

**A comparative statement of facts and observations relative to the cow-pox
/ by Thomas Paytherus.**

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A
COMPARATIVE STATEMENT
OF
FACTS AND OBSERVATIONS
RELATIVE TO THE
COW-POX.

COMPARATIVE STATEMENT

FACTS AND OBSERVATIONS

GOW-FOX

(7) 6

A
COMPARATIVE STATEMENT
OF
FACTS AND OBSERVATIONS
RELATIVE TO THE
COW POX.

BY THOMAS PAYTHERUS,
MEMBER OF THE ROYAL COLLEGE OF SURGEONS OF LONDON;
AND
FELLOW OF THE ROYAL MEDICAL SOCIETY OF EDINBURGH.

AUDI ALTERAM PARTEM.

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THE SECOND EDITION.  
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London:

PRINTED FOR THE AUTHOR,
BY D. N. SHURY, NO. 7, BERWICK STREET, SOHO;
AND SOLD BY J. CALLOW, CROWN COURT, PRINCES STREET.

1801.



COMPARATIVE STATEMENT
OF
FACTS AND OBSERVATIONS
RELATIVE TO THE
COW POX

BY THOMAS LAYBURN,
MEMBER OF THE ROYAL COLLEGE OF SURGEONS OF LONDON,
AND
FELLOW OF THE ROYAL MEDICAL SOCIETY OF LONDON.

ALSO BY ALFRED TAYLOR,

THE SECOND EDITION

LONDON:

PRINTED FOR THE AUTHOR,
BY D. W. THOMAS, NO. 2, BEECH STREET, LONDON.
AND SOLD BY J. GARDNER, CHURCH COURT, THIRING STREET.

1801.

TO

Doctors JENNER and WOODVILLE

THIS

COMPARATIVE STATEMENT

IS

RESPECTFULLY INSCRIBED

BY THEIR OBEDIENT SERVANT,

THE AUTHOR.

January, 1801,
Norfolk Street.



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ADVERTISEMENT.

PREVIOUS to the First Edition, it had been asserted that variolous-like pustules appeared in the Cow-pox, and that this disease, when accompanied by numerous pustules, became infectious. Had these assertions been supported by subsequent facts, the Cow-pox would have been deprived of its boasted advantages, and the Jennerian Inoculation must have fallen to the ground.

To trace the variolous-like pustules, in cases of Cow-pox, to their true source; to demonstrate that the casual Small-pox could not be superseded by the

Vaccine

Vaccine Inoculation; that those cases in which variolous-like pustules appeared were not cases of Cow-pox, but, on the contrary, cases of genuine Small-pox; that the variolous and vaccine pock might be received into the habit at the same period, and pass through their regular stages without deranging their respective specific actions; and to promote the beneficial effects of the Jennerian Inoculation, were the principal inducements for this publication.

COMPARATIVE STATEMENT,

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IN a small Tract lately published by Dr. WOODVILLE, intituled "*Observations on the Cow-pox,*" he corroborates the favourable opinion he expressed of this disease, in his "*Reports of a Series of Inoculations for the Variolæ Vaccinæ,*" May 1799; and, from an enlarged experience, has given more decisive evidence of its advantages.

Although it appears from these publications that he has, by a mass of irresistible evidence, established Dr. JENNER's principal positions, beyond the reach of cavil or scepticism; yet there are positions of secondary import, on which Dr. Woodville is not only in direct opposition to Dr. Jenner, but at variance with himself.

B

By

By a comparative statement of the facts and opinions which they have, at different periods, brought before the public, it will appear how far they coincide.

To prevent the possibility of misrepresentation, Dr. Jenner's positions shall be contrasted with correct extracts from Dr. Woodville's pamphlets.

We shall begin with the most important position of Dr. Jenner: "*That persons who have been affected with Cow-pox, are rendered perfectly secure from the effects of variolous contagion.*"

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

* See Dr. Woodville's Reports, page 154.

" which

“ which have been brought forward to prove that those who had
 “ undergone the genuine Cow-pox resisted the infection of the
 “ Small-pox, are unquestionably decisive, and sufficiently nu-
 “ merous to establish the fact in the most satisfactory manner.
 “ This circumstance then appears to be as much a general law
 “ of the system, as that a person having had the Small-pox is
 “ thereby rendered unsusceptible of receiving the disease a second
 “ time. For of all the patients whom I inoculated with vario-
 “ lous matter, after they had passed through the Cow-pox,
 “ amounting to upwards of 400, none were affected with the
 “ Small-pox; and it may be remarked, that nearly a fourth part
 “ of this number was so slightly affected with the Cow-pox,
 “ that it neither produced any perceptible indisposition, nor
 “ pustules.”

“ The position of nearly equal import is—*That the Cow-pox*
 “ *is not contagious by effluvia.*”

* “ One important advantage which the Cow-pox is supposed

* See Dr. Woodville's Reports, page 153.

“ to have over the Small-pox is, that the former is not a conta-
 “ gious disease, and not to be propagated by the effluvia of per-
 “ sons infected with it. This is certainly true when the disorder
 “ is confined to the inoculated part; but where *it produces nu-*
 “ *merous pustules upon the body*, the exhalation they send forth
 “ is capable of infecting others in the same manner as the
 “ Small-pox. Two instances of casual infection in this way
 “ have lately fallen under my observation; in one the disease
 “ was severe, and the eruption confluent; in the other the
 “ disease was mild, and the pustules few.”

The following position of Dr. Jenner next merits our attention :

“ *That no eruption, ending in variolous-like pustules, belongs to*
 “ *the Cow-pox.*”

* “ Although I differ in opinion from Dr. Jenner in not imputing
 “ the pustular eruptions, produced in the cases at the Hospital,
 “ to any adulteration of the vaccine matter employed in the
 “ inoculations, yet I readily admit that *they have been*, and still

* See Dr. Woodville's Observations, page 18.

“ continue

“ continue to be, the effect of some adventitious cause, independent of the Cow-pox*.”

“ That the Cow-pox is a much milder disease than the Small-pox,” is Dr. Jenner’s fourth position.

† “ In regard to the comparative mildness of the vaccine and variolous diseases, as produced from inoculation, I have been enabled to give a very different report from that which I published last year. The reason why several of the Cow-pock cases then at the Hospital proved severe, like those of the inoculated Small-pox, has already been sufficiently explained, and will, I trust, have the effect of placing the Cow-pock inoculation in a more advantageous point of view than my former Reports presented.”

