior* information, whether derived from more extensive practice, or more accurate observation, it is impossible to find out upon what grounds they can *insist*, that experience has any advantage.

Waving this entirely, I apprehend we may derive some assistance from our experience in the practice of inoculation. The difference betwixt the practice of vaccination and inoculation, is by no means so great as to throw away as useless, all that information which our former experience certainly imparted. I contend, that the phenomena, so far as they depend upon the vesicle, and pustule, enabling us to judge of their producing the constitutional effect, are exactly the same. The experience, therefore, that any practitioner formerly obtained under the practice of inoculation, is by no means to be laid aside as useless, in conducting that of vaccination, or enabling him to judge of its merits; on the contrary, I am seriously inclined to maintain, that if any practitioner has not had that experience, he is incompetent either to conduct, or judge of vaccination, singly, or comparatively.

In conformity, then, both with my own experience of the phenomena of inoculation and vaccination, I maintain, that if you have a vesicle, attended with an areola, you may depend upon the production of whatever effects it is capable of; and that the erysipelatous inflammation round the vesicle, forms the principal criterion of its constitutional effect. It is well known to those who have had any experience in the practice of inoculation, that every variation of the pustule and areola, were still capable of producing the constitutional influence. You might have every variety already noticed, as occurring in vaccination, and still the constitutional disease imparted in its greatest perfection. The areola was here looked upon as the decisive test of its influencing the system; and as a proof of the perfect satisfaction that existed, no body ever *dreamed* of re-inoculation where the pustule and areola were obtained.

Some fatality, Gentlemen, must surely have attended the exercise of your intellectual powers when form-

ing your Report, when you attempt to deny that no analogy exists betwixt inoculating for the small-pox and cow-pox. How was it possible otherwise to overlook, that Dr Jenner hailed the similarity of inoculation and vaccination as the surest omen of his success; described the cow-pox as the original disease, and small-pox only a modification of it. In his letter to Dr Willan, he also observes, the areola has not been awanting, but once in 3000 vaccinations, and that one too he explains, by observing that some doubts existed of the completion of the process. That Dr Woodville, Dr Adams, Dr Willan, and others, admit, the appearances of these processes to be so similar during the first six, or seven days, as not to be distinguished from each other, and, in some cases, not even during the whole progress of the two affections. That they all characterize the areola as the most prominent feature in the process of both inoculations. Nay, that the areola bears an exact proportion to the constitutional effect, for wherever it is extensive and severe, so is the system more or less affected. That Dr Adams observes the only doubtful appearance in the inoculated part is, when the progress is slow, without much inflammation, and with no surrounding redness. That Dr Willan ranks a vesicle without an areola, as an appearance which will be found not to secure the constitution against small-pox. That Mr G. Bell says, as soon as the constitutional effect takes place, the inflamed ring, or areola, with which it was surrounded, spreads in the course of a few hours, to nearly double its former size, and this appearance is to be considered as a pretty certain test of the matter having been genuine, and produced the real vaccine disease. Further, that from his experience in the disease, he is of opinion, the febrile paroxysm alone is not a sufficient test that the disease has taken place, unless it is followed by a distinct and well formed areola. You ought also to have known, that the

appearances of both inoculations, are allowed by Dr Woodville, Dr Adams, and others, to vary according to the quality of the virus that has been used, the mode of introducing it, and the management of the arm, and still both affections to produce their distinct and complete effects. In fine, Gentlemen, wherever small-pox have succeeded to vaccination, you well know the vaccinists have asserted, that the areola must have been of a particular colour, figure, trifling, or wholly wanting, and that small-pox have been also known to recur more than once. But that nothing may be wanting to satisfy you on this subject, I shall submit the following passages, from the publication of your good friend Mr Bryce, who, I dare say, you will allow to be competent authority.

“ On making inquiry at the mother and nurse, I found that the areola of the cow-pox affection on the arm of the oldest child, who now had the small pox, had not proceeded to nearly so great an extent as on the arm of the youngest, who completely resisted that disease *.”—See Page 149. “ And certainly if we find in cow-pox, where the inflamed and hard areola does not take place, at least in the regular course of that affection, until the end of the seventh or beginning of the eighth day from inoculation, that a second inoculation, performed for example at the end of the fifth or beginning of the sixth day, is so much accelerated in its progress, about the time the general affection of the system usually takes place, as to have an areola formed within a few hours, or very shortly after the first, and that this areola increases with the first, and again fades at nearly the same time, we must be struck with the similarity, and be forcibly led to draw the same conclusion in this case as in the former, respecting the small-pox, viz. *that although the inoculated affection had appeared very slight, and no fever had been observed, yet that a certain action had been excited in the constitution.*”—See page 160 and 161.

“ ——— Gillies æt. six months, was inoculated with vaccine virus (obtained from a vaccine crust which had been preserved for eight months) by two punctures on the left arm, on the 31st May 1808. Both punctures advanced regularly, and on the 6th June she was inoculated by one puncture in the right arm with

* The cases here mentioned by Mr Bryce shew, in the most satisfactory manner, that in proportion to the period they are removed from vaccination, so will be the effect of the variolous contagion.

small pox matter, and by another puncture in the same arm with vaccine virus from the advancing vesicles.

“ June 9th, An areola is well formed around each of the primary vaccine vesicles, and there is also a very distinct areola around the second vaccine inoculation; and the vesicle although small is well formed. The variolous puncture feels hard on passing the finger lightly over it, and is somewhat elevated, but no surrounding inflammation, or apparent acceleration from the progress of a primary inoculation is observed.

“ 11th, The areola around the second vaccine inoculation was very bright and well formed yesterday, and still continues so, and the vesicle appears to be at its height. The puncture from variolous inoculation is advancing in the usual slow manner of a primary inoculation.

“ 12th, All the vaccine vesicles are drying fast into their proper crusts. The variolous pustule still advancing, and contains purulent matter.

“ 13th, The variolous pustule still contains matter, but without any surrounding inflammation, or eruption of other pustules.

“ 14th, The variolous pustule drying into a crust. The crust fell off from the second vaccine inoculation yesterday.

“ 15th, The variolous pustule is quite dried into a crust*.

“ In these cases a great difference between the progress of the second vaccine inoculation, and that of the inoculation with the virus of small pox, was clearly and distinctly marked; for the progress of the former was suddenly accelerated to maturity on the appearance of the areola marking the presence of the constitutional vaccine affection around the vesicles of the primary vaccine inoculation; while the progress of the latter was slow, resembling that of the local stage of a primary inoculation, or that which sometimes takes place when a person is inoculated with small pox virus who had months or years before gone regularly through the cow-pox or the small pox.”—See Appendix, page 80 and 81.

But that the areola is to be considered as an *unequivocal* test, is proved by the curious fact, which inoculators and vaccinators, of any experience, are well acquainted with; I mean those cases, where, soon after the introduction of the virus, an extensive inflammation follows; or where, if any accident happens to the inoculated tumor, previous to the formation of a per-

* This is only one of the many cases given by Mr Bryce; they are all expressly to the same point.

fect pustule or vesicle, and an areola still succeeds, and constitutional symptoms make their appearance; upon reinoculation, or revaccination, with the best attention, we can neither produce the characteristic appearances, nor obtain an areola similar to the first.

This naturally leads me to a subject, which is too extensive to discuss here, but which, I think, would not be a very difficult task to prove. What I allude to is, that the constitutional symptoms, in cases of inoculation, do not depend upon the absorption of the virus producing its effects upon the system, by exercising its influence through the medium of the circulation. I shall only here observe, that no feverish symptoms, no swelled glands, no startings, are found to follow the most extensive ulcerations, unless attended with symptoms of topical irritation, and inflammation. Farther, that all those effects follow from local irritation, without any pustule or vesicle whatever; and in the production of small-pox, measles, chicken pox, scarlatina, or cynanche maligna, we have all the cuticular phenomena of these diseases, and absorption is far from being considered as the certain medium, by which either these, or any other contagion, finds its way to exert its effects upon the system. I conceive, too, the old doctrines of fermentation, and assimilation, to be nearly exploded, and, at all events, to be wholly inadequate to the satisfactory explanation of the phenomena.

The true explanation appears to me to be, that, upon the introduction of the virus, it gradually exerts its topical effects, until it produces a pustule, or vesicle, *sui generis*; that this vesicle, after arriving at a certain length, begins to exert its specific local effect; and that this is communicated to the constitution, through the medium of the nervous system, which, when it occurs, is immediately accompanied with an areola. Whether this be the true explanation or not, it readily affords a clue to many of the phenomena which attend

both vaccination and inoculation, and which, upon the principle of absorption, cannot be accounted for in a satisfactory manner.

X. Having now ascertained that the phenomena of vaccination afford the only data for ascertaining the existence of its constitutional influence; that there is no difficulty in distinguishing these phenomena; that there are no good grounds for explaining away and defeating those cases where small-pox have occurred, by alleging they must have been instances of imperfect or local vaccination; and that the phenomena of inoculation for small-pox and cow-pox make so very close an approximation, as to render the experience of the one highly necessary and useful in illustrating and conducting the other, I shall now, Gentlemen, proceed to reply to that part of your Report, which professes to be an examination of the proof I have brought forward.

What you have advanced upon this subject naturally divides itself into the evidence which arises from those cases, which I have stated, ought to be considered as small-pox succeeding to vaccination from the influence of the epidemic contagion; and those phenomena which are found to occur from inoculating those at different periods after vaccination who had formerly passed through the cow-pox.

The objections which you have condescended to advance against the first division of the proof are all included in the two assertions, that those cases where small-pox have occurred in a distinct and numerous form, must all be considered as cases of the local action of cow-pox; and that all those where the eruption is trifling in extent and short in duration, cannot be considered as small-pox, but are to be put down as chicken-pox, or some accidental eruption.

I have already endeavoured to shew, that if a vesicle and areola have succeeded to the introduction of the

vaccine virus, there is not the smallest foundation for alleging that vaccination has not exerted its effects upon the system, and, therefore, all the cases described as such * in my Inquiry, are fully entitled to be considered as cases of constitutional vaccination.

Those who were vaccinated by myself, I can take upon me to say, had all the vesicle and areola in their most proper form, although subject to the variety I have already noticed; and, to the best of my recollection, I never allowed any case to pass without repeated vaccination, where the areola did not please me, or, in other words, was not extensive. Those who were vaccinated by the other practitioners, indeed, depend chiefly upon the report of the parents; but I am not aware that any solid objection can be made to their evidence, more especially, when it is considered, that the vaccinists admit the evidence of the parents, when it accounts for the failures of vaccination; that they can have no proper motive for deception, that they may be all competent judges of the existence of a vesicle, or pock, and whether or not it was accompanied with a circular inflammation; more especially too, when many of them had several children successively vaccinated; but when these circumstances are corroborated by the account given of the opinion and declaration of the medical gentlemen, the existence of a large and distinct cicatrix being still evident; the appearance of the cicatrix, which, it must be observed,

* It is really astonishing, but indeed it was well judged, that the whole of your valuable Report should be perfectly in character; for how was it possible to conceive that you could presume to find fault with me for candidly stating such circumstances as *appeared* to render it entirely nugatory? It is, however, Gentlemen, only in partial observers that this effect could be produced; if you had either read my book, or considered the subject with *much* attention, you must have perceived that my object is not to deny, but to prove that vaccination exerts a constitutional action, but which action is influenced in the extent of its resistance to the variolous contagion, in proportion to the local appearances of the vaccine process, and that even the most complete form, is inadequate to the permanent protection of the system.

is uniformly made an important circumstance by the vaccinists, in ascertaining the extent of vaccination, for wherever small-pox have occurred, and the cicatrix small, the case is uniformly pronounced imperfect. We must therefore insist that the proof is *vice versa*. Also, the great variety of practitioners who conducted the operation, and, above all, the number of cases, and the uniformity in their results, little doubt can remain of their having undergone that form of vaccination, which is capable of imparting, whatever antivariolous powers it is possessed of*. But it may be farther observed, that of the cases where small-pox recurred, many were in one family, and had been vaccinated

* You have observed, that the practitioner who vaccinated the 27th case informed the parents the child was not properly vaccinated, requested them not to trust to it, and desired them to have it repeated. The practitioner here alluded to is Mr Graham of Dalkeith, and if he has really given you the information you mention, I am sorry to be under the necessity of observing, that in this case his memory appears to have deceived him. Mr Graham was attending at the time in Lord Rosslyn's family, and during the progress of the arm, saw it three or four times, and might have done so as often as he pleased. The parents are decent and sensible, and both distinctly state, that Mr Graham not only never suggested the smallest doubt, nor gave them any advice to revaccinate the child, but, on the contrary, expressed himself perfectly satisfied. It may be also observed, that the cicatrix is now large and distinct, and both parents state that the areola was extensive. But what I believe to be the explanation of bringing forward the opinion of Dr Graham is, that this case could not be denied as small-pox, as it was pointedly granted by the practitioner in attendance, and, therefore, it must be defeated by obtaining the permission of Dr Graham to say what has been already given in his name. I waited upon the family a few days ago, and they again distinctly repeated what is contained in the case, and observed, they had a better opinion of Dr Graham than to think he could be guilty of now expressing himself so contradictorily. But of a piece with this is the attempt to get rid of the evidence of cases having occurred at Haddington and Dunkeld. You say that in the former of these places they were vaccinated by a servant, and in the latter by a midwife. For the truth of this I must refer you to my correspondence with Mr Walsh and Mr Minto. The fact was, that cases of small-pox succeeding to vaccination had occurred in several children vaccinated by Mr Sommers and others in Haddington, and I never heard of those by a servant. As to Dunkeld, the cases I alluded to had been vaccinated by a Mr Stewart, formerly surgeon there. It appears considerable confusion prevails there, and some of the cases appeared to have resembled chicken-pox and some small-pox; but how you could select

both by the same, or by different practitioners at different periods ; it would therefore surely be quite unreasonable to conclude, that they had been all only *locally* vaccinated ; and if this is not possible, it then follows, from the uniformity of the effects produced, that they must be all considered as cases of *constitutional* vaccination

I shall only, Gentlemen, leave it to your own judgment and candour, how ridiculous and absurd it must appear, after having described vaccination as so simple and so uniform, as to consist of certain phenomena, which were invariably found upon trial, at the commencement of the practice, to produce such an effect upon the constitution as to prevent any farther effects from successive vaccination, and to resist inoculation with small-pox virus, or exposure to the epidemic, and nearly to annihilate the small-pox wherever the practice existed to any extent, to come forward and maintain, immediately upon the appearance of small-pox succeeding to vaccination a few years after, that the process is intricate, uncertain, and difficult ; that there are none of the phenomena to be depended upon, as indicating the action of vaccination on the system ; that the uniform resistance of the tests of revaccination, inoculation, and exposure to the epidemic, are not to be trusted, as it is well known that the constitution may resist the action of these tests, and still may be afterwards affected by their influence. But, farther, not only were the local phenomena which existed during the active state of the disease, considered as material circumstances in determining the completion of the process, but when constitutional symptoms occurred, they were considered as conclusive and satisfactory, and stamped the whole process as perfect. Now, how-

the one that died as having been vaccinated by a midwife, when I stated that my information was, three had suffered. It is of no consequence to this question, but I know positively, that one died who was not vaccinated by a midwife, but by Mr Stewart.

ever, it is declared, that these constitutional symptoms are of no consequence, and are not only unnecessary to obtain the constitutional effect, but even *that although symptoms marking a derangement of the constitution are attendant upon the progress of the vaccine process, still it is not owing to these phenomena, but to some diseased action of the constitution, forsooth, which is conjured up for no other purpose but to defeat the regular constitutional action, which action you must observe, too, we are desired to believe is irregular, although it exists under all the appearances of the regular action described by the most zealous supporters of vaccination*. Again, not only were the phenomena which attended the whole active stage of this disease proclaimed as essential circumstances in ascertaining the perfection of the process, but even its local consequences were asserted to be of importance. The scab or crust, and cicatrix which remained after the disease was completed, were supposed to indicate the genuine and perfect vesicle; but now, if cases of small-pox occur after vaccination, the scab is found out at the distance of years, to have been too little or too large, too light or too dark, or to have fallen off too early or too late. The cicatrix, too, is declared, if too little, to prove that the local affection has been trifling and imperfect, and if too large, it has been too extensive, and indicates some other diseased action. If the cicatrix is too deep or too superficial, the same conclusion is to be drawn; nay, even if the cicatrix is of the very exact dimensions, still it is too much indented or serrated to allow the vaccine process to have been complete.

Here, Gentlemen, I may surely be allowed to inquire, to what length are your suppositions, and the indulgence, and good humour of the public to be carried? I must remark, that the desperate and head-

* See Mr Bryce on the Cow-pox—Appendix, pages 100 and 114.

strong zeal, which can demand credit for such a tissue of absurdity, for such a mass of out-works and entrenchments, must certainly imagine that not only the profession, but the public, have bid an eternal adieu to the exercise of their judgment.