* Dr. Woodville, “ in his Observations,” is at variance with the opinion he formerly advanced “ in his Reports.”—In the latter he asserts, that “ the Cow-pox produces numerous pustules upon the body:” in the former, that the pustules “ have been, and continue to be, the effect of some adventitious cause, independent of the Cow-pox.”

† See Dr. Woodville’s Observations, page 28.

The

The last position, and of least importance is—“ *That the Cow-pox proceeds from the diseased fluids of the Horse.*”

“ In this Dairy Country,” says Dr. Jenner*, “ a great number
 “ of Cows are kept, and the office of milking is performed in-
 “ discriminatedly by men and maid servants. One of the former
 “ having been appointed to apply dressings to the heels of a Horse
 “ affected with *the Grease*, and not paying due attention to cleanli-
 “ ness, incautiously bears his part in milking the Cows, with
 “ some particles of the infectious matter adhering to his fingers.
 “ When this is the case, it commonly happens that a disease is
 “ communicated to the Cows, and from the Cows to the Dairy-
 “ maids, which spreads through the farm until most of the cat-
 “ tle and domestics feel its unpleasant consequences. This dis-
 “ ease has obtained the name of the *Cow-pox.*”

Dr. Woodville, far from adopting this position, relates the following experiments, to prove that the disorder in question does not originate from any disease of the horse.

* Vide Dr. Jenner's *Inquiry*, page 3.

“ Conceiving

* “ Conceiving that the distemper might be produced by inoculating the nipples of cows with the matter of the greafe of horses, in conformity with the opinion above stated, I proceeded to try whether the Cow-pox could be actually excited in this manner.

“ Numerous experiments were accordingly made upon different cows with the matter of greafe, taken in the various stages of that disease, but without producing the desired effect.

“ My friend, Mr. Coleman, the ingenious Professor at the Veterinary College, likewise made similar trials, which proved equally unsuccessful.

“ Neither were inoculations with this matter, nor with several other morbid secretions in the horse, productive of any effects upon the human subject.

* See Dr. Woodville's Report, pages 6, 7, 8.

“ Mr.

“ Mr. Coleman caused one of his cows to be inoculated in its
 “ teats with Cow-pox matter, and with that taken from a vario-
 “ lous pustule, without effect; but the former matter, after be-
 “ ing regenerated by the human subject, produced the disease in
 “ the cow.

“ I am aware, that the experiments I allude to may, by
 “ some, not be deemed wholly conclusive, from a supposition
 “ that the peculiar predisposition of the cows, necessary to render
 “ the inoculations efficient, might not exist at the time the
 “ matter was applied to their nipples. But I have also other
 “ reasons for believing that the Cow-pox does not originate from
 “ any disease of the horse. In the first place, the affirmative
 “ opinion is confessedly gratuitous: a horse, at a certain season
 “ of the year, becomes affected with the grease, and the cows
 “ about the same time are affected with Cow-pox; and from
 “ this coincidence the two diseases have been considered as cause
 “ and effect. Yet is it not equally probable, that the same tem-
 “ porary causes which produce a certain disorder in one animal,
 “ may so operate upon another animal of a different genus, as
 “ to

“ to excite another disorder? Therefore, though the Cow-pox
 “ may break out among the cows at the time that the greafe
 “ affects the horses kept on the same farm, yet the consecutive
 “ appearance of these diseases affords no proof of their con-
 “ nexion: while, on the other hand, I can adduce instances in
 “ which the former disease has broke out under such circum-
 “ stances, as render it highly improbable, if not impossible, that
 “ it should have been caused by the latter.”

Mr. Tanner being known to Dr. Woodville, and respected
 by him for his integrity, Dr. Woodville can justly appreciate the
 degree of credit that ought to be given to the following letter:

“ Sir,

“ Some Cow-pox matter on a thread was applied to the teat
 “ of a cow on the part from which a scab had been removed.
 “ I procured it from Mr. Fewster, of Thornbury, who told me
 “ it had been kept a long time, and that he did not think it pos-
 “ sible for it to produce any effect. I went to the cow and ex-
 “ amined the part where it had been applied in five days after,

C

“ but

“ but it had not produced the smallest effect. Some limpid
 “ matter, just taken from the heel of a horse, was then applied
 “ on the part, and on the ninth day, when I first examined it, I
 “ found that it had produced a complete vaccine pustule. From
 “ handling the cow’s teats I became infected myself, and had
 “ two pustules on my hand, which brought on inflammation,
 “ and made me unwell for several days. The matter from the
 “ cow, and that from my own hand, proved efficacious in in-
 “ fecting both human subjects and cattle.

“ I am yours, &c.

“ THOMAS TANNER, V. S.”

Notwithstanding the position which we are discussing may
 be considered as of no consequence, as it does not relate
 to the beneficial effects of vaccine inoculation, yet as a
 matter of philosophic research it becomes interesting. Late
 experiments, supported by the concurring testimony of se-
 veral

veral medical gentlemen of unquestionable veracity, render Dr. Jenner's opinion at least probable. It certainly acquires additional force from the well-known fact, that many who have been accidentally inoculated with *the Equine virus*, have afterwards resisted the Small-pox. Dr. Jenner, however, remarks, page 37, " That the virus from the horse, when
 " it proves infectious to the human subject, is not to *be relied*
 " *on as rendering the system secure from variolous infection;*
 " but that the matter produced by it on the nipple of the Cow is
 " *perfectly so.*"

These positions embrace the most interesting points and characteristic properties of the Cow-pox. To the public mind, which has been wavering in consequence of *unfounded reports* industriously and maliciously propagated by persons totally unacquainted with the common appearances of the disease, it cannot fail to be highly gratifying and impressive, that the *first, second, and fourth positions*, formed on the experience and observations of twenty years preceding their publication by

Jenner, should have stood the test of a severe investigation so ably conducted by Dr. Woodville.

To Dr. Jenner therefore, and to him *only*, the public is indebted for the Vaccine Inoculation and its beneficial effects. His persevering attention, during a period of *twenty years*, is clearly evinced by the numerous facts he has detailed in his Inquiries, and by the accurate description he has given of the characteristic peculiarities of the Cow-pox. Affailed on all sides, he has borne the pelting storm of his adversaries with firmness. His answers to their objections have been temperate; and conscious that his efforts to promote the general cause of humanity were disinterested, and that his positions rested on the basis of immutable truth, he has silently put by the shafts of envy, avarice, conceit, and ignorance.

So contrary were the principal positions he has laid down to experience and analogy, that few medical men, perhaps those only who knew him intimately, could divest themselves of scepticism, or give support to his opinions.

It

It cannot be concealed, that on the *third* and *fifth* position Dr. Jenner and Dr. Woodville entertain opposite opinions.—What immediately relates to the *fifth* has been already contrasted. We shall therefore proceed to examine what has been advanced for and against *the third position*.

In June, 1798, Dr. Jenner published his *Inquiries*, in which he asserts*, “That it is *an excess* in the number of pustules “ which we chiefly dread in *Small-pox*; but in *the Cow-pox* no “ *pustules appear*.”

The Vaccine Inoculation commenced at the Inoculation Hospital in January, 1799.—Dr. Woodville† gives the following history of the Cow-pox virus with which he commenced his experiments:

“Towards the latter end of January last I was informed that “ the Cow-pox had appeared among several of the milch cows

* See Dr. Jenner's *Inquiries*, page 67.

† See Dr. Woodville's.

“ kept

“ kept in Gray’s-Inn Lane; and upon examination of these,
 “ three or four were discovered to be affected with pustular sores
 “ upon their teats and udder. These pustules corresponded in
 “ their appearance with the representation and description of the
 “ genuine Cow-pox, as given by Dr. Jenner.

“ The hands of three or four persons became sore in conse-
 “ quence of milking the cows thus affected; and one of them
 “ (Sarah Rice) exhibited so perfect a specimen of the disease, that
 “ I could entertain no doubt of its being the true and not the
 “ spurious Cow-pox.”

No doubt therefore can be entertained that Dr. Woodville
 commenced the Vaccine Inoculation with the *true Cow-pox*
virus. On the 21st of January, 1799, *seven persons* were
 inoculated with it, by a single puncture on the arm of each;
 of this number four had pustules. Five hundred persons, in-
 cluding the seven just mentioned, are reported by Dr. Woodville
 to have been inoculated in the Small-pox Hospital immediately or
 remotely from *the pustular eruptions on the teats of the cow*, or
 from

from Sarah Rice, who contracted the disease in the casual way from the cows. Of the whole number, 300 had variolous-like eruptions.

It ought not to escape the observation of the reader, that notwithstanding the *purity* of the Vaccine matter, four of the first seven patients who were inoculated at the Hospital had pustules; and, as it will hereafter appear from Dr. Woodville himself, from exposure to a variolated atmosphere.

Dr. Woodville further reports, “ That out of the 500 cases, “ *one* proved fatal*; in some others the disease, from the *number of pustules*, was of *formidable severity*; while, on the “ other hand, a very large proportion of the patients was *scarcely* “ *disordered* from the inoculation, and had *no pustules* †.”

“ It is evident, however, that the matter of the vaccine disease “ has generally produced much fewer pustules, and less indispo-

* This will appear to have been a case of Small-pox.

† See Dr. Woodville's Reports, page 150.

“ *fition,*

“ fition, than that of the Small-pox ; for it appears from the pre-
 “ ceding ſtatement, that about two-fifths of all the perſons ino-
 “ culated for the variolæ vaccinae had no puſtules, and that in
 “ not more than a fourth part of them was there experienced any
 “ perceptible diſorder of the conſtitution. But it muſt be ac-
 “ knowledged, that in ſeveral inſtances the Cow-pox has proved
 “ a very ſevere diſeaſe.”

“ Thoſe who are acquainted with the hiſtory of the Cow-
 “ pox will no doubt be ſurpriſed to find, from the preceding
 “ caſes, that puſtules have frequently been the conſequence of
 “ the inoculation of this diſeaſe. Indeed, when I firſt obſerved
 “ a puſtular eruption upon Buckland, (Caſe 3d,) the occurrence
 “ being wholly unexpected, I was not without apprehenſion that
 “ the lancet which was employed in his inoculation might have
 “ had ſome particles of variolous matter adhering to it. But
 “ this ſuſpicion was ſoon removed ; for, upon enquiry, I found
 “ that all the lancets which I had uſed on the 21ſt of January
 “ were then made uſe of for the firſt time ſince they had been
 “ ground by the cutler.

“ Among

“ Among the patients inoculated for the Cow-pox during the
 “ first week in which I obtained the matter of this disease, *se-*
 “ *veral were so circumstanced as to be afterwards constantly*
 “ *exposed* to the infection of the Small-pox.* Having then had
 “ no proof that the progress of the infection of the former
 “ would supersede that of the latter, I used the precaution to
 “ inoculate the patients with *variolous matter on the fifth day,*
 “ after that taken from the Cow had been inserted.”

“ At the request of Dr. Jenner, I transmitted to him, in
 “ Gloucestershire, some of the Cow-pox matter from the pa-
 “ tients then under my care, which he used for the purpose of
 “ inoculation: after a trial of it, he informed me, that ‘ the
 “ rise, progress, and termination of the pustule, created by this
 “ virus on the arm, was exactly that of the true uncontami-
 “ nated Cow-pox.’ The matter sent was taken from *the arm* of
 “ Ann Bumpus, who had 310 *pustules*, all of which suppurated;
 “ yet with the matter of this stock Dr. Jenner inoculated twenty,

* This exposure was the cause of the first appearance of pustules in cases of Cow-pox.

“ and another gentleman in the same county, 140 persons, with-
 “ out producing *any pustules which matured.*”

Dr. Jenner, in his *Continuation of Facts and Observations*, published 1800, asserts, in reply to Dr. Woodville, and in defence of his original position, that variolous-like pustules had not been heard of in cases of Cow-pox, either from the regular or casual inoculation, till *they appeared at the Inoculation Hospital*. He therefore concludes, that the Cow-pox virus must have *been contaminated by the virus of Small-pox.*

“ On this point he makes the following observation * :—It was
 “ very improbable that the investigation of a disease so analogous
 “ to the Small-pox should go forward without engaging the at-
 “ tention of the Physician of the Small-pox Hospital in London.

“ Accordingly, Dr. Woodville, who fills that department with
 “ so much respectability, took an early opportunity of instituting

* See Dr. Jenner, 146, “ *Continuation of Facts, &c.*”

“ an Inquiry into the Nature of the Cow-pox. This Inquiry was
 “ began in the early part of the year 1799, and in May Dr.
 “ Woodville published the result, which differs essentially from
 “ mine in a point of much importance. It appears that three-
 “ fifths of the patients inoculated were affected with eruptions,
 “ for the most part so perfectly resembling the Small-pox, as
 “ not to be distinguished from them. On this subject it is ne-
 “ cessary that I should make some comments.