XI. Having thus disposed of the defence, that many of the cases I have stated are to be considered as instances of local vaccination, I shall now proceed to your next bulwark, that they cannot be regarded as cases of small-pox. And here, Gentlemen, I must express my firm belief, that although you have in the warmth of zeal, and anguish of despair, boldly denied their existence, you must be fully aware, that such facts have not only frequently occurred to others, but have been even sanctioned by the most undoubted authority. You cannot be ignorant that the Royal College of Physicians in London observe, if the security derived from vaccination against the small-pox is not absolutely perfect, yet it is as nearly so as can be expected from any human discovery. That nothing can demonstrate more clearly the superiority of vaccination over the inoculation of the small-pox, than in almost every case where the small-pox have succeeded vaccination, whether by *inoculation* or *casual infection*, the disease has varied much from its ordinary course, has neither been the same in violence, nor duration, but has, *with very few exceptions*, been remarkably mild, as if the small-pox had been deprived, by the previous vaccine disease, of all its usual malignity. That some writers have greatly undervalued the security it affords, while others have considered it to be of a temporary nature only; but if any reliance is to be placed on the statements which have been laid before the college, its power of protecting the human body from small-pox, though not *perfect indeed*, is abundantly sufficient to recommend it, especially as, in the few instances where small-pox

*have subsequently occurred, they have been generally mild and transient**. You must also be well acquainted with the Report of the Royal College of Surgeons in London, which allows of fifty-six cases of small-pox succeeding vaccination, although they excluded many, because they were not both vaccinated, and afterwards attended in the small-pox, by the same practitioner, and that the practice is greatly on the decrease in the metropolis, from imperfect vaccination, and instances of small-pox after vaccination. You ought to know, that Dr Willan says, "Whilst we acknowledge that some who had been vaccinated in the preceding years, took the small-pox at this period, we have reason to congratulate ourselves, that the number was so small, and that so few mistakes had been committed in a mode of practice entirely new."

"I wish that practitioners throughout the country would, by revising their primary inoculations (vaccinations) with a more experienced judgment, take care to ascertain the safety of those who confided in them, and thus secure their own piece of mind; for what would their feelings be, if the small-pox, casually conveyed, should prove fatal to any of those persons whom they first persuaded to make trial of the new invention.

"I shall perhaps be asked, whether I think that the variolous appearances, in all the cases I have adduced (whether produced from the effects of the variolous contagion, or from the introduction of the variolous virus by inoculation), were the consequences of imperfect vaccination? There is great difficulty in obtaining clear and direct information on the subject, scarcely one private practitioner in ten, being able to produce any written note, or memorandum, of the appearances or effects of the inoculation; and even in public institutions for gratuitous vaccination, the medical superin-

* See Report of the College, pages 4, 5, and 6.

tendents *often* lose the opportunity of ascertaining whether the inoculation has proceeded rightly or not, because the patients fail to attend at the proper times.

“When only a local effect is produced by inoculating with variolous matter, the constitution will be affected by the small-pox at a future period, as much as if no pustule had been formed. This has been confirmed by numerous cases, some of which terminated fatally. If, in a few cases, perfect vaccination does not prevent variolous fever and eruption, or inoculation, or exposure to contagion, it will at least place the persons who take the small-pox in the same state as those who have been inoculated with vaccine, and variolous matter about the same time, a state which has hitherto been wholly free from danger.”

Dr Adams also, Gentlemen, observes, “It is necessary to remark, that the small-pox have appeared after cow-pox in two different forms; in by far the most numerous instances, so mild and so deficient in many of its true characters, as to excite a doubt of the reality of the disease, as most of those cases after vaccination turned on the fifth or sixth day.

“In a very few instances, however, small-pox have occurred after vaccination, in so serious a form as to threaten, and even to be followed with fatal consequences”—See Dr Adams on Cow-pox, p. 87.

Your colleague Mr Bryce, too, says, that he does “not mean to deny, that many instances have occurred, in which persons have been attacked with the small-pox after they had undergone, in the opinion of the persons who conducted the inoculation, the antivariolous process in a regular and effectual manner.”—Appendix, p. 24.

“When we thus find so many well authenticated instances of a second attack of small-pox, we should be less surprised, if we occasionally meet with instances in which that disease has succeeded to cow-pox; and

notwithstanding of the failures in vaccination, which have been hitherto reported on any tolerable authority, we ought, in justice, to make the same conclusion with regard to vaccination, as has always been made with regard to small-pox."—Appendix, p. 31.

“Many other cases might be adduced, in which the cow-pox affection, although it appeared quite regular at the part inoculated, yet failed to give the desired security (see Willan, page 50, et seq.)”—Appendix, page 109.

Many more authorities might be quoted, but enough have been given to point out, in the most convincing manner, your *candid, handsome, and equitable* conduct, in endeavouring to impress upon the public, the idea, that no other cases but those which I have brought forward, have ever existed. For what other conclusion could possibly be drawn by those who are unacquainted with the history of vaccination, when they find, seemingly, so respectable a body, seriously occupied in defeating their validity, and application, and endeavouring to destroy the testimony and credit of an individual, when he is only relating and stating facts, which have been allowed even by yourselves, to have occurred frequently to others. Shall it only be permitted for those, who call themselves the friends of vaccination, to state the most contrary facts, to make the most opposite observations, and to invent the most singular excuses, even sufficient to make Mr Bryce exclaim, he would rather at once infinitely prefer to inoculate with the small-pox. What! must others observe facts accumulate above facts!—Must they shut their eyes, and derange their senses, rather than presume to follow your example, or to suggest a mode of reasoning, which the history of the affection, and the facts stated by the vaccinists themselves, clearly evince. No, Gentlemen, such conduct is arbitrary, and tyrannic, and, I trust will meet with the contempt and derision it so justly deserves.

Therefore, although it would afford me much pleasure, to pass over the catalogue of assertions, and insinuations, you have called to your assistance, as wholly unnecessary for establishing the truth, or falsehood of the different points connected with this subject, yet, in justice to myself, I must observe, had you perused my book with *much* attention, you must have perceived, that the cases were not stated, as possessing all the perfect characteristics of small-pox ; you must have been convinced, it was neither consistent with the opinions which I have distinctly expressed, and uniformly maintained, nor with the facts which have hitherto occurred, that such cases should possess all the appearances, and pass through all the stages of the most severe and extensive eruptions ; that no such necessity exists, in order to ascertain the existence of any disease, to which the human body is liable ; that the omniscient author of our existence, has kindly allowed gradation to extend its influence through the whole creation ; that independent of the propriety of stating those cases as they actually occurred, it was necessary to select those, which pointed out most distinctly the temporary and feeble effects of vaccination ; and that the phenomena, and description of the proof I have stated, is, as you have already seen, in exact conformity with the whole of the evidence, that has hitherto occurred on the subject. Therefore, had I in the frenzy of zeal, and boldness of system, brought forward such cases as you would seem to have been satisfied with, I would have, from such a total disregard to truth, exposed myself, not only to censure, but contempt.

Such conduct, Gentlemen, in these circumstances only, in a matter so important and interesting to the public, is degrading, criminal, and insulting ; but what epithet is it entitled to, when we find you have exhausted the very dregs and filth of offence and defence. I

only, Gentlemen, put it to yourselves, what credit can be given to the statements of any set of men, when we find, after sending a deputation of their number to inspect a few of those cases when under the disease, which are contained in my publication, they neither found it necessary, proper, nor convenient to call upon me, who was in attendance at the time, nor condescended to take the smallest notice of them in the subsequent publication of their colleague. I only, Gentlemen, beg to know, what faith can be attached to such declarations, when it is well known, that at the very time you was busied in drawing up your Report, a case or two of small-pox after vaccination were actually engaging your attention, and exciting no small variety of opinion *. Nay more, what title to respect can such declarations have, when it is well known, that you, and other determined vaccinists have not hesitated to caution those who have had their children vaccinated, not to go near the epidemic small-pox? What faith can attach to your statements, when it is well known, both in Edinburgh and its immediate vicinity, that when respectable parents have presented their children labouring under a disease, evident to all but a vaccinist, they have been abused, and hooted, and all kind of calm, rational inquiry neglected, despised, and carefully avoided? But, Gentlemen, how is it possible the public can listen to your opinions, when you have actually been engaged for some months past in recruiting, and pressing votaries for vaccination, in every village in the vicinity of Edinburgh. Nay, to such a pitch has your influence been extended in Edinburgh, that a lady was under the neces-

* Even now, there are several cases under your inspection, vaccinated at the Dispensary, one of which had the disease in its most distinct form, and cannot be denied on that score; but, another in the same neighbourhood was knocked down as chicken-pox, merely because it had a trifling and indistinct eruption. Small-pox epidemic all round.

sity of bringing out her child to me, to be inoculated for small-pox. And all this, merely for the pleasure of stating, that vaccination continues to maintain its ground, and the public have not been influenced in the smallest degree, with whatever I have stated.

With these facts before us, we shall be a competent judge of the weight due to the evidence of Messrs Newbigging, and Gillespie, concerning the Dudingston cases. Shall we give implicit credit to their statements! when not one of them saw a single case in that village, until twelve months after the disease existed? Shall the fact of chicken-pox being in the village! be established merely by Mr Newbigging asserting, that Gilbert Mill had an eruption of watery vesicles, or by Mr Gillespie declaring, that Jean Wood had an eruption of watery blisters, that began to scab on the third day. The fact is, that Gilbert Mill had an eruption, which came out on the Saturday, and continued to mature until the Friday following, and which the mother supposed to be small-pox, until she was undeceived by Mr Newbigging's superior judgment; and Jean Wood had only about eight, or a dozen of pustular points, which, from the mother's account, were hard, and never had the smallest appearance of containing matter of any kind, but decayed on the third day. Shall these assertions, Gentlemen, be allowed to balance, far less overturn the evidence we have already adduced, that such cases have really existed according to the most undoubted and respectable authority; shall statements like these be put in competition with the respectable and decisive evidence contained in the Appendix, or shall it even be allowed to shake the credit of those cases I have brought forward. To those whose minds were free from prejudice, and acquainted with the subject, or capable of appreciating proof of any kind, I apprehend, it was impossible to

deny, that they carried along with them, all the evidence which the subject required.

It is perfectly clear, they could be neither *bug*, nor *flea* bites, nor the *stings* of insects, as they were all uniformly preceded with fever, and followed with an eruption, in many cases, arriving at the most distinct character of a small-pox pustule. They also, uniformly, extended themselves, only through that part of the family that had undergone vaccination; whereas, had they proceeded from any of those causes, they would have affected the whole. They were also evidently propagated by contagion. It is hardly necessary to remark, that none of these peculiarities apply to those causes already mentioned; and if fever at any time is known to follow the stings or bites of more powerful insects, there are sufficient evidence of its nature, from the previous existence of the cause, and they have never yet been found capable of producing any pustular eruption.

With regard to confounding them with chicken-pox, I apprehend, that no practitioner of moderate experience, can possibly, at any time, commit the mistake. The chicken-pox vesicle, at all times, differs in so striking a manner from the small-pox pustule, that with the least attention, they may be readily distinguished. In less than twenty-four hours from the first appearance of the eruption, they acquire the appearance of a vesicle, having a perfect resemblance to any blister produced by scalding, or cantharides, and in about twenty-four hours more, either burst, or rapidly maturate, and present in their decay, the appearance of a small pointed scab, attended with a diffused redness, and slight turgescence, of the surrounding parts; nor even, upon their first appearance, are they attended with the elevation of the surface, which attends the small pox pustule; do not give the same hard feel un-

der the finger ; and are uniformly destitute of the depression in the centre *.

Dr Willan remarks : “ That variolous pustules are, on the first and second day, small, hard, globular, red and painful, and indented in the centre ; the varicella exhibits, on the first day of eruption, small red protuberances, not exactly circular, and having a flat shining surface, in the centre of which is a vesicle, of a greater or smaller size, which about the third day is either ruptured, or shrivelled, and if attended with much inflammation, and remain entire, seem to contain a little purulent matter, and by the fourth, have obtained a small pointed dark scab. These appearances fully characterize varicella, and distinguish it from the firm and durable eruption of small-pox†.” But here we are not left to depend entirely upon the difference in the eruption, we have, over and above, the most decisive testimony ; small-pox were epidemic in every direction, and even existed under the same roof, with the most character-

* It is well worthy of notice, Gentlemen, how you endeavour to surmount the difficulty, which the well known character of chicken-pox presents to your efforts. You observe, that sometimes the varicella, or chicken-pox, take six or eight days to run their course, and may therefore, to an inattentive observer, be readily confounded with small-pox. But you surely forget, that although they may take this period to get over the whole eruption, still, during this time, perhaps no less than three or four crops have made their appearance, notwithstanding, all have gone distinctly through the perfect characteristics of chicken-pox, and have acquired the watery vesicle, the yellow matured appearance, and the scab, all within the period of three or four days. But farther, it is curious to attend to the contradiction which attends aberrations from simplicity and candour. In one place, where the cases occupied six or seven days in going through their progress, you then fly for relief to those cases of chicken-pox we have already described, but if the eruption is only a few days standing, you then still make them chicken-pox, but only having one crop ; characterise them with a watery vesicle, when no sac containing fluid of any description was discernible, and make them decay on the third day.

† See a note of Dr Willan’s in his Treatise on Cow-pox. I regret that I have not been able to give particular references to the authority of Dr Willan and Dr Jenner, owing to the person who took the extracts, neglecting to take the pages, and I have never been able again to procure copies of their works.

istic phenomena ; none of the children in the family affected but those who had been vaccinated, and neither chicken-pox, nor any other eruptive disease, were known in the whole neighbourhood. Nay, in those cases in Dudington, there were no less than two instances of four children, labouring under the small-pox in the same house, at the same time, and it was impossible to perceive any difference in the appearances of the eruption ; also in many of the cases, those who had been vaccinated had the disease first, and in eight or ten days those who had never undergone vaccination followed, and passed through the small-pox in their most perfect form, and to a great extent.

In many of the cases, too, the fever, and symptoms of exanthemata, were so severe, as to occasion the greatest apprehension of convulsions, or an affection of the brain, and in one instance, a fit actually did occur. This was easily accounted for, from its age ; and the absence of convulsions, in all the other cases, is to be attributed entirely to their being older, where even in the natural small-pox, they are a very rare occurrence. This case, too, is the only one where the antivariolous influence only extended to a few months ; and the reason of this, as well as her sister not complaining, seemed to me to be owing to her being the knee-child, and was carried about by the mother, in her visits to her several neighbours, who had all their families affected, and in one house alone, I was informed three children had died*.

But to put this part of our subject in the most conspicuous point of view, and to shew the miserable conduct of those who defend vaccination at all hazards, I cannot resist offering to your serious consideration, the following letter :—

* For further observations on the cases, see my letter in answer to Dr Duncan's queries, No. VIII.

“ To the Editor of the Cheltenham Journal.

“ Sir,

“ As a friend to justice, and the impartial promulgation of truth, you will please to communicate to the public the following letter on the report of the three cases of vaccination, inserted in your last weekly paper.

“ Although, as a Member of the College of Physicians in London, I transmitted to that respectable body, three cases of vaccination, performed at Cheltenham, by Dr Jenner, which were considered by *several medical practitioners on the spot*, to be proofs that the practice of vaccination was not a permanent security against small-pox infection in all cases, yet it never was my wish, that they should have been made the subject of public animadversion.

“ I certainly am not, as some persons have inferred from Mr Moore's report, inimical to the experiment of vaccination being completely and fairly tried ; on the contrary, I was a principal agent in introducing the practice into the Finsbury Dispensary, in London, and published a series of resolutions in favour of vaccination, while physician to that charity. But the defective report of Mr James Moore, Assistant Director to the Board of the Vaccine Establishment, must injure the cause it was intended to support, and its industrious promulgation in the newspapers, by a resident practitioner in Cheltenham, does not permit me, with justice to myself, to remain silent upon this occasion*.

“ I have not been able to discover, that any person was sent from London to investigate these cases, but Mrs Dodeswell affirms, that two gentleman belonging to Cheltenham made inquiry about her child, since the period of my letter ; one of whom is known to have written a treatise in favour of vaccination, and the other is a surgeon in Cheltenham, *who vaccinates for Dr Jenner*. Their investigation could not, therefore, be more *impartial* or more accurate than the one I made, by noting down the particulars which occurred in the progress of the diseases, and transmitting them to

* From this letter, and the extracts I have given from Dr Adams's publication, the public will, nay, must be satisfied of the miserable and declining state of vaccination in London. Indeed, such is the prodigious accumulation of evidence which has occurred in many districts in England this year, that the practice may be said to have received its death-warrant. The Sick and Hurt Board, according to my information, have sometime ago ceased to forward vaccine virus to the navy surgeons. The surgeons of the Vaccine Institution can best explain, why they have not made a more careful inquiry into the subject, before declaring their opinion in so public and determined a manner.

to the college, *while the morbid appearances still existed*. The reporter says, "The two first cases were only examples of a slight *variolous infection*, of the warty kind, termed by some writers *secondary small-pox*, and cannot be considered as failures." Those very expressions, according to the usual acceptance of words, would lead us to a conclusion different from that of the reporter. But we have incontestible evidence of their nature, from two children passing through the regular stages of a severe small-pox, in consequence of inoculation from the said variolous affection. These inoculations were performed by two different practitioners, and were distinctly stated as leading features of my letter to the college, *but which are entirely omitted in Mr Moore's report*.

"The third case is acknowledged in the report to be a virulent small-pox, succeeding to *irregular* symptoms of vaccination. The parents, however, say, that the vaccination being considered *perfect*, a repetition of the operation was never suggested, and I think it an unfortunate plan, to circulate widely a printed report, that vaccination in the hands of the discoverer, who must naturally exercise the greatest caution, has, in this instance, failed.

CHELTEMHAM. }
Aug. 22. 1809. }

I am, &c.
THOMAS JAMIESON."

Before closing this subject, I must certainly notice that very *interesting and distressing story* with which you conclude your Report*; I cannot bring myself to believe, I am writing to medical men, in the vigour of health and judgment. Such a relation would have suited, even female dotage, and might have influenced the timid hypochondriac, or the hysteric girl. This is the same tale told by Mr Bryce, in his letter to me of the 8th July, where the child *is then stated to have died three months before*, which you will please observe, (allowing Mr Bryce's period to be correct, although I could venture a good bet, that the child was dead a month or two before my first advertisement,) is nearly coeval with my first advertisement, and still in your present report, it is given at three months, although now upwards of four since the date of Mr Bryce's letter. The child,

* See Appendix, Letter No. VI. near the conclusion

too, you will remark, was two years old, and was long past the usual period of vaccination, therefore my opinions could not have the smallest share in producing the *direful catastrophe*. But even, Gentlemen, although every thing had exactly tallied ; in the name of all that is sacred ! what has it to do with the present question. Have I ever contended that vaccination has no effect, or have I maintained that inoculation should not be practised. On the contrary, I have distinctly shewn, that vaccination possesses an antivariolous power, but that it appears to be, from every proof which the subject has hitherto admitted of, both feeble, and temporary ; and that inoculation alone is what should be practised, in order to combat so severe, and so dangerous a disease, with safety and effect. By the same mode of application, I might load you with every distressing consequence, which has hitherto attended vaccination, and insist, that every death which has followed those cases where small-pox have succeeded to vaccination, must be imputed to those who have patronized, and recommended the practice.

XII. Having thus I trust satisfactorily proved, that the cases which you proposed to examine, and roundly denied, are entitled to be considered, from all the concomitant circumstances, as cases of small-pox succeeding to vaccination, I shall now proceed to the last point which your Report involves, viz. an examination of the evidence which is afforded from inoculating with variolous virus, those who had previously undergone the influence of vaccination.

This point is so important and interesting to this inquiry, and, in my opinion, affords such complete evidence of the feeble and temporary powers of vaccination, that it is with much regret I find myself compelled, by the length to which this letter has already extended, to abridge this part of our subject ; the satisfactory evidence, however, which has been already exhibited upon

the different points of this discussion, fortunately renders a minute investigation not only of less importance, but unnecessary.

In proceeding with this examination, it is necessary, Gentlemen, to premise, that you distinctly assert, the production of a pustule or vesicle, with a consequent areola, to be no proofs of any constitutional affection, being produced by those inoculations with small-pox virus after vaccination, nor cannot be regarded, as indicating the smallest diminution of the antivariolous influence of vaccination in the system. *Because it is a matter of fact, and is either well known, or ought to be known to every surgeon, that large pustules of a regular appearance, and with surrounding inflammation, can be produced in the face, neck, and breasts of nurses, by the contact of children ill of the small-pox, though these nurses had previously passed through the disease ; and surgeons have been personally known to the reporters, nay, that even one of you, Gentlemen, have kept up a supply of small-pox matter for inoculation, by producing a succession of inoculated pustules, upon their own arms.* Also, that the numerous experiments mentioned by Dr Willan, and particularly those cases stated by Dr Stanger evidently shew, that the appearances produced by even a second inoculation with small-pox virus, at the distance of three years and a half after vaccination, were the very same as those produced by the first inoculation, at only the distance of a few months after vaccination, and the inference therefore is, that the antivariolous power was not diminished, as the details of the two sets of experiments have as much the same meaning, as it is possible to express in the English language*.

* Now, Gentlemen, as you are in the habit of reading with much attention, can you perceive no difference between thirty-five, which were the number first inoculated, and that of twenty-one, which were the amount of those subjected to a second inoculation? can you distinguish no variety in

From what I have already had occasion to observe upon the whole of this subject, but more especially upon ascertaining, that the phenomena of vaccination,

the import of the terms, *most presently healed*, in some slight inflammation was produced, and in three or four a small acuminated pustule was formed, as applicable to those experiments which amounted to thirty-five, and (*the total absence of the term most presently healed*), in some cases, slight inflammation was produced, and in a few a small local pustule, as referring only to the number of twenty-one. This description, as containing an account of experiments on such an interesting subject, is certainly extremely incorrect. Had Dr Stanger been anxious to give a faithful account of such experiments, he would have marked more particularly the different periods of vaccination; for in the first set of experiments, they admit of a difference of no less than from eighteen to three months after vaccination, and in the second class, of from two years and ten months to three years and a half, even giving credit to Dr Stanger, that the twenty-one were all vaccinated in 1801, which from the way the two sets of experiments are contrasted, appears rather doubtful. The Doctor ought also to have given a more particular account of the effects of these trials; to me there appears no doubt the results were not satisfactory, and that although no constitutional effects were said to be produced, yet such appearances were obtained, as to convince Dr Stanger some imperfection existed. That such, too, is really the fact, is now proved by ample experience; for whoever will take the trouble to inoculate twenty-one cases, at the distance, as the Doctor says, of three years and a half from vaccination, will find not only large and highly inflamed conical points, but pustules, and even areolæ will, in many cases, be readily produced. But even supposing the Doctor's description to be correct, still they cannot have any influence upon this discussion, as none of the periods go the length of allowing the antivariolous power of vaccination to be so far diminished, as to permit the production of all the characteristic appearances of small-pox inoculation.

The cases which I have adduced in support of this opinion, you have again attempted to reject, because they were destitute of all the characteristics of small-pox inoculation. I must here again observe, you ought to have been aware, these cases were not given as possessing all the satisfactory marks of small-pox, but on the contrary were brought forward to shew, the gradation of appearances which take place from the introduction of small-pox virus at various periods after vaccination, and in my opinion they, as well as every other experiment on this subject, point out, in the clearest manner, that in proportion to the distance from vaccination, the inoculated point assumes more or less the perfect appearance of small-pox inoculation.

As a farther proof of the truth of this opinion, I shall here state another case out of severals which have occurred since May last:

The son of a Mr B. had been inoculated by Mr S. Surgeon here, when about six months old. Mr S. was perfectly satisfied at the time, and still expressed himself so. The child was also seen by me, and I believe also

when accompanied with an areola, afford the only just grounds for ascertaining the existence of a constitutional affection, and that the appearances and consequences of

by another practitioner in this place, and both infected lancets from the arm. The vesicle was then attended with an extensive and characteristic areola, and the cicatrix is now large and distinct. In consequence of the prevalence of cases where cow-pox failed to give protection against the variolous contagion, he was inoculated by Mr S. on Sunday the 21st May, (now nearly seven years old) with variolous virus furnished by me from a case of natural small-pox. On the Tuesday following, the puncture had evidently taken effect, having a red appearance, felt hard and elevated under the finger, and by inspection with a glass, gave the vesicated appearance already described in a former part of this letter. Thursday, the puncture was now assuming the appearance of a vesicle, and exactly resembled variolous inoculation where no previous vaccination existed. Friday, the pustule was very distinct, well formed, and evidently contained virus; it was now attended with some surrounding tumefaction and redness, with an appearance of little vesicles surrounding the original pustule. The pulse this day was exactly 84, both to the parents' observation and mine, and no complaint whatever. Saturday, the arm had made considerable progress since yesterday. The original pustule was now about the size of a large split pea, and flat, closely surrounded with a great number of small vesicles, which might be said to form a part of the pustule, the whole circumference of which, including the original pustule, was equal to a sixpence. An areola had now begun to form to the extent of a half-penny, irregular, attended with considerable tumefaction round the pustule, and evidently shewing appearances of an extensive inflammation. The pulse was exactly 108, the skin evidently warmer than natural, the child not in spirits, and little or no appetite for food. Sunday, the child had a warm and restless night, with difficulty got up in the morning, but was afterwards obliged to lie down. His pulse at 11 o'clock, when I called, was 120, evidently sick and oppressed, although out of bed, and had eat no breakfast. His arm was now greatly inflamed, the areola described an irregular oval in length, about three inches, and in breadth two. The sleeve of the coat was now cut open by his mother, and the arm exposed. Monday, the sickness and heat abated, the areola of nearly the same extent and appearance, but the pustule was somewhat decayed, and the pulse down to 96. No pustular eruption could be observed. Wednesday, the areola nearly gone, no complaint whatever, and the pustule scabbing in the usual form.

This is a faithful description and account of the case as it appeared to me. I have also to observe, my account of the number of the pulse exactly corresponded with that of the parents, who were very well qualified to judge of this circumstance, and to whom I took care always to mention the number, before allowing them to state what they had made it. Mr S. from Mrs B.'s account, made the pulse on Saturday about 96, and on Sunday rather more than 100. Another medical gentleman, (from the same authority,) admitted the pulse on Saturday to be only 84 or 86, and on

vaccination and inoculation, make so very near an approach, as to render them necessarily intimately connected with each other, I shall only here observe, that neither of these affections were ever described as having assumed a regular and satisfactory appearance, without the formation of a vesicle and pustule, followed with a distinct circular inflammation, more or less extensive, known by the name of areola. These appearances in cow-pox, were sometimes accompanied with symptoms denoting a constitutional affection, but more generally were not attended with any derangement of the system, and still without any sensible difference, or obstruction to the antivariolous security. In small-pox inoculation, the same phenomena were generally found to produce a distinct constitutional derangement; in a few cases this derangement was hardly perceptible, but still the constitutional security was afforded.

As inoculation for the small-pox generally produced consequences which satisfied all parties, no necessity existed for requiring any test of the perfection of the process. On the contrary, as vaccination was generally destitute of every proof, but what the mere local phenomena afforded, it was found necessary to make trial of its efficacy, by exposing those, who submitted to the practice, to inoculation with small-pox, or to the influence of the epidemic. Upon the introduction of such an unparalleled affection, this was thought so absolutely necessary, that upwards of an hundred thousand individuals, who had undergone the process of vaccination, in the first two years of the discovery, were subjected to these tests, in all of which, it was found to afford the desired protection. The experiments made by public institutions, by Dr Jenner, Dr Willan, Dr Stanger, and a prodigious number of medical practitioners, shew, in

Sunday allowed it to be very little or nothing increased. Both these Gentlemen were of opinion, that the phenomena I have related afforded no proof of any constitutional affection, because no eruption followed. It is hardly necessary to add, that I entertained a contrary opinion.

the most decisive manner, that the appearances which took place upon the test of inoculation being employed, were at that time never followed with a pustule and areola, but in all, either instantly healed after appearing as an inflamed point for two or three days, or the redness at the punctured point was more elevated, and continued from six to eight or nine days, and then rapidly died away, without either being followed with a pustule, areola, or scab. This consequence of the test of inoculation was not only considered as perfectly satisfactory, and agreeable to all our former experience in obtaining the phenomena of inoculated small-pox, but was considered very properly, both by the medical profession, and the public, as the foundation of the claim which the practice had to universal confidence.

A few years had hardly elapsed, when from the occurrence of a few cases of small-pox, succeeding to vaccination, it was deemed necessary to try again the test of inoculation, and here the variety of the description, and opinion of the phenomena which ensued, became striking and alarming. It could not be denied, even by Dr Jenner, who formerly contended strenuously against the possibility of such appearances, that pustules and areolæ could be produced; and it was allowed by a great variety of the most respectable authorities, that even fever, rash, and eruptions, were found to follow the production of the pustule and areola. All hands as if by sympathy, now eagerly flew for refuge to the phenomena of small-pox, and roundly asserted, that such appearances were also frequently met with upon introducing small-pox virus, where a person had previously passed through the small-pox, either by inoculation, or from the epidemic.

I will leave it to yourselves, Gentlemen, if it does not look extremely awkward and inconsistent, in order to rescue your favourite practice from the effects of such experiments, to be under the necessity of unhinging, and over-

turning the whole settled, and confirmed phenomena of either inoculation, or vaccination. In opposition to such a declaration I will assert, that neither in inoculation, nor even vaccination, can you reproduce at pleasure, the characteristic phenomena of these diseases, and that if they are obtained, it is to be regarded as a certain proof, that the individual has either not previously passed through these diseases, or that, if he has, they are not capable of producing a permanent impression upon the system. And farther, from all the evidence which this subject admits of, I may safely affirm, that as these phenomena cannot be obtained from inoculating after small-pox, nor any effect produced by exposure to the epidemic, but as they are readily produced from inoculation, at the distance of five or six years after vaccination, and also as there are abundance of evidence to prove the influence of the epidemic, when, directly after vaccination, they are found to be secure from the operation of both these sources of infection, what other conclusion can possibly be drawn, than, the influence of vaccination is so imperfect and partial, as to produce such an effect upon the system, as gradually to wear out, and at last become extinct?

Although, after the discussion, Gentlemen, which Mr Bryce's test, the proofs of perfect vaccination having been imparted, and the connexion and analogy which we have seen to exist between the practice of inoculation and vaccination, I consider it a waste of time, and an insult to common sense, to prove, by particular authorities*, what I have here advanced with regard to the comparative appearances arising from the introduction of variolous and vaccine virus in the way of inoculation, and also the appearances after

* See Dr Jenner, Dr Willan, and Dr Woodville's works upon this subject—Dr Adams on Cow-pox, Chaps. VII. and XIII—Mr Bell on ditto, Chap. II. Sects. 3d and 5th—Mr Bryce, ditto, Chap. I. Sects. 3d and 4th—Chap. III. Sects. 1st and 5th—Appendix, Nos. 2, 7, 10, and 11.

a person has undergone the small-pox, and when he has been subjected to the influence of vaccination, still I must observe, your defence appears to me uncandid and unjust in the extreme. How is it possible to allow you to avail yourselves of the defence arising from the facts of Dr Stanger and others, and still to contend, that opposite appearances can be readily obtained? Are you, Gentlemen, to be permitted, at one time, to assert, that by inoculation producing no effect after vaccination, it is proved satisfactorily, that it resists the influence of small-pox, and at another, that the production of opposite appearances are of no moment, and can have no effect in defeating the security derived from vaccination? Must your deranging, after the lapse of a few years, the whole phenomena, either of vaccination or inoculation, be winked at and overlooked? Must you be allowed to contend, that the whole phenomena of small-pox inoculation can be obtained at pleasure, over and over again,—a disease too, hitherto supposed to be of the most distinct and decisive nature, and allowed to occur only once in our lives? Must the experiments detailed by Mr Bryce, with regard to his eventful test, be neglected and overlooked? for there, Gentlemen, observe, we even find, that if the second puncture has not proceeded a certain length in its local progress, it not only cannot be expedited, but its farther progress is suspended, by the previous constitutional effect of the primary vaccine puncture*.

* Vide Mr Bryce's experiments with regard to his test for ascertaining the existence of a constitutional affection, but more particularly the cases, from the tenth inclusive, at page 184 to 188.—“In short, my observations on this point lead me to conclude, that, in order to obtain the proposed criterion in the greatest perfection, the second inoculation should be performed between thirty-six and forty-eight hours, before the areola of the first inoculation begins to appear. This is necessary, in order that the secondary affection may have proceeded some length, and that a small vesicle containing virus may have been formed by it, before the constitutional action from the first inoculation begins, *otherwise no areola, but merely*

But reflect, Gentlemen, for a moment, and observe where your doctrine will lead us. We all know, and have already seen, that there are no other phenomena which properly belong to this boasted discovery, but the vesicle and areola; that these too, may undergo a prodigious variety, and yet accomplish their constitutional effect; that all the zealous friends of vaccination felt alarmed, from Dr Jenner having at first admitted, that all the phenomena of the affection might be reproduced again and again; that reasons were busily devised to remove this unlucky and vexatious deviation from small-pox inoculation, which ended in the warmest admirers of vaccination, with Dr Jenner too, at their head, asserting, that the characteristic phenomena cannot be reproduced. With what justice, or with what consistency, then, can you contend, that the vesicle and areola, the only phenomena which attend and constitute the mild, the insignificant disease of vaccination, and totally destitute of any proofs of constitutional derangement, can be admitted as having passed through its regular progress, and imparted its effects to the system? With what truth or candour, I say, can you possibly insist, *that such appearances constitute a constitutional affection in cow-pox, and still contend, that the same phenomena occurring from small-pox inoculation after vaccination, although attended with fever, and followed with eruptions, are only to be considered as local phenomena, and which can be reproduced too at pleasure?* To what a pitch of absurdity does system extend?

a slight degree of hardness will take place from the second puncture."—
Ibid, page 189.