“ When I consider, that out of the great number of Cases of
 “ casual inoculation immediately from cows, which have, from
 “ time to time, presented themselves to my observation, and the
 “ many similar instances which have been communicated to me
 “ by medical gentlemen in this neighbourhood; when I con-
 “ sider too that the matter with which my inoculations were
 “ conducted in the years 1797, 98, and 99, was taken from
 “ different cows, and that in no instance any thing like a vario-
 “ lous pustule appeared; I cannot feel disposed to imagine that
 “ eruptions similar to those described by Dr. Woodville, have
 “ ever been produced by the *pure uncontaminated Cow-pock*

“ *virus* : on the contrary, I do suppose that those which the
 “ Doctor speaks of, originated in the action of variolous matter,
 “ which crept into the constitution with the vaccine. And this,
 “ I presume, happened from the inoculation of a great number of
 “ the patients with variolous matter (some on the third, others on
 “ the fifth day) after the vaccine had been applied ; and it should
 “ be observed, that the matter thus propagated became the source
 “ of future inoculations in the hands of many medical gentle-
 “ men who appeared to have been previously unacquainted with
 “ the nature of the Cow-pox.

“ Another circumstance strongly, in my opinion, supporting
 “ this supposition, is the following : The Cow-pox has been
 “ known among our dairies time immemorial. If pustules then,
 “ like the variolous, were to follow the communication of it
 “ from the cow to the milker, would not such a fact have been
 “ known, and recorded at our farms ? Yet neither our farmers
 “ nor the medical people of the neighbourhood have noticed such
 “ an occurrence.”

Dr.

Dr. Woodville, forgetting that he first commenced the attack, complains, that his conclusions respecting the pustular eruptions which appeared at the Inoculation Hospital, have been opposed in a manner he deems wholly unwarrantable. He accuses Dr. Jenner of maintaining in his last publication, “ That the variolous-like pustules could only proceed from variolous matter introduced by inoculation into the system along with that of the vaccine.”

Dr. Jenner might, from respect to Dr. Woodville, have relinquished his position, “ *That pustules do not belong to the Cow-pox;*” but he could not have defended it in a manner less objectionable.

Singular as it may appear, Dr. Woodville himself falls into Dr. Jenner’s original opinion, “ *That the variolous-like pustules are independent of Cow-pox.*”—(See Dr. Woodville’s Observations, page 18.)

He however strenuously contends, that the Cow-pox virus
could

could not have been variolated, because the same virus that produced variolous-like pustules in the Hospital, did not, *in any instance of his private practice*, extensive as it has been, occasion a pustular disease. Neither, with one or two exceptions, did *pustules appear* on the patients of those gentlemen whom he supplied with *Cow-pox virus from the same source*. * Even the virus sent from the Hospital did not in the country, under the inspection of Doctors Jenner and Marshall, excite pustules.

Conceiving that he has fully answered the objections—“ *That the pustules might have been occasioned by variolated Cow-pox virus,*” he declares with liberality and candour, which reflect honour on himself, “ *That the only cause remaining, to which the frequent occurrence of variolous-like pustules, in cases of Cow-pox, within the Hospital, can be reasonably referred, is, THE VARIOLATED ATMOSPHERE OF THE HOSPITAL, which the patients were necessarily obliged to inspire during the progress of the Cow-pox infection.*”

Hence, far from considering *the variolous-like pustules as belonging*

longing to Cow-pox, or occasioned by a variolated Cow-pox virus, Dr. Woodville himself, in the clearest and most satisfactory manner, traces their origin to Small-pox, viz. by asserting they arose from the variolated atmosphere of the Hospital.

The contest therefore between Dr. Jenner and Dr. Woodville is reduced to this point:—Whether *the Small-pox virus, by variolating the virus of Cow-pox, has crept into the system, and been the cause of the variolous-like pustules at the Hospital; or whether, as Dr. Woodville asserts, they have been occasioned by exposure to the Variolated Atmosphere of the Hospital?*

There can be no doubt but the public will attribute their appearance to the latter, and consider the following Experiments, which were made by Dr. Woodville, as decisive:

Expt. 1st.—He took matter from the eruptive or variolous-like pustules *on the body of those who were under the Cow-pox inoculation*: With this matter he inoculated sixty-two persons;

it

it produced the *variolous-like eruptive pustules* in fifty-seven, and among those who were inoculated from any of these fifty-seven, it produced pustules in the same proportion.

Expt. 2d. He took matter from the Cow-pox pustule on the arm of Ann Bumpus, who had three hundred and ten variolous-like pustules on her body, which suppurated*. It was sent into Gloucestershire, where, under the care of Dr. Jenner and Dr. Marshal, it did not in any instance excite variolous-like pustules.

Expt. 3d.—Dr. Woodville took the matter of Cow-pox and that of Small-pox, and rubbed them together. These poisons, thus blended, produced either the Cow-pox or the Small-pox. Whichever chanced to take the lead preserved, during its progress, its peculiar character and specific virus uncontaminated

* From the great number which appears to have been inconsiderately inoculated at the Hospital with matter from the variolous-like pustules *on the body*, we think it probable that the seeds of future eruptions may have been widely disseminated.

by the action of the other, with which, previously to the inoculation, it had been intimately combined.

Expt. 4th. He inoculated with the virus of Cow-pox, and that of Small-pox separately; but so near to each other, that the inflammation surrounding the pustules intermixed, and became common to both the local infections; yet the virus of the Cow-pox pustule was not contaminated by that of the Small-pox.— He adds, “ I am convinced from experience, that the matter
“ taken from *the Cow-pox pustule* (in this experiment) would
“ not be more liable to produce eruptive pustules, or a less favourable disease, than matter procured immediately from the
“ Cow.”

The first and second experiments prove, that the matter taken from the variolous-like pustule on the body, in cases of inoculated Cow-pox, and that taken from the Cow-pox pustule on the arm of the same person, produce different effects: the former exciting, in fifty-seven cases out of sixty-two, *variolous-like pustules*; the latter uniformly exciting *Cow-pox*.

The third experiment proves, that these diseases will not hybridise; that the virus of the one does not contaminate or change that of the other.

The fourth experiment proves, that the Cow-pox and Small-pox will, in the same person, at the same time, and nearly in the same spot, pass through their different stages, preserving their specific actions and characteristic peculiarities.

The following experiment will corroborate Dr. Woodville's opinion, that the variolous-like pustules arose from exposure to *the atmosphere of the Hospital.*

Apply a caustic to the Cow-pox pustule on the arm on the seventh day, or before the constitutional symptoms commence, and it will effectually prevent the disease.