As this, Gentlemen, is authority that you dare neither doubt nor deny, I trust you must be satisfied it distinctly proves, not only, that the areola is the grand test of the constitutional influence or perfection of the process of vaccination, but that, if the local phenomena of a vesicle and areola have been previously produced, it is distinctly declared they cannot be reproduced, and such impossibility is to be considered as satisfactory proof, that the constitutional disease has been produced.

The fact which you state with regard to nurses having pustules attended with inflammation upon their breasts, &c. cannot have the smallest influence upon this question, and whatever evidence they afford, it appears to me directly in opposition to the opinion you wish to support. Every practitioner of experience must allow, that such appearances are by no means entitled to be considered as pustules of a *regular appearance*, and accompanied with the *distinct and characteristic* areola*. On the contrary, they are merely small sores, or suppurations, of an irregular appearance, evidently produced by the abrasion of the cuticle, from the friction and soaking of the pustules upon the child's face, and are never accompanied with the characteristic areola, but merely a slight redness, arising from the local irritation of the abcess. They must also be allowed to be extremely rare in proportion to the prodigious number of opportunities afforded for their production. Nay, indeed, there is no fact which points out, in a more decisive manner, the positive and complete security obtained from small-pox inoculation; for, notwithstanding the astonishing number of such cases, where individuals of all ages, and at every distance of time, from small-pox inoculation, are exposed, in the most decisive and distinct manner, to the influence of variolous virus, still the instances of any consequences resulting, capable of producing any regular and sensible local or constitutional effect, are so rare, as to reduce the number of cases that can be produced, in nearly a century, to about twenty in number, and those too resting upon such authority, as might be

* It is necessary to observe, that by the term areola is not meant, that small confined redness which attends and surrounds every pustule produced by whatever cause, but that erysipelatous efflorescence which is known to all vaccinators and inoculators of any experience, suddenly to surround the inoculated pustule, or vesicle, to a considerable extent, and which, we have already seen, is considered as the most infallible proof of either inoculation or vaccination exerting a constitutional influence.

readily defeated, were I to follow the example of the vaccinists. Shall Mr Dawson's, and two or three more cases, collected through such a long period, and tossed about in every publication upon this subject, until both the writers and readers are made to conclude, they amount to some hundreds,—shall they be allowed to stand in competition with what has already occurred, and indeed what may occur to every individual whenever he pleases, and only too, within the period of a few years after the introduction of the practice?

Of a piece with the above, nay, indeed much worse, is the defence that one of your colleagues used to carry about, on his own person,—a small-pox pustule, for the purpose of furnishing virus for his inoculations! Is it possible, Gentlemen, that your zeal in the good cause, has made you run counter to every thing which experience has hitherto proved? Is it possible you mean to contend, that a characteristic small pox pustule and areola can be produced at pleasure in the same individual. Such a declaration is more than sufficient to destroy the whole of your assertions upon this subject, and to make your brethren suspect, you have bid an eternal adieu to every thing that is consistent and intelligible; and unless you can prove, that your colleague is really entitled to be considered as a *lusus nature*, I will venture to assert, there is not one of the medical profession of the smallest experience, or the most limited observation, who will give their consent to such a monstrous phenomenon?

Beside the arguments we have already examined, it has been contended, that those cases of inoculation after vaccination, have been rarely followed with fever and eruptions, and even when they do occur, they have been so trifling and mild, as to afford no objection to the practice. It is, however, to be remarked, that the cases contained in Dr Willan's publication upon the subject, which occurred to a variety of practitioners,

the facts admitted by Mr Bell *, Mr Bryce, and other writers, the proof I have already submitted, and the evidence contained in Dr Wightman's letter, expressly contradict this assertion, and distinctly shew, that all the symptoms of the most perfect small-pox can be obtained. But even were it the case, that no such consequences could be produced, still it would not afford any great reason to attach greater faith to the practice, because we know perfectly, that inoculation itself was only recommended and practised, from its possessing the power of abating every symptom of the disease occurring as an epidemic, and in many instances rendering them so mild, as hardly to resemble the parent disease; therefore, if vaccination has any antivariolous power whatever, it should certainly be particularly evident, when the small-pox contagion is applied in the way of inoculation.

If, from these facts and reasons, we are at liberty to conclude, that the test of inoculation at the commencement of the practice, can by no means be admitted as decisive evidence of the perfect and permanent antivariolous power of vaccination, I apprehend, the test of exposure to the epidemic, is entitled to much less influence and attention. I must insist, the proof before us is to be considered as the most decisive evidence, that, in point of fact, small-pox does occur after vaccination; therefore, although, like the test of inoculation, the epidemic contagion was resisted directly, or for some time after vaccination, yet, still after some interval, it readily reassumes its influence, so that, by the sixth year from vaccination, to produce all its characteristic phenomena, even sometimes to a distressing and alarming extent. When we examine the whole of the evidence which have hitherto been brought forward; we find, they are so uniform in their features, and so

* See Mr Bell on Cow-pox, pages 73, 74, and 75; also Mr Bryce's publication, pages 148 and 149.

exactly correspond in all material points, it is impossible to refuse our assent, that these circumstances cannot be the effect of accident, but must be produced by the partial and temporary effect of vaccination.

That this is really the fact, is also strikingly corroborated, by comparing the appearances which take place from reinoculation, with the phenomena produced by the application of variolous contagion; for we uniformly find, they bear an exact proportion to their effects upon the system, when it has not previously undergone the small-pox; the epidemic contagion always producing a more severe disease, than what takes place from introducing the variolous virus by inoculation. Farther, the uniformity of the extent of their influence upon the system, so exactly corresponds with the distance from vaccination, that a very decisive proof is afforded, not only that vaccination had exerted its effects upon the system, but that it was actually daily diminishing.

It is here to be particularly remarked, Dr Jenner has stated several cases of casual vaccination, which resisted inoculation, and exposure to the epidemic, even twenty and thirty years after having had the cow-pox. With regard to this fact, it is to be observed, that such cases were certainly rare, and I must suppose, *anxiously* inquired after, by Dr Jenner, to satisfy himself of the truth of his ideas. Also, it is to be remarked, that before a person can be fit for the office of a milker, he must, at least, be sixteen or eighteen years of age, and that thereby, an opportunity has been afforded, for being infected with small-pox, which he might have caught in a very mild way, and have been imperceptible to the mother; or they might have been those instances of peculiarities of constitution, which we frequently meet with, resisting the small-pox, and of which there are one or two in my former work; for certainly it is not supposing too much, that perhaps

a hundred of such description, might, upon a diligent inquiry, have been found in the *county* of Gloucester. The Doctor's instances, of this description, to the best of my recollection, did not exceed a dozen, where he submitted them to the test of inoculation; and even, all the well authenticated instances he could collect, did not exceed a hundred, where the casual disease resisted small-pox; notwithstanding, the cow-pox is allowed to be a very frequent occurrence in that county. In addition to all this, we may observe, that there is neither difficulty, nor improbability, in such persons having their constitutions constantly charged with the antivariolous power of vaccination; for, as according to the Doctor, they may take the disease in its most characteristic form, over and over again; therefore, by continuing exposed to be infected, they may be readily found in a state of resistance to the variolous influence, and still its powers *only* temporary.

The assertion, too, that Dr Jenner and his nephew have vaccinated upwards of five thousand, not one instance has occurred which has been succeeded by small-pox, is, in my opinion, entitled to but little weight in determining this question*. Before this can have any influence, Dr Jenner, and his relation must shew, that in point of fact, there exist such circumstances in conducting vaccination, that few, or none but himself, and his relation can be a judge of, and sufficient grounds made out, for a complete change in the whole circumstances of the affection, so as to cancel the effect of all those cases, principles, and instructions which were first given by himself on the subject. It is impossible, too, to attach implicit credit to these assertions; for, independent of both the Doctor and his nephew being *principals* in the cause, and fully committed to the

* Dr Jamieson's letter puts an end to Dr Jenner's claim to pre-eminence, and proves distinctly, that it is idle and foolish to make any distinction, by what medical practitioner they are vaccinated with.

public for the advantages of their discovery, the description first given by the Doctor, of the appearances that took place upon reinoculation, were wholly incorrect, and is even now, contradicted by himself. But farther, such an assertion is not to be credited, when it is considered, that it comes from a quarter, that has not hesitated to say, that all the cases hitherto brought forward, must be either *chicken-pox* or *bug-bites*. In these observations, I do not mean to charge Dr Jenner with wilful misrepresentation; on the contrary, I am ready to allow him the greatest merit for his diligence, and even accuracy, in his researches upon this business, and that no individual perhaps could have resisted, or indeed, would have been warranted in resisting, such evidence as the subject admitted of; but certainly I do mean to assert, that these circumstances clearly point out, a strong prejudice, and partiality, in favour of his discovery, and a blindness, and enmity to every fact, which can militate against it.

As a farther defence against the proof arising from the evidence of those cases, it has been contended, Gentlemen, that many mistakes must have been committed at the commencement of a practice, which is so difficult to conduct, so intricate to distinguish, and so nice to ascertain. We have already seen, that Dr Jenner, and every other authority, contended at first for no such difficulty and intricacy; nay, every thing appeared, even to yourselves, so smooth and so easy, that you determined to put the practice into the hands of clergymen and females. Now, however, it has become so intricate, that no practitioner but of the most extensive experience, clear perception, and accurate observation, can possibly conduct and ascertain the existence of the disease*. For shame, Gentlemen,

* Nay, from Mr Bryce's plan for the extinction of small-pox, it would appear, that the persons properly qualified for this practice can only be found in a Vaccine Institution.

have you so far forgot yourselves, as to lose all respect, and throw aside all decency and decorum for your professional brethren—What! shall they not be supposed to conduct vaccination, when Dr Willan allows a lady in Monmouth to have vaccinated 1600 in the most perfect manner? Shall they be but little better, nay not so well qualified, as clergymen or females, in the exercise of their profession? Shall the immense number of instances which resisted the test of inoculation and exposure to the epidemic,—shall the annihilation of small-pox, wherever the practice was introduced to any extent,—the total want of any case where small-pox succeeded to vaccination for the first two or three years after the introduction of the practice,—and shall the striking fact, that whatever quarter of the world the discovery was introduced into, its effects were uniform in subduing and promoting the epidemic disease*—shall these, I say, not be allowed to prove there are no grounds for this insinuation? on the contrary, these facts would seem to suggest, that the perfection of the after progress of the discovery has suffered some material injury.

The last defence, Gentlemen, I shall examine, made by the advocates of vaccination, is, that analogy affords every reason to conclude, if vaccination has once imparted such an effect to the system as to resist the influence of the variolous contagion, it will neither diminish nor become extinct.

I apprehend, however, on the contrary, there are the strongest grounds for concluding, that analogy not only gives no countenance to such an opinion, but expressly supports the idea of a temporary and partial influence, and, at all events, can afford but little refuge

* It surely would be ridiculous to contend, that the medical practitioners in those quarters of the world can possibly conduct the disease better, have access to more genuine virus, or even are better qualified for their profession.

from the present pressure of facts, although the Royal College of Physicians in London have given it their sanction.

I must first observe, that certainly the Royal College forgot, they had previously admitted, without any reserve, that nothing analogous existed in nature; I, therefore, cannot exactly see the propriety of extending the benefits of this general rule, to the phenomena of that practice. We might, perhaps, be able readily to understand, how vaccination, if a specific disease, might recur only once in our lives, like many of the class of exanthemata; but how we are to allow, or to draw a conclusive proof from this circumstance, that the existence of one disease, is capable of preventing another, however opposite, is what we have no evidence of. We see that measles, small-pox, chicken-pox, and hooping-cough, readily prevent the recurrence of themselves; but we do not find that they prevent each other; and, therefore, unless it could be shewn, that the cow-pox and small-pox are one and the same disease, no such power can possibly be granted. But farther, it is to be observed, that all those diseases which the constitution is positively exempted from a repetition of, so as *safely* to constitute a general rule, carry the most convincing and decisive proof of their existence; and, indeed, produce a series of symptoms, by far the most severe, and distressing, that are to be met with, in the whole of the diseases to which the human body is liable. In this respect, vaccination is totally without all pretensions. It really has no other phenomena, but what belongs to the vesicle; and, in these respects, has a striking resemblance to what we see produced, by the introduction of many other fluids.

But again, there are many circumstances which distinctly prove, that, after the system has been once constitutionally affected, it is neither so apt to be influenced by a repetition of the same cause, nor, if it should

recur, to the same severity and extent. The history and phenomena of scarlatina, cynanche maligna, pestes, dysenteria, yellow fever, and other diseases of climate, and, I believe, I may add every fever produced from contagion, clearly shew, that they by no means recur, whenever the individual is again exposed to the same cause, but give, in all cases, a temporary security, and, in general, render a second attack comparatively mild. Indeed, there seems to be a general principle in the laws of the human œconomy, that, after it has been influenced by any power, it is, for some time, exempted not only from a repetition of its effects, but also from those of any other cause; and the distance seems, in general, to bear a proportion to the severity and extent of the power previously exerted. This, too, is farther confirmed by the well-known fact, that, in all the cases of a second attack of any of the exanthemata, they are uniformly the consequence of being exposed to a long continued application, and an increased severity in the powers of the epidemic.

It is also worthy of particular observation, that amongst all those instances I have met with, and I believe, also, nearly all the instances that have hitherto been brought forward, very few cases have occurred, where small-pox succeeded to vaccination in the higher, and respectable classes of society. The explanation is obvious; all the higher ranks of society uniformly availed themselves either of inoculation or vaccination; and as they all in general now attend schools, where the whole are on a footing in that respect, and even in their amusements are still amongst themselves, it is impossible that contagion should reach them so readily, either in public or private; but wherever, from necessity, they were placed in different circumstances, then we find the same result uniformly followed. Indeed it is in these circles of society that the great danger of the practice seems to

lie ; for as they are more excluded from exposure to the epidemic, they may avoid its influence, while the effects of vaccination are yet capable of mitigating the disease, and, in their progress through life, may be exposed to, and infected with the variolous contagion when all the influence of vaccination is exhausted, and left completely at the mercy of the epidemic. This fact also very strongly, nay, indeed, I may say incontestibly proves, that the others are to be considered as having been perfectly vaccinated ; for it certainly would be nearly madness to contend, such uniform exemption, can be owing to the process having been properly conducted in the one class, and imperfectly in the other.

This circumstance, too, readily explains, why many practitioners have not met with any cases where small-pox have succeeded vaccination ; as it is well known that those gentlemen who are at the head of their profession, and in large cities, have very little connection with the lower classes of society ; and this, together with the fact, that these people never think of calling in any medical assistance, even in the most severe cases of small-pox, will easily account for the few cases that have come to the knowledge of even the *hospital* vaccinators ; for unless their other practice led them to the spot, where such cases existed, they would never be heard of. Indeed, it may be here observed, from Mr Bryce's own account, that the hospital practice of vaccination is liable to many objections. The vaccinators are, in general, entirely at the mercy and discretion of the lowest class of paupers ; they very frequently never set eyes upon the patient after the mere introduction of the virus, and are seldom afforded more than *two* or *three* opportunities of seeing the arm. Besides, all farther connection and correspondence is at an end upon the completion of the process ; they have no farther access to hear of the future security afforded

by the practice ; and although those gentlemen appear to have vaccinated *thousands* for the *hundreds* of other practitioners, still they do not afford reasons in the same proportion, for concluding, that their practice or opinions are entitled to more weight and attention.

I have now, Gentlemen, brought to a conclusion those observations which your Report and Examination of my opinions and statements naturally suggested to my feelings and judgment. From the view we have taken of the subject, I apprehend it is impossible, with a safe conscience, or with a mind alive to all the disasters and distress which may ensue, to disregard the danger to which the dearest concerns of the public are exposed ; and it must bring indelible disgrace upon the whole medical profession to be detected and exposed, only by the most glaring confusion, and the most damning and disastrous facts. The history of vaccination affords evidence sufficient to create the strongest suspicion, nay, the firm conviction, of the most unwarrantable and uncandid suppression of facts, and that every thing has either been concealed or mutilated, misrepresented and depreciated, which could possibly lead to any conclusion injurious to vaccination. If I am not much mistaken, it will soon appear, that this *misguided* zeal has been highly injurious to the interests of society, and is more reprehensible than the most violent opposition of its most determined opponents. I am also convinced, from what has passed under my own observation, for these last three or four years, that we have been *all* guilty of rejecting evidence that deserved more attention, in consequence of the strong prepossessions which existed, from the very persuasive proof of its resisting inoculation, and exposure to the epidemic, and from our judgment being goaded, and overpowered, with the *positive* and *arbitrary* opinions of its abettors. I am now perfectly satisfied, from my mind being under the influ-

ence of prejudice, and blind to the impression of the fairest evidence, that the last time the small-pox were prevalent, I rejected, and explained away many cases, which were entitled to the most serious attention, and showed myself as *violent* and *unreasonable* a partisan as any of my brethren, in propagating a practice, which I have now but little doubt, we must, ere long, surrender at discretion. I cannot but believe, that the same facts, and observations, must have occurred to most of the profession who are engaged in an extensive practice. They have, I am afraid, like myself, shut their eyes against the fairest proof, and endeavoured to resist, when no longer tenable. I hope, and trust, however, they will no more be influenced, and prejudiced by what is too often considered, superior authority ; but, being fully aware of the great importance of the subject, to the tenderest feelings of the community, they will speedily, and candidly bring forward every case, and fact, which can possibly bear upon the subject.

From an attentive examination of vaccination, it has been shewn, that its source is involved in mystery ; that the origin of the practice is loaded with contradiction ; that it is incapable of influencing the system in a regular or positive manner ; that many of the phenomena of the disease resemble those produced from matter possessing no specific influence ; that, in general, its effects, so far as they can be observed, are merely local ; that no one certain criterion exists of the attainment of constitutional vaccination ; that we are obliged, in order to explain matters satisfactorily, and consistent with the perfect antivariolous power of vaccination, to have recourse to the frivolous and vexatious distinction of local and constitutional, perfect, imperfect, and irregular vesicles ; to the disgusting necessity of employing tests for ascertaining the existence of the disease ; and, in order to defeat certain cases where small-pox appears to have occurred after vaccination,

to employ the contemptible evasions of flea-bites and chicken-pox.

If to this terrific and disgusting chaos, we shall add our total ignorance of the nature and source of the small-pox contagion ; its virulence, its activity, its ancient, extensive, and dreadful effects ; above all, if we shall add the positive proof of the frequent and regular occurrence of small-pox succeeding to vaccination, I apprehend little room is left for hesitation. It would surely be most unreasonable to expect the public should continue their patronage, under such glaring inconsistency, and such positive testimony of its defects. It certainly would be most absurd to suppose they would still follow a practice, when they must be assured, their tenderest concerns must be exposed to sickness and distress, however safe the result might be. But it would undoubtedly be downright madness to imagine they will condescend to encourage it, when it appears they may undergo the disease in its most distressing and dangerous form. In the present state of things, I apprehend, inoculation with variolous matter, is both what we should recommend, and they should adopt. It is a practice possessing the most satisfactory characters ; it is propagated from the same disease it means to combat ; produces an affection in all respects similar ; its progress and effects are certain and uniform ; it is in general mild and safe, and its consequences are complete and satisfactory.—I am, Gentlemen, your much obliged and most obedient servant,

THOMAS BROWN.

MUSSELBURGH, }
1st December 1809. }

APPENDIX.

No I.

SIR,

Edinburgh, 14th June 1809.

ON perusing your book on the cow-pox, I have met with several statements which are there given as my opinions, and as if taken from my publication on that subject, but without your having made any particular reference where they are to be found in the book itself, as would certainly have been proper, and as is usual on such occasions. Now, as I think that several of these statements either must have been misunderstood by you, or must be so vaguely stated in my book, as to admit of an explanation different from what was meant; I must request that you will have the goodness to inform me, either by a particular reference, or by a quotation, from what passages in my book you have made the following statements in your work:

1st, "But now, according to Mr Bryce, few of the medical profession are capable of conducting it, (i. e. vaccination) with precision and effect." Vide page 9.

2d, What cases stated by Mr Bryce, authorize Mr Brown to draw the conclusion No XL. page 58 and 59?

3d, "Mr Bryce contends, that if cow-pox precede small-pox, or small-pox precede cow-pox, the pustule or vesicle of the latest disease will not run its natural course." Vide pages 92-3-4.

4th, Where is it contended by Mr Bryce, "that all the variety of vesicles, too, have been found capable of giving the constitutional security?" Vide page 99.

5th, Where does Mr Bryce state, "that as we are no longer dependant upon the phenomena attending the progress of the vesicle, all its different appearances may be disregarded?" Vide pages 99, and 100.

6th, Where has Mr Bryce asserted that irregular vesicles, or the spurious and local affections will give security; "and that if such cases were either to be submitted to inoculation with variolous virus, or to be exposed to the epidemic disease, they will be found uniformly to resist these tests?" Vide page 121.

7th, "But again, from the cases brought forward by Mr Bryce, it would appear, that this areola attending the secondary vesicle may exist without the smallest evidence of any constitutional symptoms." Vide page 140.—What are the cases here alluded to?

8th, Where is Mr Brown's authority for saying, "Mr Bryce, therefore, having obtained the test of double vaccination from *all* appearances of vesicles and areola?" Vide page 141.

9th, Where is it contended, that "the tests of inoculation and exposure to the epidemic are not decisive of the constitutional effect (from vaccination) having been imparted?" Vide pages 226-7.

10th, Where is it stated, or considered by Mr Bryce, "as a triumphant test of the superior powers of vaccination, that the cases (of small-pox after cow-pox) which have come to his knowledge, were followed with neither eruption nor other severe symptoms?" Vide page 259.

It will also be considered as a favour if Mr Brown will mention where the proofs are to be found, which he says are given by Drs Pearson and Willan, "that a genuine vesicle may be produced repeatedly, if the operation is performed at the distance of some months from the first vaccination?" Vide pages 80 and 81.

I shall anxiously expect your answer to the above queries, in order that some apparent inconsistencies may be explained.—I am, &c.

Mr Brown, Surgeon, Musselburgh.

JAMES BRYCE.

No. II.

Mr Brown acknowledges the receipt of Mr Bryce's singular favour of yesterday's date, and in answer observes, 1st, That several of the paragraphs he alludes to have no connection with Mr Bryce: 2dly, That the others can, in Mr Brown's opinion, by no means be considered as quotations from Mr Bryce's book, but are merely the result of his facts and reasonings, as they appear to Mr Brown: lastly, It is possible Mr Brown may have misapprehended Mr Bryce, but still thinks he could shew ample grounds, from Mr Bryce's publication, for the inferences he has made; and if Mr Brown has omitted them, it proceeded neither from disrespect to Mr Bryce, nor any wish to take an unfair advantage, but only to curtail the inquiry as much as possible; nay indeed, Mr Brown was only afraid he should appear, *particularly to Mr Bryce*, too profuse and minute.

Musselburgh 15th June 1809.

No. III.

SIR,

I am favoured with yours, in answer to mine of Wednesday, in which you say, that several of the paragraphs to which I referred, "have no connection with Mr Bryce." I have again examined them all in your work, and I am still of opinion, that you appear there to have made these statements expressly from my book, and mean that they are my opinions, and results of statements and experiments made by me. As you, however, mention, that several of them have no connection with me, I must now request that you will be so good as mention, which of them you consider as having no connection with me, and which you consider as having a connection with me; and if you will still further do me the favour to refer to such passages in my book as you think, authorise you to state those paragraphs (formerly mentioned) which you consider as having a connection with me or my opinions, I shall be very much obliged to you.

As the very first step in the investigation of truth, which I apprehend is our aim on the present occasion, is to endeavour to clear our subject

from all appearance of inconsistencies or contradictions, I hope you will readily acquiesce in the present request, in order that some of those with which you have loaded the subject of vaccination, may be at least attempted to be done away, by a mutual and candid explanation.—I am, &c.

Edinburgh, 16th June 1809.

JAMES BRYCE.

Mr Brown, Surgeon, Musselburgh.

No. IV.

SIR,

Edinburgh, 3d July 1809.

I received yours of the 16th ult., and wrote you again on the same day, to which I beg leave to refer; and have now to request, that you will have the goodness to inform me whether you mean to favour me with an answer to that letter.—I am, &c.

JAMES BRYCE.

Mr Brown, Surgeon, Musselburgh.

No. V.

Mr Brown has to acknowledge the receipt of Mr Bryce's second letter, of 16th June, and also that of this day. Mr Brown is extremely sorry to be under the necessity of still referring Mr Bryce to his card of the 15th June. Had Mr Brown conceived a more particular answer to *such interrogatories* to be either necessary, proper, or convenient, he certainly would have answered Mr Bryce's letter of the 16th. He has, therefore, only to add, that if Mr Bryce upon an attentive perusal of his own work, still thinks Mr Brown has not fairly appreciated his facts and reasonings, he begs Mr Bryce will proceed in the way that appears most proper, without giving himself any farther trouble.

Musselburgh, 4th July 1809.

No. VI.

SIR,

Edinburgh, 8th July 1809.

I received your's of the 9d inst., in which you acknowledge the receipt of mine of the 16th ult. and say that you would have answered it sooner had you conceived an answer to "*such interrogatories, to be either necessary, proper, or convenient.*"

The reasons which were expressed in my letters, together with the importance to society of a candid inquiry into the state of vaccination, should, to a willing mind, have rendered an answer proper and necessary, but, with regard to its not being convenient for you to answer these interrogatories, this, I am inclined to believe really may be the case, and I confess that I am sorry for it, because, by a candid and mutual explanation, I thought we might have arrived at something like the truth, in this most important subject.

You request, in the latter part of your note, that I may "proceed in the way that appears most proper, without giving myself any further trouble." If by this you mean, that I may proceed to answer publicly your statements on vaccination, or if you think that I have any intention of doing so,

I do assure you, that at present I have *none*:—your opinions and statements do not seem to have made such an impression on the public mind as to render this necessary. Those who feel an interest in the subject, will, on comparing your statements with those of other authors, readily learn how to appreciate them, so that I think the work may be fairly left to itself, especially when it is considered that your opinion, that the security afforded by vaccination against the small-pox is only temporary, was long ago agitated by the opponents of that practice, and was also fully and satisfactorily answered by Dr Willan and others, although it may not have been convenient for you to have noticed this in your book.

I cannot, however, close this correspondence, without giving you the following information for your serious consideration.

I am ready to give you the names of forty or fifty children who were vaccinated by my colleagues, at the Dispensary here, and by myself, in the years 1801 and 1802, that is fully seven and eight years ago, the most of whom have been lately visited personally by us, among the middling and lowest orders of the inhabitants of this city, and have hitherto resisted the small-pox infection, although freely exposed to the epidemic disease within these few months.

The following melancholy intelligence was given us at the Dispensary here, within these ten days:—The wife of Thomas Rutherford, a carter, residing at the Sheriff-Brae, Leith, brought a young infant to the Dispensary to be vaccinated; she informed us, that the small-pox was very frequent in her neighbourhood, and that she had, within these three months, lost a child by that disease. On our asking why she had not brought that child to be vaccinated long ago, (for he was two years old when he died), she answered, with tears and bitter reproaches, that she certainly would have done so, for that she had two children inoculated with the cow-pox at the Dispensary, one six and a half years ago, and the other about four and a half years ago, but that she had heard some reports against the cow-pox, and had therefore neglected doing it; but she added, that now she and all her neighbours were convinced, in spite of the stories that wicked people spread against the cow-pox, that this inoculation certainly prevented the small-pox, because her two children (vaccinated as above mentioned, and who, you will observe, were beyond that period, which you have fixed as that of security against the epidemic small-pox, *See your book, page 300*), had slept in the same bed, eat out of the same dish, and used the same spoon with his brother, during his whole illness, and yet had entirely escaped the small-pox.

At the parish-school at Newton, where Brown, the 24th case in your book, appears to have caught the small-pox, there were several other children attending, who had been five, six, seven years, vaccinated, and equally exposed to the small-pox with him, yet they altogether resisted the disease. This fact you either did, or should have known, but perhaps it was not *convenient* for you to mention it in your book.*

At page 255 of your book you state, "that, as nearly, if not entirely the

* Mr Bryce cannot surely have perused my book with the smallest attention, otherwise he must have perceived no less than six cases connected, either with Newton school or the vicinity.

whole of the instances where these tests," (inoculation, and exposure to the epidemic small-pox,) "were had recourse to, they were only applied a few weeks or months after the period of vaccination," &c. Now, I beg leave to inform you, if you do not already know, that you will find a complete refutation of this statement in Dr Willan's *Treatise on Vaccination*, at page 17, where an account is given of fifty persons who were inoculated with small-pox, from *three to five years*, after being vaccinated, and were then found incapable of taking the small-pox, besides many others who were found to have been freely exposed to the epidemic disease with impunity.

This statement, given by Dr Willan, you can scarcely have been ignorant of, seeing you have made a quotation, and a very singular commentary on it, at page 302, note, of your work, from the page immediately preceding that in which it is contained in Dr Willan's book; but perhaps you thought it was neither necessary, proper, nor convenient, for your purpose, that it should be noticed in your candid inquiry into the antivariolous power of vaccination. I am, &c.

JAMES BRYCE.

Mr Brown, Surgeon, Musselburgh.

No. VII.

DEAR SIR,

Edinburgh, 8th July 1809.

I am at present engaged in some investigations respecting the influence of vaccination in counteracting variolous contagion, and I shall be much obliged to you, if you'll favour me with an answer to the following queries:

1. Did you vaccinate many children prior to the first of January 1805?
2. Have you found that any of these, since their vaccination, have been subjected to natural small-pox; and if so, what number?
3. Have any of your vaccinated patients been much exposed to the contagion of small-pox, and resisted that contagion?

I remain, dear Sir, your most obedient servant,

ANDREW DUNCAN, Sen.

No. VIII.

DEAR SIR,

Musselburgh, 14th July 1809.

I was favoured with yours of the 8th inst. and shall think myself extremely fortunate, if I shall be able to communicate any information concerning vaccination, which you may think necessary to request in your present investigation, and you are at full liberty to apply it to any purpose you may think proper.

Your first query is—Did you vaccinate many children prior to the first January 1805? I began to vaccinate in the autumn of 1800, and in a few months after, inoculation was, in my practice, entirely superseded by vaccination. I was the first practitioner in this place that adopted the practice, and had continued it for some months before my example was followed, and even previous to Dr Monro's declaration, which I have noted in my dedication, and which I then paid no attention to, as it was evidently destitute of all proof. From an attentive examination of my books, I find I may safely state my vaccinations, upon an average, at 150 annually,

which will give, from the first of January 1801 to 1805, 600. It may, perhaps, be not improper to observe, that, during the whole of this period, I was supplied with virus from Mr Anderson, surgeon, Leith, the Vaccination Hospital, Edinburgh, or my fellow-practitioners in this place, and that I frequently carried the vaccinations to the fiftieth series, without a change of virus. They were regularly attended through their whole progress, and none were allowed to pass without revaccination, who had not a distinct vesicle and characteristic areola.

Your second query is--Have you found that any of these, since their vaccination, have been subjected to natural small-pox, and if so, what number? Besides the cases of my own, which I have published, as connected with the period you mention, and which occurred within these last twelve months, I have to add about ten, which happened during the same period, and about fifteen more, which I saw some years before, but which I always endeavoured to explain and defeat, from the trifling and uncharacteristic appearance of the eruption, but which, I am now perfectly convinced, are to be considered as cases arising from the exertion of the variolous influence, however modified they may be, and which, in all, may therefore amount to about forty. But here it is to be particularly observed, that, as many of these cases were quite accidentally fallen in with, and would, in all probability, have never been heard of otherwise, it is but reasonable to conclude that there must have been many more; and this more especially, as, in those cases where the small-pox existed in families, all those who had been vaccinated, went through the variolous influence exactly in proportion to the extent and severity of the source of contagion. Indeed, so much was I convinced of this principle being correct, that, before making any inquiries, or entering the person's house, I told them exactly the situation of the cases. These circumstances--the extent and severity of the source of variolous contagion, together with the distance of the period from vaccination, uniformly decided the progress of the infection in the families, and according to these particulars, I gave my prognosis of what would ensue, and have seldom or never been contradicted. Indeed, you may easily observe, from the history of those cases I have published, how uniform and exact these circumstances were in their influence; but a very remarkable instance of which has lately occurred in Prestonpans, and I hope you will excuse me for troubling you with it. A very decent family, of the name of Baxter, had two children vaccinated by Mr Williamson, surgeon; the oldest was past nine, and the other past seven years: both attended school. The oldest became sick on the 10th June, and an eruption to the extent of some thousands took place a few days after. They were confluent in several places, upon the face and body; they went through the regular progress, and began to decay in about eight days. He remained in bed the whole period, and had considerable fever. Upon seeing this case, I distinctly stated to the parents and others, that the other child would sicken and have the disease, and only requested the mother would give her every opportunity of being with her brother, and occasionally lying only in the bed he had occupied for a short time, upon getting his own made. This the mother readily consented to, being satisfied with the observation, that if vaccination made her secure she might do any thing, and if not, the sooner they were satisfied the better. Accordingly, on the 24th, she sickened, and had an eruption of about four hundred. Mr Williamson attended both

cases, and distinctly allowed them to be small-pox, but endeavoured to remove the embarrassing situation, by having recourse to the hackneyed and sweeping expedient of imperfect vaccination, although he had, at the time, expressed himself perfectly satisfied, suggested not the smallest doubt, and had taken virus from both cases. They were also vaccinated by one puncture in each arm, the cicatrices of which are all large and distinct, and, from the mother's account, the vesicles were large, and the areola so extensive, as to require the application of flour to check the inflammation. The family consisted of other four or five children, who had all gone through the small-pox, but never complained. I have also lately had a very remarkable instance of a child, who was inoculated, infecting, under particular circumstances, two children in the same family, that were vaccinated, but I shall not now trouble you with it.