That the preventive power of the Cow-pox cannot shield the system from the Small-pox, before the commencement of its action on the constitution, must be granted. Hence it follows,
that

that a patient within the Hospital (although under inoculation of the Cow-pox) is unavoidably exposed to the action of a variolated atmosphere, during the first seven days, *unprotected by the preventive power of Cow-pox.*

It has also been ascertained by experiment, that the casual Small-pox may be superfed by inoculating those persons with variolous matter who have been, for five days previous to the inoculation, *exposed to a variolated atmosphere.*

On the contrary, there are cases which will soon be published, that demonstrate a want of power in the Cow-pox to arrest the progress of the casual Small-pox in those who have been exposed to a *variolated atmosphere*, previous to their being inoculated with the virus of Cow-pox.

May we not draw from these experiments the following inference?—That the casual Small-pox, arising from exposure to a variolated atmosphere, will proceed through its stages without interrupting the progress of the Cow-pox pustule on the arm of the same person.

If the possibility of its doing so can be denied*, it readily explains why the matter taken from the variolous-like
 pustules

* *Mr. LITTLE, in the following Letter to Mr. Dunning, records an instance of the casual Chicken-pox passing through its regular stages, regardless of the local action of the Cow-pox.*

“ Plymouth Dock, 22d May, 1800.

“ As the Vaccine Inoculation here, as well as elsewhere, has met with oppo-
 “ sition, from what I believe misrepresentations or mistaken cases of it, and as
 “ your Inquiries have been lately much directed towards it, I beg to communi-
 “ cate to you two cases which occurred the other day in my practice: they ap-
 “ pear to me of importance, in as far as they tend to detect a mixture of other
 “ diseases with the vaccine.—On the 29th of April I inoculated with vaccine
 “ matter (with a lancet that had never been used but for that purpose) two chil-
 “ dren of ——— Darracott, the youngest about five weeks old, the eldest
 “ about five years. The infection was communicated to the youngest on the first
 “ insertion of the matter; the eldest did not then receive it: the former went
 “ through the disease in the usual mild manner. I again inoculated the eldest
 “ on the 9th of May, from the arm of the youngest, and then infected him. On
 “ the 19th of May the boy was brought to my house, with an account that he
 “ was feverish, and had been so the day before, and that eruptions were appear-
 “ ing all over his body. The pustule on the arm had arrived at the height of in-
 “ flammation, and maintained the specific character of the vaccine inoculation.
 “ I at first viewed the eruptions with surprise, as they were different from any
 “ thing I had met with in the vaccine inoculation; they were distinct, vesicular,
 “ and numerous, with slight inflammation at the base of each, and corresponded
 “ in some measure with the pustule on the arm. From this novel appearance, I
 “ was led to make further inquiry, and found that the youngest child, who had
 “ passed the vaccine disease about ten days, had similar eruptions with the elder,
 “ which

pustules on the body produces *Small-pox*; and why the matter taken from the Cow-pock pustule on the arm of the same patient, produces *Cow-pox*.

It

“ which had appeared within the two last days, and upon my calling at the house,
 “ found the infant with *the Chicken-pox so distinctly marked, as not to be mistaken*
 “ *by the most superficial observance.* This case affords some observations, which I
 “ think important: had it been a solitary one, great doubts would have arisen
 “ of what nature the eruptions were, and would perhaps have been considered
 “ as vaccine eruptions. But the case of the youngest child places it beyond the
 “ shadow of a doubt on my mind. It may be objected by some, that two diseased
 “ actions are not known to exist at the same time. This is true in general,
 “ I believe, but not always; and though the two diseases here appear to have gone
 “ on together, I can readily conceive why they should—the *genuine vaccine disease,*
 “ in as far as pustules are concerned, is, I am persuaded, confined to the place of
 “ insertion of the matter, producing a specific fever in a given time. The
 “ Chicken-pox is known to be an eruptive disease, accompanied also with slight
 “ fever; and, in the present instance, the vaccine fever supervening, produced
 “ the excitement on the skin, accompanied with the vesicular pustules of the
 “ Chicken-pox. From the observations in my practice of Vaccine Inoculation,
 “ amounting to more than fifty cases, I believe the genuine Cow-pox never pro-
 “ duces pustules on the body; pimples, where a previous disposition on the skin
 “ already exists, I have often seen, but they never suppurate; and I strongly
 “ suspect, that those cases which have been given to the world as cases of vac-
 “ cine eruptions, have been mixed cases of some other eruptive diseases not clearly
 “ discriminated. I am willing to believe and hope, that when the prejudices
 “ which now exist are removed, the Vaccine Inoculation will be universal. I
 “ am satisfied, that in those cases where the Inoculation for the Small-pox would
 “ be

It also explains why the matter taken from the arm of Ann Bumpus, who had three hundred and ten pustules on her body that suppurated, occasioned no pustules in Gloucestershire.

“ be hazardous and improper, on account of constitutional disease, the Vaccine
 “ may be substituted with safety, often with advantage, by inducing a change in
 “ the system, tending to improve the general health. If my time would allow
 “ me, I could give you two strong instances to that effect; every additional case
 “ of Vaccine Inoculation more strongly impresses on my mind its inestimable
 “ virtue; and the more I view it, the stronger conviction is obtained, that in its
 “ pure uncontaminated form it cannot be considered as an eruptive disease.—
 “ Should I at any future time have reason to change that opinion, I shall not
 “ hesitate to communicate it to you.

“ I am, with respect,

“ Your friend and humble servant,

“ D. LITTLE.

“ P. S. Having drawn up the preceding remarks in great haste, permit me to
 “ correct an error which I have fallen into in respect of the time of the appear-
 “ ance of the eruptions on the youngest child. They did not appear until the
 “ day following the appearance of those on the eldest.”

A case of casual measles has also fallen under our observation, which went forward undisturbed by the local action of Cow-pox.

Yet the action of Cow-pox, from Dr. Jenner's account, suspended the progress of the scarlatina in the case of Miss H—— R——. (See page 172.)

Had

Had the matter been taken from the eruptive pustules on her body, it is evident, from Dr. Woodville's third experiment, that of sixty-two persons who might have been inoculated with it in Gloucestershire, fifty-seven probably would have had variolous-like eruptive pustules, or, in plainer terms, *the Small-pox*.

Does it not distinctly mark the disease, of which the child died at the Inoculation Hospital, to have been the Small-pox? — This child was inoculated with matter taken from one *Talbot*, who had five hundred pustules.—Is not this opinion corroborated by the appearance of pustules, on the seventh day, from eighty to one hundred.—If farther proof be necessary, the matter with which this child and Ann Bumpus were inoculated was derived from the same source. It was taken originally from Jane Collinridge, one of the seven persons first inoculated at the Hospital with matter from Gray's-Inn Lane.—She had from one hundred to two hundred pustules.

It farther explains why in Dr. Woodville's private practice no pustules have appeared, and why variolous-like pustules were more frequent.

frequent at the commencement of the Cow-pox inoculation at the Hospital, when the atmosphere *was fully saturated* with the *Small-pox effluvia*.

It also explains why those cases, *in which* variolous-like pustules appeared at the Hospital, are reduced from three-fifths of the whole number to seven in one hundred and ten, and from the last report, to three in one hundred; since Dr. Woodville has taken *the virus* from those patients in whom *the Cow-pox was very mild and well characterised*, and since he has *carefully avoided the matter of the eruptive variolous-like pustules*.

Does it not confirm Dr. Woodville's opinion, that the *variolous-like pustules* were produced by exposure to a *variolated atmosphere*?*

Does

* The case of Caroline Woodford, published by Mr. Malim, corroborates Dr. Woodville's opinion, "That in those cases where the Small-pox is epidemic or generally prevailing, the Cow-pox will be found to be equally liable to excite† pustules, as in the Hospital." (*Vide* page 22, *Observat.*)

† This is an error of the press; the word *excite* ought to have been omitted, as it is in direct opposition to Dr. Woodville's assertion, (page 18,) "That pustules are independent of Cow-pox."

Previous

Does it not give force to Dr. Jenner's supposition, that the pustules were occasioned by the *variolous matter creeping into the constitution* with the vaccine?

Although Dr. Jenner hazarded this supposition, it remained for Dr. Woodville to point out, with precision, the mode in which it crept into the habit. Indeed, as the variolous-like pustules in cases of Cow-pox first appeared at the Hospital, it was incumbent on him not only to discover the cause of them, but likewise the means of preventing their recurrence.

Previous to the insertion of the vaccine virus, she had been exposed not only to the variolated atmosphere of the neighbourhood, but likewise to the Small-pox effluvia generated by her sister, who had taken the disease casually, and upon whom the eruption had advanced through its first stage.

In this, as in every other case in which variolous-like pustules have appeared, the constitution had been casually infected with Small-pox, before it had felt the preventive action of Cow-pox.

That the matter taken from the pustules which appeared upon her body produced Small-pox, cannot be doubted—or that the matter of the Cow-pox pustule on her arm would have produced Cow-pox.

F

Dr.

Dr. Jenner must concede to Dr. Woodville the following suppositions that appear in his publications :

“ *That the Cow-pox virus was variolated.*”

“ *That the virus of the one could assimilate that of the other.*”

“ *That together they produced an hybrid disease.*”

And lastly, Dr. Woodville must admit, that the cases at the Hospital with variolous-like pustules, were cases of *Small-pox*; excited by the *variolated atmosphere*, and *totally independent of Cow-pox*.

One fact more they must both concede, viz.

That the two diseases are distinct, and their characters strongly marked; differing in every essential point, but that of rendering the constitution unsusceptible of the future action of *the Small-pox*.

After

After some practical remarks, Dr. Woodville reverts to the appearance of pustules at the Hospital, and calls in as an auxiliary the following quotation, which, he says, clearly shews that Dr. Jenner's opinion on the subject is contradicted by facts.—

“ In a person inoculated by Dr. Jenner in the country, but who
 “ came immediately to town, and was under the care of Mr.
 “ Cotton*, *the eruptions* bore much resemblance to Small-pox,
 “ in number from twelve to twenty.”—Again, “ No one has
 “ been more attentive than Mr. Ring, yet he could not avoid
 “ eruptive cases, although he got matter with great pains from
 “ different sources.”—“ I have,” says Mr. Ring, “ inoculated
 “ thirty persons with matter given to me by Mr. Paytherus, and
 “ to him by Dr. Jenner; one of these had one hundred and fifty
 “ pustules, which were not distinguishable from variolous ones
 “ by any diagnostic with which I am acquainted.”

Here Dr. Woodville triumphantly puts the following question:—*Was the Virus in these cases pure and uncontaminated?*

* Mr. Cotton would promote the cause of truth, by publishing the history of this Case from the period at which it came under his observation.

It appears to have been hastily put, and probably before he felt the necessity of admitting, that he had heard of *one* case, where the matter sent from the Hospital produced pustules.

If the Cow-pox virus which Mr. RING repeatedly obtained from me had been impure, how could it possibly happen, that out of the thirty cases to which he alludes, it produced *twenty-nine* cases of *the true Cow-pox, without pustules?*

Can Mr. RING, or any other medical gentleman, assert, that out of thirty patients under Cow-pox inoculation in different parts of London, not one shall be exposed to a *variolated atmosphere* previous to the *preventive action* of the Variolæ Vaccinæ? Of four hundred cases of Cow-pox, excited by the regular inoculation with virus from the same source as that obtained by Mr. RING, no instance of variolous-like pustules has occurred; no constitutional symptoms; nor local inflammation that caused a moment's alarm—the following case excepted:—
At the commencement of the Cow-pox inoculation, Mr. Robinson's child in Coventry Street, and Mr. Wilkinson's child in

Bond

Bond Street, were inoculated with virus immediately from the cow. On the arm of the former the true Cow-pock pustule formed and passed through its stages. On the latter it failed. This child was a second time inoculated with virus, the source of which was the Inoculation Hospital. It took effect, and produced a genuine case of *Small-pox*.

It has been reported, that Dr. Irwin, of Woolwich, lately procured matter from the Inoculation Hospital, which he inserted in the arm of his patient, that it produced Small-pox, and nearly proved fatal.

In the London Medical Review, Vol. IV. No. 17, Mr. Ring, in a paper on the Cow-pox, gives the following quotation from Dr. Woodville's Observation: "I have now, I presume, said
 " enough to convince the reader, that Dr. Jenner's supposition is
 " directly incompatible with established facts; and I hope, in
 " future, he will do the Hospital matter *the justice* to speak of
 " it *as it deserves*. It has been employed by many medical
 " gentlemen,

“ gentlemen, both in London and in the Country ; *and I do*
 “ *not know of one instance in which it has not fully answered*
 “ *the utmost expectation of the inoculator.*”

“ What,” says Mr. RING, “ was my surprize at reading this
 “ paragraph, when not only the Medical and Miscellaneous
 “ Journals and Magazines, but the weekly and daily prints,
 “ have noticed the circumstance of considerable pustulary erup-
 “ tions, produced by matter obtained from the Small-pox Hof-
 “ pital ! when the pamphlets written on the Cow-pox allude
 “ to that circumstance ! and when it has long been a common
 “ topic of conversation, both in private companies, and at all
 “ the Medical Societies in London !”