To return to the subject of the queries, you must particularly observe, that although I can only state about forty cases of small-pox succeeding to vaccination, which only gives about seven in the hundred, yet still that is not to be considered as the just proportion, for I think it is but fair to strike off at least a sixth part of the number vaccinated, as being children of those classes of society who have little or no access to the contagion, which will reduce the number, still only, but liable to be exposed to the variolous influence, to 500, which would then give an average of eight in the hundred.

But when we come to answer your third, and last query, viz. Have any of your vaccinated patients been much exposed to the contagion of small-pox, and resisted that contagion?—we will find still less cause for confidence, and the number of cases that underwent the variolous influence increased in a most alarming proportion. In examining, carefully, the history of the cases I have published, you will distinctly find, that, few or none escaped, who were subjected to the variolous contagion in a concentrated form, such as attending school, or exposed to severe cases of small-pox at home, at the distance of six years from vaccination; that very few escaped, in such situations, at four years; and that the greatest number who resisted the contagion, were either within three years, or not placed in such a concentrated epidemic. And these circumstances, you will observe, did not solely attach to my cases, but readily included those cases of vaccination belonging to other practitioners; nay, indeed, you will see it regularly extended in several families, to from two to four cases, although vaccinated by different practitioners, in the same family, and also done by the same practitioner at the interval of years. It is not in my power to give you any information what number of my vaccinated cases have been positively much exposed to the variolous contagion. Indeed, it is impossible for me to assert that any more have been exposed than the cases I have stated in my publication, and those which I have mentioned above. By attending to those in my book, you will observe, that only seven or eight escaped the variolous influence when the small-pox existed in the family, when there were eighteen that were subjected to its attacks. That with regard to other practitioners, there were about thirty who suffered from the variolous contagion, and only twelve or thirteen that resisted its influence. From these data we may therefore suppose, that, in the other twenty-five cases which I have mentioned as having omitted, and formerly met with, about twelve more might have, in these situations, resisted the influence of the

epidemic. Although these are the numbers I can positively speak to, upon strong grounds, as having been distinctly exposed to the variolous contagion, still, I apprehend, we may, upon different data, come, perhaps nearer the truth. I have observed above, that I have never met with a single instance in the higher classes of society, where vaccination has been succeeded with small-pox, unless the child either attended a common parish school, where all descriptions of children are admitted, or, in its amusements, was constantly exposed to such. This fact is, you will easily observe, of great moment, in many points of view, in this inquiry; but for our present purpose, we have to remove this number, as being exposed to infection, from our calculation of six hundred cases of vaccination prior to the 1805, which we may safely take at one sixth of the whole. Of the remaining five hundred we have already stated forty had an attack of small-pox, which would therefore leave four hundred and sixty that might be supposed to have had at least a chance of being exposed to infection. But when we examine into the different circumstances in which many of the four hundred and sixty might be placed, we shall find that a great proportion of these cannot fairly be supposed to have been exposed to any infection, and many only to a very moderate degree of it. I would be inclined, therefore, to cut off, at least, another hundred, for cases that are vaccinated in country situations, and that really had every probability of escaping the small-pox, even although not previously vaccinated. This will now leave three hundred and sixty, having a great probability of being exposed to the influence of the epidemic; but we must still, in my opinion, strike off a sixth of this number, that would not have taken the small-pox, (although not previously vaccinated) in the most common form of the epidemic disease, which will only leave 300 that we may safely conclude have been exposed to the variolous contagion. This will now give the proportion of one in six or seven that has been influenced by the variolous contagion, without taking into our calculation, either a very considerable number of cases where small-pox have succeeded vaccination, which, in my opinion, have passed unobserved, from their slight and trifling nature; or, that a very great proportion of the three hundred might have been only exposed to a mild state of the epidemic.

I have now endeavoured to state my answer to your queries, in a way which appears to me to be the only fair and rational mode of considering the subject. I am afraid you will think I have aberrated much from your questions, but really it is a subject of such consequence, and, in my opinion, so much has been done to prop it, without giving a due weight to many material circumstances of an opposite tendency, that I could not refrain from placing some of them before you. I shall now beg leave to observe, that I think you ought to add other two or three queries to your circular letters, in order to obtain any thing like satisfactory information, viz, Are not the vesicle and areola going through their regular progress, the only material circumstances to be regarded in conducting vaccination? Does your experience warrant you to believe, that, at the early period of the practice, the phenomena, in any respect, differed, or that more mistakes were committed than at present? Does your experience enable you to state, that, although you may not have met with many cases of a distinct, and numerous small-pox eruption, yet have you observed cases of a moderate eruption, which appeared suspicious, and which you could not distinct-

ly say were either small-pox or chicken-pox, but yet the small-pox epidemic in the neighbourhood?

I shall now conclude, by wishing your efforts may tend to place vaccination on a basis that is consistent with the comfort of the public; I must beg leave, however, frankly and sincerely to state, that I have now no doubt of the leading facts and opinions I have published, and I distinctly assert, that vaccination will be found, from daily experience, to be only a temporary expedient; that the practice will be allowed to sink silently into oblivion, from the aversion that such numerous and respectable bodies and individuals must labour under in contradicting themselves; and also out of respect to Dr Jenner, who, whatever shall be the result, is certainly entitled to public gratitude for his exertions. I am, dear Sir, yours, respectfully,

THOS. BROWN.

No. IX.

DEAR SIR,

Edinburgh, 17th July 1809.

I was duly favoured with yours of the 14th, and beg you will accept of my best thanks, for the speedy and particular answer to my queries, with which you have been pleased to favour me. On this subject, I might have added, not only the queries you propose, but also many others. My object, however, is to obtain distinct information, from practitioners in Edinburgh and its neighbourhood, respecting a few particulars; but especially with regard to the number vaccinated more than five years ago, who have of late resisted variolous contagion, though much exposed to it.

The information which I have received on this head, leads me, I own, to a very different conclusion from that which you have formed, when you assert, *that vaccination will be found to be only a temporary expedient.* From the facts communicated to me, and from those which have fallen under my own observation, I am convinced, that vaccination affords as strong protection against variola at the end of five years as at the end of five days; and I have no doubt, that posterity will find vaccination as complete a protection against small-pox as variolous inoculation, even to the end of a long life.—I remain, dear Sir, yours truly,

ANDREW DUNCAN, Sen.

[The following Letter to Dr DUNCAN, Published in the Courant.]

No. X.

DEAR SIR,

I have to apologize for not offering you sooner my best thanks for your kindness and attention in inclosing Dr Lee's sermon; but, from the nature of the present, and what had already passed, I hope you will excuse me for coupling my acknowledgments with the following observations:

I think, Sir, it must be universally allowed, that the publication of Dr Lee's sermon, with its pompous title, and the advertisement prefixed, in

name of the Managers of the Dispensary, has been advised and carried into execution by those medical gentlemen who are connected with that institution, and more especially the Board of Vaccinators; and, as you, Sir, have been so long connected with that charity, and had the goodness to forward me a copy, I must suppose that you have been an ardent adviser and promoter of this plan.

I beg leave, therefore, to submit to your consideration a few questions, that must naturally occur to every rational mind upon this subject: *Is such a method calculated for a fair discussion? Is it a plan that allows an equal chance to both parties? Does a sermon appear to you the proper vehicle for a medical dispute, or can it possibly contain any thing like a discussion of the question at issue?* I am, however, certainly much obliged to those who have adopted this plan of defending and recommending vaccination; it, undoubtedly, must be allowed to be a most striking, respectable, and undeniable proof of the importance they attach to my work. It is impossible to plead the excuse that my publication is entitled to no other notice; for, independent of what has already passed betwixt us on the subject, and the contrariety of facts and opinions relating to the practice, the plan you have adopted, and the nature of the advertisement, evidently betrays an opinion that it contains something capable of making a public impression. Had I, Sir, either in my mode of treating the subject, or in bringing out the work, followed that method which could render it intelligible to any but a medical reader; or, from its form, have facilitated its introduction among that class, where prejudice and clamour exert their authority, I might, perhaps, have been answered in this way; but, as the contrary you know is the fact, I cannot find out upon what principle of justice, or view to the attainment of truth, you can possibly have been tempted or betrayed to adopt this plan.

I must indeed, Sir, confess, that I am much at a loss to ascribe or conceive a proper motive for your enclosing me this sermon. I really did not expect you could possibly imagine *that a page or two*, of the most trite observations, could be considered by me as either evidence or argument, and I cannot possibly allow myself to think that *you* view them in that light. It must certainly appear to every reader, but more especially to a medical one, that if what this sermon contains, concerning vaccination, can be considered either by you or me as a medical recommendation or defence of that practice, far less an answer to the facts and observations I have submitted, they are certainly entitled to consider both our intellects and medical information frightfully deficient. For my own part, I must take the liberty to say, that the matter which the sermon contains, *so far as it relates to vaccination*, is entitled to no more attention and respect than the mode of defence that has been adopted; and I have so much respect, *even for Dr Lee's medical abilities*, that I must suppose he has been both coaxed and goaded, before he allowed his otherwise respectable sermon to become the defence and prop of vaccination, and more especially as an answer to a "*specious and artful representation of what has been called new facts*," when it was in fact preached some days before my work made its appearance.

I must beg leave also to remark, that it has been industriously propagated, by the vaccinators of this charity, that my publication contains nothing new, and is only a repetition of the arguments of Dr Moseley. Their

motives for this conduct appear to me so obvious, as to require no comment. But although, as I have elsewhere stated, I have never perused any work belonging to the antivaccinists, yet I believe, from those extracts I have met with, I may assert, without the fear of contradiction, that Dr Moseley's publications and mine, upon this subject, will be found to agree in nothing but the opinion of the temporary power of vaccination.

Before closing this letter, I must again take the liberty explicitly to state, that daily experience will be found to multiply the facts, and strengthen the observations I have made; and so much am I convinced of the truth of my opinions, that I *herby engage to come forward and make a public apology, if, in five years from this date, it shall not be found that vaccination is confessedly in a state of mortal decay; and, if I shall be found correct, I shall expect a similar conduct from all concerned in the publication of this sermon.*

I have thought it necessary to say this much, and to take this step in justice to myself, and in answer to the advertisement of the Managers of the Dispensary, which appears to me evidently levelled at my publication. But, as nothing is more disagreeable to my feelings than such a mode of defence, I shall certainly take no farther notice, *in this way*, of whatever the advocates of vaccination may advance.—I am, &c.

THOMAS BROWN.

No. XI.

DEAR SIR,

Adams'-Square, Edin. 11th Aug. 1809.

I was yesterday favoured with yours of the 9th. You are perfectly right in your conjecture that I had a concern in the advertisement from the Managers of the Public Dispensary, which is prefixed to Dr Lee's sermon.

I was desirous, that something should be published to allay those fears, which, in my opinion, had been cruelly excited in the minds of many parents, from its having been of late asserted, that vaccination affords only a temporary defence against small-pox. To ascertain this point, I put a few queries to different surgeons of my acquaintance in Edinburgh and its neighbourhood. The general result of these inquiries has, to myself at least, been completely satisfactory, and is published in the advertisement mentioned above. To each of the gentlemen who favoured me with written answers, I sent a copy of Dr Lee's sermon, with thanks for their communications. From this circumstance, a copy was sent to you among others; and I have reason to believe, that most of my correspondents have not been offended at this mark of attention.

I sincerely hope, that the advertisement, as well as the sermon, may have some good effect in allaying what appear to me to be groundless apprehensions; for I am perfectly persuaded, that proper vaccination has afforded complete protection at the end of eight years against the most virulent contagion of small-pox; and that it will afford the same protection, even to the latest period of the longest life. is at present the firm belief of your most obedient servant,

ANDREW DUNCAN, Sen.

No. XII.

DEAR SIR,

Adams'-Square, 2d Sept. 1809.

I have ever been of opinion, that newspapers are a very improper channel for communicating medical disputes to the public; and I am sincerely sorry that you should have provoked a newspaper controversy, which, I think, was totally unnecessary.

I conclude, however, from your lengthened advertisement in the Courant of Thursday last, that you do not wish your dispute with me should be terminated.

From what you have said respecting Dr Lee's being misled by bad advice, connected with the extract which you have printed from my letter to you, many readers have concluded that you infer he has got bad advice from me. Permit me, therefore, to take this method of informing you, that if you entertain any such suspicion, you do me great injustice.

It is not, however, my intention to continue a newspaper war, unless I be forced to it. I am, however, still anxious for the investigation of truth; and it is my opinion, that, after the experience of nine years, it is not now necessary to wait five years longer. Accordingly, in consequence of a motion made by me, the Managers of the Dispensary have appointed a committee to investigate the alleged facts against the efficacy of vaccination which are contained in your late publication. A report from that committee is now in the press, and probably will soon be published.—I am, Sir, your most obedient servant,

ANDREW DUNCAN, Sen.

No. XIII.

DEAR SIR,

Musselburgh, 3d Sept. 1809.

I was this moment favoured with yours of this day's date. I am sorry you should imagine that the expression, bad advice, to which I impute Dr Lee's insinuations, should have the smallest reference to you. I beg leave to assure you, I have never forgot the instructions I received when your pupil; and I trust I shall always retain a proper sense of respect for one, from whom I received much civility and attention. After your candid acknowledgment in your letter, I could not possibly entertain such an idea; and more especially too, after your having declared you had never vaccinated a single individual.

I can assure you, Sir, it is neither my inclination, and very far from my intention, to continue a newspaper dispute, which I have already publicly declared in my letter to you. I trust, however, you will allow, that what has already passed was not of my provoking; and I certainly flatter myself, the discerning part of the public views it in the same light.

As to the appointing a committee, and publishing a report, I cannot have the smallest objection; but, from the expression, *alleged facts*, contained in your letter, and the sentence of a "*specious and artful represen-*

tation of what has been called new facts," contained in the advertisement by the Managers of the Dispensary, I must say, that I do not expect much candour, and far less public benefit to be the result of their inquiry.

As a friend, Sir, I beg leave to add, that it perhaps might be prudent, before the managers do more, to make an inquiry both from the College of Physicians and Surgeons in London, what opinion is now entertained of vaccination; when, I apprehend, they will pause a little before they so distinctly commit themselves in recommending vaccination, as an undoubted, and perfect antidote to the variolous epidemic.—I am, Sir, always with respect, your most obedient,

THOMAS BROWN.

No. XIV.

SIR,

Peebles, 21st August 1809.

The strictures which you introduced in a letter to Dr Duncan, sen. published by you in the Edinburgh newspapers, relating to a sermon of mine, preached in May last, for the benefit of the Edinburgh Dispensary, appeared to me to require some public notice, with a view to rectify certain misapprehensions into which you have fallen; and accordingly I sent a letter in answer to them, which I expected to be inserted in the *Courant of Saturday*, but, from the length of the letter, and the lateness of its arrival, I find it was not convenient to insert it that day, and probably it may not yet have found admission.

In acknowledging the receipt of my letter, the editor says it was produced by what I considered as a *rude* attack. I suppose, by *rude* he meant an abbreviation for *unprovoked* or *unwarranted*, which I believe was my expression.

I have little concern with your strange supposition, that my sermon was intended, or represented, as an answer to a book, which, to this hour, I have never seen; and, as to the unfairness and want of candour in the gentlemen of the Dispensary being engaged in such a publication, I own I am not able to comprehend your meaning. I can assure you there is no purpose farther from my heart than to be instrumental in obstructing free discussion. But, at the same time, I have as good a right as any other man has, to express the convictions of my understanding, deduced from what I think legitimate evidence.*

It would require no ordinary degree of passiveness were I to overlook some of the insinuations which you have connected with my name. My observations would have been sent to you before they were published in a newspaper, but indisposition prevented me from writing two copies of my letter; and besides, as neither prudence nor delicacy dictated to you the propriety of communicating your animadversions to me before you published them, I am not called upon to observe that ceremony towards you.

In any intercourse which I have had with the literary world, and I have

* From a pulpit, Dr Lee?

had some, it has been my practice to treat every man with liberality, and never to impute motives to another, which were not too glaring to escape the most careless observation. I have no doubt you act upon the same principle; but I have also occasion to know, that your manner, in your letter to Dr Duncan, has conveyed a different impression to my friends. Your sneering and disrespectful expressions (for so they are understood), do not lower me in the opinion of those who know me,—and those who do not know me, will, I hope, suspend their judgment till they hear whether I have any thing to say.

I cannot sufficiently regret your precipitancy in publishing that letter to Dr Duncan, which subjects me to the necessity of saying publicly, that several of your conclusions are both hasty and incorrect, and let me add, not very compatible with that cautious procedure which ought always to characterise the writings of a man, whose professed object is the discovery and dissemination of truth,—an object, in the pursuit of which, I most cordially wish you may be successful. I am, &c.

JOHN LEE.

No. XV.

SIR,

I was this moment favoured with your's of the 21st curt., and beg leave to thank you for the honour you have done me.