It might appear invidious, or we should conclude by retorting
 the question—Was the Virus used in these cases pure and uncon-
 taminated ?

THE mild form which the Cow-pox invariably assumes, has induced many persons, who are not medical, to inoculate with the vaccine virus, without a previous knowledge of the symptoms which distinguish the genuine disease either from that which is spurious, or from the Small-pox.

Those who engage in vaccine inoculation ought to be aware that they cannot be too cautious in the choice of the virus, or too attentive to its local action.

If the virus be taken without discrimination, the operator will be subject to the errors which many have already committed. If inattentive to the local action, he will be unable to assert that the constitution is guarded from the subsequent action of the Small-pox.

Perhaps the benevolent views of those who may be anxious to shield their domestics, and the laborious poor, from the dire effects of the Small-pox, cannot be more effectually promoted
than

than by contrasting the variolous and vaccine pustules at different periods of their progress.

For this purpose the annexed plate was prepared, in which the pustules are delineated and coloured from nature.

The circumscribed circular form, the elevated turgid edges, and depressed surface of the Cow-pox pustule, give it a distinct character from that of the Small-pox.

The Small-pox pustule is formed by several small vesicles spreading along the skin, and occupying more space than the pustule of the Cow-pox, and bounded by an irregularly angular outline.

The vesicles constituting the variolous pustule at length become confluent and full of pus, forming by exsiccation a thin scab. On the contrary, the Cow-pox pustule at no period contains variolous-like pus: It gradually hardens, preserves its
round

round edges, and, when perfectly dry, resembles in colour and thickness the stone of the tamarind.

The inflammation common to both pustules varies in extent and duration; rarely exceeding an inch and a half in diameter, and generally subsiding about the 13th day from the period of Inoculation.

Whenever the Cow-pox pustule assumes the form represented in the plate, and continues gradually to increase till the 11th day with a surrounding efflorescence, we may safely rely on its preventive power.

When a disposition in the pustule to ulcerate appears before the sixth day, the preventive power is doubtful.—This disposition may be destroyed by applying diluted sulphuric acid upon the pustule with a camel's hair pencil, and after a few seconds washing it off with cold water. If, after the application of the acid, the pustule resumes its form, and proceeds
G through

through its stages, the preventive power of the Cow-pox is no longer doubtful.

If on the third or fourth day there appears on the part where the virus was inserted a large pustule, elevated in its center, with a small vesicle on its apex, and a considerable inflammation round its base, the absence of the preventive action is certain.

Whenever the edges of the inoculation pustule are angulated or irregular, or when the pustule appears formed by several small vesicles, it most assuredly has not been excited by the virus of the Cow-pox.

The constitution generally feels the preventive action on the eighth day from the insertion of the virus. The efflorescence surrounding the pustule, at this period, is a certain indication of its effect on the system.

The indisposition is commonly so slight, that, were it not expected, it would pass unnoticed. In some few instances, the
patients

patients complain of those symptoms so accurately described by Dr. Jenner.

The virus is most active and certain in its effect when taken on the seventh, eighth, or ninth day. If taken and used immediately, on either of these days, and before it dries upon the lancet, it seldom fails to excite the disease.

If the virus be received upon glass, and, when perfectly dry, covered with a thin coat of the mucilage of gum arabic, its activity may be preserved for some weeks.

The dark-coloured Figure in the Plate is a correct representation of the appearance of the Cow-pox on the skin of an African.

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A
REVIEW

OF THE

VACCINE INOCULATION

AT CLAPHAM.

THAT it is a duty incumbent on every one, who may engage in the practice of the Cow-pock Inoculation, to attend to the choice of the Vaccine virus, the mode of inserting it, the progress of the pustule, and the means for moderating an excess of inflammation, has been fully exemplified in the unfortunate cases, which occurred during the late Vaccine inoculation at Clapham.

On the eighteenth of November, 1800, I went down to Clapham, in order to inspect the paupers of that district, who were under the Cow-pock Inoculation, to ascertain whether the alarming report respecting it was well founded, and, if so, to collect

the circumstances which deviated from the common character of the disease.

I farther wished to inquire whether the directions, published by Dr. Jenner, for conducting the Vaccine inoculation, had been observed or disregarded.

Fifty-six paupers had availed themselves of the beneficence of several opulent families resident at Clapham, who were anxious to promote a general inoculation. This number was separated into four divisions, fourteen in each, and placed under the care of the following medical gentlemen: Mr. Gardener, Mr. Prior, Mr. Bankcroft, and Mr. Buckland.

Of the four divisions, it was highly gratifying to find that all those who had been inoculated by Mr. Gardener, Mr. Prior, and Mr. Bankcroft, had passed through the disease without an alarming symptom*. It

* The following case excepted.—Upon the arms of one of the children there was no appearance of pustule or cicatrix. “ The mother of the child said, that

“ a red

It happened, by mistake, that Mr. Buckland had inoculated part of Mr. Bankcroft's division, in consequence of which, the number of his patients was increased. It was this division that had suffered so severely.

Mr. Buckland repeatedly stated *on the 18th of November*, that his first inoculation took place the 22d of October, with virus from London, sent down upon a lancet; with which lancet he attempted to infect *twenty-four persons*. Of this number *six* only took the disease.

He likewise stated, that he had taken Vaccine virus from the child of ——— Hibbert, Esq. on the fourteenth day, for his second inoculation, which he performed on the 31st of October.

“ a red pimple had appeared for two or three days *only* after the inoculation.” It was evident that the patient had not been infected—a circumstance which would probably have passed unnoticed but for the inspection; and this child, whenever it chanced to be infected with Small-pox, would have been reported to have taken it after having had the Cow-pox.

A solitary instance of this kind, although apparently well authenticated, should not be suffered to have more than its due influence, when brought forward in opposition to the great body of evidence in support of the preventive power of Cow-pox.

He

He admitted that, when the excess of inflammation came on, he had not employed the means directed by Dr. Jenner for destroying the local action of the virus.

On examining the body of James Hall, who was inoculated on the 22d of October, and who died on the 16th of November, the appearances clearly evinced that, previously to his death, the whole surface had been affected with erysipelalous inflammation.