I can assure you, Sir, it gave me much pain to find, from the note inserted by the editor of the Courant, that you had considered any thing contained in my letter to Dr Duncan could possibly demand an answer from you, for I can assure you, notwithstanding the insinuations contained in *that page or two* of your sermon, which all that know me, could readily swear were utterly destitute of application, yet I did not entertain the most distant idea of joining you with the transaction, far less of giving any offence whatever. Indeed, sir, I believe I may venture to affirm, that no unprejudiced person supposed you ever joined actively in this grand stroke of policy. You were merely made the instrument of preaching the sermon, and afterwards it was selected as a proper vehicle for introducing the advertisement of the Dispensary vaccinators, who, by this desperate conduct, have incurred a just ground for the censure of the other respectable managers of that institution. I shall not either trouble you, or myself at present, with the many strong proofs which the transaction affords of the detestable means which may be employed to bear down even a medical inquiry, but shall merely content myself with observing, I am extremely sorry that those whom you style your friends, should have so much influence, so to distort and misapply the most obvious reasoning, as to have made you believe, that what my letter to Dr Duncan contained, applied to you and not to themselves. In plain terms, Sir, these individuals connected with the Dispensary, who have hit upon this singular expedient, are what I, and

* The Doctor must reconsider the letter he published, before he obtains credit for this assertion.

every man of common understanding, ascribe all the honour that can possibly flow from the transaction, and as such, I wrote to Dr Duncan, who candidly confessed to me, in his answer of the 11th, that I was right in my conjecture. I must now conclude, by again assuring you, Sir, I neither did intend, nor do I think my letter to Dr Duncan *does* contain any thing to offend you; and I flatter myself, upon attentively perusing it, and the whole of the particulars to which you must be privy, that you really ought to consider yourself as quite unconnected with whatever my letter contains. I am, &c.

THOMAS BROWN.

[The following letter was addressed to a variety of medical practitioners, and to those who honoured me with an answer, I again offer my warmest acknowledgements.]

No. XVI.

DEAR SIR,

Although I have not the honour of a personal acquaintance, yet, as I am engaged in some further investigations concerning vaccination, I have taken the liberty to request you will have the goodness to favour me with an answer to the following queries, and I should esteem it very kind, if you will give me any other information on the subject which you may think necessary.

1st, Are not the vesicle and areola going through their regular progress, the only material circumstances to be regarded in conducting the process of vaccination?

2d, Does your experience warrant you to believe that these phenomena have in any respect differed since the commencement of your practice, or, that more mistakes were committed at that period than at present?

3d, Have you met with cases of small-pox succeeding to vaccination, and what number?

4th, Does your experience enable you to state, that, although you may not have met with many cases of a distinct and numerous eruption of small-pox after vaccination, yet have you observed cases of an eruption which appeared to resemble small-pox, and the disease epidemic in the neighbourhood.

It will be also obliging, if you will notice the age of such cases, their distance from vaccination, if the eruption was more numerous in proportion to the age, and distance from the period of vaccination, and also what class of society they belonged to. I am, &c.

THOMAS BROWN.

No. XVII.

SIR,

Dunbar, 8th September 1809.

Agreeable to your request, I sit down to answer your queries relative to vaccination.

1st, The vesicle and areola going through the regular process, I have always considered a material circumstance to be regarded in conducting the process of vaccination.

2d, My observation warrants me to believe, that these phenomena have not differed, except when imperfect virus had been introduced. I cannot say that more mistakes were committed at the commencement of the practice than at present.

3d, In two cases, small-pox succeeded to vaccination.

4th, In one case the small-pox were numerous and distinct, the disease in the neighbourhood; she was six years and eight months; was vaccinated the eighth month, and of the lower class of society.

In the second case, she was vaccinated the third month, and at the age of seven years and three months had fever, succeeded by an eruption, which resembled small-pox, containing very little virus, and decayed on the fifth day. She was of the middling class of society. I do not remember the disease was in the neighbourhood.

Wishing you every success in your laudable endeavours in investigating this important point of vaccination. I am, &c. ALEX. JOHNSTON.

No. XVIII.

DEAR SIR,

Dunbar, 9th September 1809.

In reply to your's of the 5th inst. containing some queries concerning vaccination, I beg leave to state the following answers.

1st, I consider the vesicle and areola going through their regular progress, so far as our present knowledge serves us, are all the circumstances necessary to be observed in order to produce the proper vaccination.

2d, I do not consider that these phenomena have in any respect differed since the commencement of my practice, but think there were more mistakes took place five or six years ago than at present, owing, in my opinion, to the vaccine virus being taken from the vesicle at a later period than the eighth or ninth day after inoculation.

3d, I have only seen three cases of small-pox succeed to vaccination; two of these happened in consequence of having been inoculated with small-pox virus. As I did not vaccinate any of them, I cannot particularly say how long it is since they had the cow-pox; but, from the history their mothers gave me, I suppose it to be about five or six years since two of them were done, and two years since the other.

4th, Although the small-pox have been epidemic three different times within these last five years, and have continued for five months just now, I have only met with one case (in addition to the other three), that had some resemblance to small-pox, after cow-pox; this was merely a slight eruption, without any fever; the boy slept with his brother, who died of confluent small-pox. It is five years since this case underwent vaccination.

I have only further to observe, that all whom I have seen, belonged to the lower class of society; they were all under seven years of age, one of them only three. I could not observe any difference of the number of the pustules, either from the proportion of their age, or the distance of the period from vaccination, except that the child who took them naturally had a greater eruption than the two that were inoculated. I am, &c.

GEORGE TURNBULL.

No. XIX.

SIR,

Dunbar, 10th Sept. 1809.

I have to acknowledge the receipt of a letter from you, dated the 5th of this month, and I now state my answers, which you requested might be sent you, to some queries which you had put on the subject of vaccination as a preventative of small-pox.

1st, I consider that, when the vesicle and areola go through their regular process in the manner described by Dr Willan, Mr George Bell, and other writers, practitioners have reason to conclude, that vaccination has been properly conducted. It is, doubtless, to be wished, that a constitutional affection could be perceived; but, in most cases, this is liable to uncertainty and mistake.

2d, From my own experience, I cannot say that these phenomena have materially differed since the commencement of my practice in vaccination, which was in 1800, or that more mistakes were committed than at a latter period. Indeed, since the treatises on this subject have been published, I have been particularly attentive never to use the vaccine virus but in a limpid active state, taken betwixt the 7th and 10th days; and I have always considered it necessary to repeat the operation, when the vesicle had that conoid form spoken of by authors, and when it broke, or was rubbed off, and discharged a quantity of matter about the 6th or 7th day.

3d and 4th, I have seen in all ten cases of small-pox, or an eruption resembling small-pox succeeding vaccination; and I believe that these are the whole of the cases observed in this place and neighbourhood. Of course, I include in this number, not only such as I had vaccinated myself, but all those vaccinated by other practitioners, which happened afterwards to fall under my observation. Three of the number were vaccinated by myself, and the others by attentive regular practitioners, who, I make no doubt, attended properly to every circumstance connected with the process*. In four cases of the ten, variolous matter had been inserted into the arm, with a view to ascertain the efficiency of the previous vaccination. The others were the consequence of exposure to the contagion of small-pox.

In one case only was there an eruption of distinct and numerous small-pox, which went regularly through all the stages of that disease, such as the face, hands, and feet, swelling in due succession, and at the proper time. The patient had been vaccinated by Mr Johnston, surgeon here, when about seven months old. He was satisfied with the appearances; and this summer, which was about seven years after the vaccination, the small-pox made their appearance, after being exposed to the contagion. In all the other cases, the eruption was remarkably mild and scanty, though the symptoms in the eruptive fever sometimes ran high. Generally from ten to forty or fifty pustules appeared, very few of which advanced to maturation, in some cases none, but decayed about the fifth day, and in a day or two more totally disappeared.

No doubt, many of these cases might have been explained away; but, from the appearance of the pustules, the symptoms of the eruptive fever,

* Observe the difference betwixt Dr Wightman's reasoning upon the subject, and the surgeons of the Vaccine Institution.

and from the small-pox being epidemic in their immediate neighbourhood, I never entertained a doubt of their being real small-pox, though modified and mitigated in consequence of the previous vaccination. The only disease which it was possible to mistake them for was varicella; but a person accustomed to view both these diseases, could scarcely, and especially after visiting them three or four times, fall into such an error*. The ages of the patients varied from two years to about seven. I have seen none where small-pox appeared at a shorter period after vaccination than two years, and none at a greater than seven years; and I cannot say that any difference was observable in the severity or mildness of the disease, from the longer or shorter distance of that period, excepting that case before mentioned. One of the cases was in the genteeler, the others in the middling and lower ranks of life.

The practice of vaccination has been very general here in all ranks since its first introduction in 1800. The inoculation for the small-pox has, during that period, been totally given up. They have been casually introduced by itinerants three different times, but never had a very extensive range. After communicating the infection to a few families in the immediate neighbourhood, they have always very soon disappeared. Only three or four deaths from small-pox have occurred in that period, and in none of these cases had vaccination ever been practised.

I am respectfully, Sir, your very obedient servant,

WILLIAM WIGHTMAN.

Mr Thomas Brown, Surgeon, Musselburgh.

No. XX.

SIR,

Musselburgh, 11th Sept. 1809.

I beg you will be pleased to accept of my best thanks, for the very particular, clear, and candid information which your letter of the 10th contains concerning vaccination; and I can assure you, it gives me much pleasure to find my opinions so distinctly strengthened by one who seems to have given great attention to the subject. As the subject is highly interesting to the comfort and happiness of the public, and as you have made an observation, in your answer to the second query, which embraces a point of considerable importance in the practice of vaccination, I hope you will excuse me for again troubling you on the subject.

You observe, that you have been particularly attentive never to use the virus but in a limpid state; and that you have always considered it necessary to repeat the inoculation where the vesicle had either the conoid form, or when it was injured about the sixth or seventh day, so as to discharge much virus. Query: Have you any experience of vaccinating with the scab, or do you consider the *scab* as fitter for the purpose of vaccination, than when somewhat viscid, or opaque, or equally capable of communicating the disease with limpid virus?

* Here again, the Doctor's candid and liberal conduct affords a striking contrast to that of the authors of the Report.

In those cases where you judged it prudent to repeat the vaccination, did you ever succeed in obtaining the regular appearances afterwards, more especially, if the first vaccination had been attended with an areola? I am, Sir, with great regard, your much obliged servant.

THOMAS BROWN.

To Dr Wightman, Dunbar.

No. XXI.

SIR,

Dunbar, 13th Sept. 1809.

In answer to the queries stated in your letter to me of the 11th current, I have now to observe, that I never used the *scab* of the vesicle for vaccinating with. When it could not be got perfectly fresh in this town or neighbourhood, the vaccine virus was always procured from the Dispensary at Edinburgh, and used as immediately as possible.

In the cases where I repeated the vaccination on account of the virus being discharged early, I cannot say that I ever obtained the regular appearances afterwards, especially if the first process had been attended with an areola. But at the same time, I must acknowledge, that the cases wherein I had occasion to re-vaccinate from this cause, were not sufficiently numerous to warrant any practical inference to be drawn from them. Hoping that the just merits of vaccination, in which few families are not deeply interested, may be ascertained by a candid statement of facts, and cool dispassionate reasoning therefrom, I remain, with much respect, Sir, yours sincerely,

WILLIAM WIGHTMAN.

No. XXII.

SIR,

Dunkeld, 16th Sept. 1809.

I had the honour of receiving your favour of the 9th current. In answer to the queries you state, I have to say, that the vesicle and areola going through their regular progress, appears to me the certain distinguishing marks of proper vaccination; and I am of opinion, any person that has been in the habit of seeing the arm of a vaccinated patient, can never make a mistake, unless they are extremely ignorant. I do not think, so far as I have observed, that the appearances of the vaccine pustule has differed since I commenced vaccination; but I am certain, from my own knowledge of the practice of other medical gentlemen, that many mistakes were committed a few years ago, which, from the complete acquaintance now acquired of the disease, will never again happen.

I have not met with a case of small-pox after vaccination in my own practice. I have seen several children in small-pox, and some died, who it was said had been vaccinated; but upon making particular inquiry about the progress of the disease, it appeared evident, that they had never had the cow-pox. We had last winter, in Dunkeld, the small-pox. Previous to, and during the period of its duration, we also had the chicken-pox. At first, the lower ranks imagined this latter disease was the small-pox; but it attacked children who had been inoculated for the small-pox, as well as those who had been vaccinated. The pustules were distinct,

and not unlike a very mild inoculated small-pox, only that they disappeared by the sixth day at latest, after coming out*. I do not recollect that the age of the patient made any difference as to the eruption, nor the distance of period from vaccination. All the children that I visited were under twelve years, and mostly of the lower ranks; but several were children of the first people in this quarter. I was called one day to see a child that I had vaccinated some years ago, but who had not taken the cow-pox, and the operation was never repeated. The people told me it had the small-pox. Upon visiting the child, I said at once that it was not the small-pox; the woman in the house did not credit me; however, in a few weeks, the child caught the small-pox, and had a very considerable eruption. I mention this case merely to shew, that, in this country, when a child is once vaccinated, whether it takes or not, if you inquire any time afterwards at the parents, they will tell you it has had the cow-pox; but if you ask particularly into the state of the arm, in some instances they will say the redness lasted only a day or two, in others, that it never was inflamed. I do not know how it is in your neighbourhood; but in this part of the country, a great deal of mischief has been done by ignorant people vaccinating, the disease being so mild, that every parent of a family thinks he may inoculate his child, and many actually do it. The midwives are also very active, and as they do not know at what period to take matter, nor how to preserve the virus, it is not surprising that a disease should be propagated, very different from the real cow-pox. I recollect, several years ago, of mentioning to some of the Edinburgh surgeons, when they were so anxious to give instructions for vaccinating to the clergy of Scotland, that I was afraid it might be attended with bad consequences. I have not heard, however, that it was so; indeed, I believe few of the clergy vaccinated, at least in this country, and those that do, are intelligent men, who have studied the phenomena, and made themselves complete masters of the whole progress. The lower ranks here have no objection to the cow-pox; but they are now rather afraid to allow the midwives and other ignorant people to vaccinate their children.

If you wish any other information, I shall be extremely happy to give whatever is in my power at any future period.—I have the honour to be,
Sir, your most obedient servant, JOHN MINTO.

No. XXIII.

DEAR SIR,

Musselburgh, 23d Sept. 1809.

I beg leave to return you my best thanks for the trouble you have taken, in complying so readily, and so fully, in answering my queries, and, with much pleasure, I accept your offer to give me any other information in your power.

You are pleased to say, that the vesicle and areola appear to you, when going through their regular progress, the certain marks of perfect vaccination, and that any person, who has been in the habit of seeing the arm of a vac-

* It is evident that this description does not at all correspond to varicella, and it seems but fair to conclude, that many of these cases were small-pox modified from the effects of vaccination.

inated patient, can never make a mistake, but through ignorance. With this I perfectly agree; but how comes it, then, that vaccination may be imparted to the system, so as to give security against inoculation, or exposure to the epidemic, from every description of cow-pox vesicles in point of size and figure, and also every appearance of the areola? You must at once observe, that if this is the fact, which I am certain is the case, and it is also admitted by Jenner and Dr Willan, with what propriety can any distinction be made as to the regular and distinct appearance? But again, if this is the fact, with what justice can improper vaccination be charged to the account of any practitioner, for they may all surely be a perfect judge of the existence of a vesicle and areola. But this charge cannot, nor ought to be admitted against any medical man whatever, when it was expressly stated to the contrary by Dr Jenner; and also, when, even now, it is gravely stated by Dr Willan, that a lady in Monmouthshire has been able to vaccinate 1600 in the most perfect manner. But farther, the most insurmountable dilemma is, that as the greatest number of those cases which have occurred are all of one character, viz. a scanty eruption, and of a short duration, are in general from three to six or seven years after vaccination, and in general of the lower orders of society, it naturally follows, they are rendered so from some cause; and I think, to a candid mind, this cause must be allowed to be vaccination. That this modified action of vaccination exists, is also distinctly allowed by the College of Physicians in London, also by Dr Willan, and even by Jenner himself. Now, you must at once perceive, that if vaccination has this effect, it is impossible to produce it without producing a constitutional influence; and, therefore, it follows, that although vaccination affects the system, yet it may in one case be complete, and in another incomplete. I suppose its warmest advocates will not be better pleased with the only other alternative, viz. that there are two distinct kinds of cow-pox virus, the one possessing the perfect, and the other the imperfect antivariolous power. The bounds of a letter will not permit me to enlarge farther upon this point; but I shall just observe, that if you have seen my publication, you will find cases of small-pox attacking vaccinated children in one family, although done by three different practitioners. It surely would be quite unreasonable to argue, that the whole have been improperly vaccinated, or that all the practitioners were ignorant, or not equal to the Monmouthshire lady. The circumstance too of the cases belonging to the lowest orders, evidently shews, that it is clearly from being exposed to the contagion; for it surely would be nearly madness to contend, that we have vaccinated the higher classes perfectly, and the others imperfectly. I must still beg leave to mention another fact, and which appears to me conclusive,—that all those nice descriptions and distinctions are but of little consequence, viz. in those cases of vaccination where any injury has occurred to the vesicle about the sixth day, and still an areola followed; and although neither vesicle nor areola were complete or lasting, yet still such an effect was imparted to the constitution, that if you either repeat your vaccination or inoculate, you can make nothing more of it: nay, indeed, this consequence follows, if we should only produce an extensive erysipelatous inflammation a day or two following the insertion of the virus, without any vesicle whatever.

With regard to the point of more mistakes having been committed at the commencement of the practice, besides the observations that have been

already made, there is one very strong and insurmountable objection, viz. at the commencement of the practice, every practitioner, and all public bodies, tried their patients with the test of inoculation, and exposure to epidemic, to the extent of hundreds of thousands, and they were all uniformly found to resist these tests: of course, it seems rather awkward to contend there were more mistakes committed at the commencement than now. This universality of resisting the test at that period, proves farther the feeble and temporary power of vaccination, because, if it was so uniform directly or soon after the vaccination was performed, now, when time has been afforded for the exposure of such cases, at the distance of years, many cases of small-pox have supervened.

I should take it very kind, if you would be so good as notice whether or not a distinct cicatrix was observable, both in those cases which you say were distinctly small-pox after vaccination, and also in those which you state as only resembling small-pox. As to confounding any of these cases with varicella, it is, in my opinion, quite impossible with a practitioner of only moderate experience; and these cases of modified eruption of small-pox, appear to me equally conclusive against the complete antivariolous power of this discovery; for if it can be proved imperfect in a few years, we have no security for its total extinction in a more prolonged period of years.

I must now apologize for the trouble I have given you; but I am convinced you are fully aware of the importance of the subject, and will readily excuse me, if it can only be of service to the public.—I am, Dear Sir, your most obedient,

THOMAS BROWN.

No. XXIV.

DEAR SIR,

I engaged in vaccination in 1801, and read the various publications on that subject, as they appeared, and did my utmost to prevent mistakes; but, unfortunately for this part of the country, Mr Williams, now in Haddington, took some matter from a boy I had inoculated, on the fifteenth day of inoculation, and I had taken it from the same boy on the eighth day, so you see plainly it was a second suppuration; this Mr Williams and I gave a just account of to Mr George Bell, surgeon, Edinburgh, before he published his treatise on vaccination. The consequence was, that almost all the children that Mr Williams inoculated took the natural small-pox, and I attended most of them both in town and country; none of them, however, died, although several of them had bad confluent small-pox. The same year, some that I inoculated at Stow, took the natural small-pox, but whether these children had ever the genuine cow-pox, or not, I cannot determine, as the disease was over before I saw them again; but the *greatest part* of those I have inoculated have not taken the natural-pox although exposed to the infection, and it is now five, six, and seven years, since some of them were inoculated. In the village of Ugsler, about four miles from this place, I have inoculated a considerable number, and none of them have ever taken the small-pox when exposed to the infection. But to come nearer to the present time. About the 10th of April last, a boy of the name of Weatherstone, along with Mr Melrose, music master

from Pathhead, was seized with the natural small-pox, while lodging in an inn-keeper's in Lauder, who had three children, who were vaccinated about five years before, and two who had never had small-pox; I vaccinated these two on the sixth day of the boy's pox, and although the boy, as soon as able to walk, mixed with the family at meals, and all times, yet none of the family took the small-pox. A neighbour of mine has three very healthy children, who were all vaccinated two, three, and four years ago. I inoculated them all over again with fresh small-pox matter, and neither fever nor pox were produced*. In the town of Lauder there is about fifty-two who were vaccinated two, three, four, six, and seven years ago, and although the natural small-pox have been in every corner of the town, not one of them have taken the distemper in the natural way. *Six of those who were vaccinated took the natural-pox, and one of them died.* The above are not included in the fifty-two already stated.

I vaccinated my own youngest daughter about six years ago, with vaccine virus sent to me by the Rev. Mr Keith, Fala, who had taken it, as he said, from a fine healthy child, on the eighth day of inoculation. I compared the inoculated arm with the figures of the genuine cow-pox in various stages of the distemper, and was perfectly satisfied that it corresponded exactly. Not content with this, I sent for vaccine virus three times, from the Edinburgh Dispensary, and inoculated her; each time the puncture inflamed, and continued to increase till the fifth or seventh day, and went off. In the end of last month I was resolved to try her with the natural matter, but, upon mentioning my intention to Mrs Johnston, who has been long in distress, she seemed rather averse; I therefore referred it, not choosing to increase the mother's mental anxiety. *On the 18th of August last, the child was seized with a smart fever for three days, with slight delirium in the night, and in the morning of the fourth day, the small-pox appeared, of a very mild kind, and few in number, and has since then been more healthy than for some years past.*

I attended a child in the country in small-pox, about four years ago, who was vaccinated in the Dispensary of Edinburgh some time before, and, from the best authority, I can state, that the same family had another child vaccinated in the Dispensary, who died of the natural small-pox in Edinburgh, about two years ago. Indeed, from the failures that have taken place in this neighbourhood, there is a considerable prejudice against vaccination; and I know there are some medical men of opinion, that, even supposing the most genuine vaccination a preventative against small-pox, still there are so many ways in which an imperfect disease may take place, that more fatal effects may be produced by trusting to it, than by inoculating at once for small-pox.

I think time alone will determine whether vaccination will prove a permanent preventative or otherwise. The subject you are investigating is of great importance, and it is highly creditable to you, and every liberal-minded man will thank you, as it must throw light upon the subject, and in the end will either overturn or confirm your opinion. You certainly

* Mr Johnston does not notice whether or not pustules and areolæ were produced,—as fever and eruptions were scarcely to be expected at that distance from vaccination.

have the same right to write against vaccination, that your opponents have to support it. I have formerly endeavoured to answer every query put to me by the supporters of vaccination, and I shall endeavour to do the same to you. I am determined to examine all the evidence in support of vaccination, and likewise the evidence against it, and upon due consideration of the whole, to reject or receive it. Until men think for themselves, the whole is mere prejudice, and not opinion; for that can only be called opinion which is the result of reason and reflection. Locke justly observes, that some men are like soldiers in an army; they do as their leaders direct, and notwithstanding their courage and warmth, can assign no cause they are contending for.

I have only now to observe, that the vesicle and areola, going through their regular progress, are certainly the only distinct proofs of constitutional vaccination; but I have also observed the pulse quicken, with pain and swelling of the axillary glands; but notwithstanding, from what I have already stated, I am inclined to believe there were more mistakes committed at the commencement of the practice. Most of the cases that were succeeded by small-pox, were four, five, six, and seven years, after vaccination, and were, with some exception, of the lower classes of society.

I beg you will have the goodness to excuse me for not answering your letter sooner, but the truth is, I never had leisure till this day. I have given you what information I could, and I hope you will honour me so far as to depend upon the authenticity of what I have advanced; and you are at liberty to make what use of it you please. I am, &c.

Lauder, September 18, 1809.

JOHN JOHNSTON.

No. XXV.

DEAR SIR,

I have received both your letters, and would certainly have answered your first before this time, but was anxious to gain, if possible, further information than I then possessed, in regard to some cases of small-pox, said to have occurred after vaccination; I have, however, learned nothing at all satisfactory. I certainly have met, this season, with several cases of small-pox in patients who have been vaccinated; but, whether a genuine disease was ever produced by that vaccination, I have not been able to ascertain, the vaccination having been performed by practitioners, and some by clergymen, with whom I have never had any correspondence.

Since I commenced practice, I have vaccinated a very great number of patients, both in this and other countries, and in all where a genuine disease was produced, I have not met with one instance of a patient's being infected by the variolous disease, although many of them were much exposed to its influence, nay several, though afterwards inoculated with variolous matter.

As the small-pox prevails very much in this vicinity just now, should any case occur in my practice which can entitle me to doubt the antivariolous influence of cow-pox, I shall take an early opportunity of communicating a most impartial state of it. I am, &c.

ALEX. DAWSON.

Lauder, 23d September 1809.

No. XXVI.

SIR,

About a fortnight ago I took the liberty to address a letter to you on the subject of vaccination, which I make no doubt you received in course.

Having been informed, upon the most undoubted authority, of the occurrence of many cases of small-pox succeeding to vaccination, in Haddington, and also in Dunbar, and being engaged in farther investigations concerning the antivariolous influence of cow-pox, I thought it my duty to address you, and the other practitioners, on the subject. I have received the most agreeable and flattering answers from all the medical gentlemen in Dunbar, and I flatter myself you will have the goodness to favour me with an answer also. I need not observe, that the subject is of great public importance, and highly interesting to the feelings of the community. The opinions I have published upon the subject, farther experience, and daily information, continues to confirm; and in recent letters from London, and other parts of England, the facts have this year multiplied to such an extent, as nearly to annihilate the practice in many districts.

The conduct of the managers of the Dispensary, or rather the Vaccine Committee, appears to me, according to all those principles and rules of action which ought to influence every individual, but more especially a body professing, on this subject, to be the representatives and guide of a liberal profession, altogether incomprehensible.

I profess myself neither vaccinist nor antivaccinist: nay, indeed I am ashamed of the proceedings of both parties, and I am afraid they have, from their conduct, brought the character of the profession to such a pitch of degradation, that it will require the lapse of years to wipe away the impression it has produced on the public.

I beg leave to apologize for these observations; and in expectation of being favoured with an answer, I remain, &c.

To John Welsh, Esq. Surgeon, Haddington.
Musselburgh, 20th September.

THOMAS BROWN.

No XXVII.

SIR,

Haddington, September 23d 1809.

Expecting to have occasion to pass through Musselburgh, I delayed writing, in the hope of an opportunity of conversing with you on the subject of your letter of the 5th inst. This opportunity, however, not being likely to occur so soon as I expected, I proceed to answer your queries in the order in which they are stated:

1. I certainly consider the regular formation and progress of the vesicle and areola, as the material circumstances to be regarded in conducting vaccination.

2. That more mistakes, or cases of imperfect vaccination occurred on the introduction of cow-pox than at present, I do most firmly believe, *but cannot assert from actual observation*, not having been in the habit of attending to the progress of the disease, except in my own patients.

3. I have not seen or heard of an instance of small-pox succeeding to vaccination conducted by myself.

4. Nor have I seen any disease following vaccination which bears any resemblance to small-pox, except chicken-pox.

In June 1805, I attended two children in one family, labouring under small-pox, who had been vaccinated three years before. On inquiry, the practitioner under whose care these children had been at the time of vaccination, candidly acknowledged that virus taken at a very late period of the disease had been used, and that from subsequent experience in vaccination, he was satisfied they had not gone through the disease regularly. In April last, I saw accidentally a convalescent from small-pox (about five years of age I think) who had previously undergone vaccination in a distant part of the country. The mother's account was indistinct, and, having no acquaintance with the vaccinator in this case, I made no further inquiry. These are the only instances I have *seen* of small-pox after cow-pox, or supposed cow-pox.

I cannot conclude my letter without expressing my regret that your queries were not addressed to the medical practitioners here prior to the publication of your book; the result of all the information I have been able to obtain in this town and neighbourhood being completely at variance with that stated by you to have been received from this place.—
I remain, &c.

JOHN WELSH.

No. XXVIII.

SIR,

Musselburgh, 25th September 1809.

I was duly favoured with yours of the 23d *curt.*, from which I am sorry to find, I have been so unfortunate as not to have the pleasure of a personal acquaintance. It is, however, highly probable, I may soon have occasion to pass your way, when I shall avail myself of the opportunity of waiting upon you; in the mean time, I beg you will excuse me for troubling you with the following observations, which, if convenient, I shall be happy to receive your answer to.

In your answer to the second query, you observe that you firmly believe that more mistakes were made (by medical practitioners I presume), at the commencement of the practice, than now, but still you cannot state this from your own observation. Now Sir, I beg leave to submit to your candid consideration the following circumstances, which I aver to be facts, and understood as such by the vaccinists themselves.

The first fact I shall mention, and which to me appears wholly insurmountable is, at the commencement of the practice, every practitioner, and all public bodies, tried the efficacy of the discovery with the tests of inoculation, and exposure to the epidemic, to the extent of hundreds of thousands, and they were all uniformly found to resist these tests. The same has been the result all over the Continent; of course, it comes with a very bad grace, and is certainly entitled to no attention to say, that there were more mistakes committed at that period than now. It, on the contrary, appears to me to prove the temporary and feeble effects of vaccination, because, if it was so uniform in its powers directly after the process was completed; and now, when many cases have occurred at the distance of some years, what other possible inference can be made with any regard to truth, or fair induction? The next general fact is, that cases of small-pox recurring after the most perfect vaccination, has been allowed

by the College of Physicians and Surgeons in London, and a modified action is also allowed by Drs Jenner and Willan, and many other vaccinists. Also, that the greatest number of those cases are all of one character, viz. a scanty eruption, and, in general, of a short duration, are chiefly of the lower orders of society, and occur from three to six, or seven years after vaccination; it naturally and clearly follows, they are rendered so from some cause, and I think, to a mind alive to the fairest evidence, this cause must be allowed to be vaccination. Now you must at once perceive the insurmountable dilemma, and it effectually destroys all claim to public or professional confidence, viz.—if vaccination may have this modified effect upon the constitution, it must be granted that this effect cannot be produced without the process of vaccination having exerted its influence upon the system, and therefore, it must clearly follow, that either its effects, may in one case be complete, and in another incomplete, although exerting a constitutional influence; or that there must be two kinds of vaccine virus, possessing an antivariolous influence, but the one complete, and the other incomplete. This is certainly too absurd to require any comment, and, in my apprehension, is undoubtedly the dilemma that those are reduced to, who contend for the complete antivariolous power of vaccination.

The next point of importance which bears strongly on this question is, how comes it, that the antivariolous effects of vaccination may be imparted to the system, so as to give security against inoculation, and exposure to the epidemic, from every description of cow-pox vesicles in point of size, and figure, and also every appearance of areola. You must, Sir, at once observe, if this is the fact, and it is admitted both by Drs Jenner and Willan, that modified actions may be obtained from spurious or imperfect vesicles, and which pustules or vesicles, Dr Willan allows in some cases, to secure the individual against small-pox, with what propriety can any distinction be made, as to the regular, and distinct appearance? But again, if such is the fact, with what justice can improper vaccination be charged to the account of any practitioner, for they may all surely be allowed to possess the faculties of knowing whether a vesicle and areola has really existed? This charge cannot, nor ought to be made or admitted by any medical gentleman, against any other practitioner whatever, when it was expressly stated to the contrary by Dr Jenner, and who taught a *Monmouthshire Lady* to vaccinate 1600 in the most perfect manner. The bounds of a letter will not allow me to enlarge upon this point; but I shall take the liberty of adding one material fact more, and which appears to me completely conclusive; that all those descriptions, and nice distinctions are of no consequence, viz. in those cases of vaccination, where an injury has occurred to the vesicle about the sixth day, and still an areola followed; and even although neither vesicle, nor areola were complete, or lasting, yet still such an effect was imparted to the constitution, that if you either repeat your vaccination, or inoculate, you can produce no farther effect. Nay, indeed, this effect will follow, if we should only produce an extensive erysipelatous inflammation at the punctured points, without any vesicle whatever.

Your answer to my third query—whether or not you have ever seen any cases of small-pox succeeding to vaccination? is, I must take the liberty to observe, far from being explicit. I would have certainly stated every

case which had succeeded to vaccination, which had come under my observation, although not vaccinated by myself. I have already endeavoured to give sufficient reasons to shew, that there are no just grounds for making vaccination an intricate or difficult process; and far less for alleging, that any medical practitioner can be supposed so ignorant, as not to know when he has produced the disease. I cannot, therefore, see the propriety of confining your report to the evidence of your own vaccination; for as such cases have, I must still say, occurred in Haddington after the vaccinations of other gentlemen, the importance of the subject to the happiness of the public, independent of a preconceived, and determined opinion, ought to have pointed out the necessity of stating every case. In many of the answers I have received, a report is given of every case within the knowledge of the medical gentlemen.

Far from regretting that I did not communicate with the medical gentlemen at Haddington, before I mentioned in my book that such cases had occurred there, I have daily reason to congratulate myself on the opinion I had formed, of the extensive and alarming effects of system on the human mind; for had I done so, and afterwards had been regulated by the information I would certainly have received, undoubtedly no such opinions would have been promulgated, and which I now find many very respectable characters, both in and out of the profession, consider as entitled to attention and respect.

I must now conclude by apologizing for this long letter, but I flatter myself you will readily excuse me, when I assure you I have no other motive than the investigation of truth.—I am, &c.

THOMAS BROWN.

Mr Welsh, Surgeon, Haddington.



Printed by George Ramsay & Co.

cession no. 23946

Author Brown, Th.:
Letter, in reply
to the report of
surgeons ...1809.

Ill no.

Inoc.

Vacc.