William Hall, the brother of James, aged two years, inoculated on the 31st of October, had also suffered from general erysipelas, which was now become partial, leaving the parts from which it had receded œdematous.

James Swinton, aged four years, inoculated on the 31st of October, likewise appeared to have been afflicted with general erysipelalous inflammation. There remained a considerable degree of œdema in the hands, arms, throat, and chest of this child.

The

Both Hall and Swinton were in a state of extreme debility. The local affection on the arms had not the common appearance of Cow-pox.

Among the other patients, under the second inoculation, although they suffered from wide spreading ulcers and extensive inflammation, yet in no instance did the inflammation extend beyond the shoulder, except in ——— Baker, who complained of great pain and soreness in the pectoral muscle.

The characteristic signs of Cow-pox could not be traced on the arms of either of these patients.

The preceding memorandum of what passed on the 18th of November was drawn up, and full credit given to the assertions of Mr. Buckland. Soon after, I was very much surpris'd to find that the reports and conversations on the subject became daily more interesting in proportion as they became more contradictory, and at variance with Mr. Buckland's original narrative.

H

Desirous

Desirous of obtaining farther information, I repeatedly went down to Clapham, where I collected with impartiality the following particulars, which are submitted to the correction of those who may be induced to make a more minute inquiry.

THE FIRST INOCULATION

Was performed by Mr. Buckland on the 22d of October. At the time of inserting the virus, he informed some of his patients that he had just taken it from the child of —— Hibbert, Esq.

Mr. Buckland certainly took Vaccine virus from the child of Mr. Hibbert on the 22d of October. The family state that he took it once only; which was on the morning of that day.

With this virus he inoculated fifteen persons, six of whom he infected; namely, W. Cuthbert, J. Cuthbert, J. Tapley, T. Tapley, E. Skinner, and James Hall.

The parents of the Cuthberts, and of James Hall, state, that

the virus was inserted on the 22d of October, by a single puncture in each of these children ; and that the disease excited was mild and gradual in its progress until the 31st of October.

In the Tapley's, the local inflammation was moderate, and no alarming constitutional symptom was induced.

E. Skinner had the virus inserted in both arms, on the 22d of *October*, by several punctures in each arm. The inflammation commenced on the *fifth day*, spreading rapidly over the arm, but not beyond the shoulder. She was free from complaint *three weeks* after the period of inoculation.

The true character of Cow-pox appeared on the arms of these patients, the disease gradually advancing until the tenth day.

THE SECOND INOCULATION

Was performed in the following order on the 31st of October :

Virus was taken

From *J. Cuthbert*, and inserted in the arm of *L. Steel* ;
 ——— *E. Skinner*, — — — to infect — — — *W. Skinner* ;
 ——— ————— — — — to infect — — — *S. Washington* ;
 ——— ————— — — — to infect — — — *M. Washington* ;
 ——— *T. and J. Tapley*, — to infect — — — *W. Tapley* ;
 ——— ————— — — — to infect — — — ——— *Baker* ;
 ——— *J. Hall*, — — — — to infect — — — *W. Hall* ;
 ——— ————— — — — to infect — — — *S. Keene* ;
 ——— ————— — — — to infect — — — *J. Swinton*..

The first and second inoculations were performed with the same lancet.

Mr. Buckland has repeatedly declared that the lancet was not cleaned after the first inoculation on the 22^d.

This

This lancet, with a mixture of blood and Vaccine virus dried upon its surface, was, as above stated, first thrust into the pustule on the arm of J. Cuthbert. With this compound virus Lucy Steel was infected by *three or four* punctures. The inflammation commenced on the *fourth day*, spreading much wider than it generally does, but without exciting violent symptoms.

William Skinner was infected by *four or five* punctures. The inflammation commenced on the fourth day, and continued violent for *three weeks*.

S. Washington was infected by *three* punctures. The inflammation commenced on the *seventh day*, and continued violent more than a *fortnight*.

M. Washington was infected by *one* puncture. The inflammation began to spread on the *seventh day*. Her arm was perfectly healed in the course of *three weeks*.

Charles.

Charles Browning was first inoculated on the 31st of October, with virus from E. Skinner, by one puncture, but without effect.

William Tapley was infected with virus from his brothers, by *three or four* punctures. The inflammation commenced at an early period, and continued *three weeks*.

H. Baker was inoculated by *fifteen punctures*. The inflammation commenced within a few *hours*, spreading on the second day to the shoulder, and on the third affecting the pectoral muscle. It continued violent *ten days*, but at no period was there any *pustule or ulcer* on the arm. No mark remains but such as might be expected from repeated scratches or punctures by a lancet.

William Hall was infected by *fourteen punctures* in the right arm. The inflammation commenced on the *third day*: on the sixth day it had spread over the shoulders, and extended to the left elbow. The symptoms continued violent, and the child's recovery doubtful for *five weeks*. Sarah

Sarah Keene was infected by *many punctures*. The inflammation commenced on the *third day*, and continued violent for *five weeks*.

James Swinton was infected by *four or five punctures* in *each of his arms*. The inflammation commenced soon after, and spread over his body with the true erysipelatous character. Swinton was one of the children, who, on the eighteenth of November, appeared nearly exhausted, and for whom cordials were directed.

The mother of James Hall has not varied from the narrative she made on the 18th of November. She uniformly states, that James Hall was inoculated on the 22nd of October; that the virus was inserted by one puncture; that the pustule formed and gradually enlarged until the 10th day; that on this day, the entire surface of the pustule was removed with the lancet employed to inoculate his brother William Hall, S. Keene, and ——— Swinton;—that within a few hours after the removal of part of the pustule a violent inflammation appeared on the arm, and spread rapidly over the body. This

This child had certainly passed the period at which the constitutional symptoms generally appear, and would doubtless have gone through the disease without feeling any serious indisposition.

There are some circumstances attached to the second inoculation which merit particular attention :

I. The state of the lancet at the moment it was thrust into the arm of Cuthbert.

II. The state of the lancet at the instant it was employed to remove the surface of the pustule on the arm of James Hall.

III. The inflammation being permitted to spread without any attempt to check its excess by the means prescribed.

IV. The number and other circumstances of the punctures.

That

With regard to this latter head, it may be remarked, that no excess of inflammation appeared in those who were infected by a single puncture :

That S. Baker suffered from the numerous scratches inflicted by the lancet, independently of the virus, as neither pustule nor ulceration ensued :

That in Lucy Steel, William Skinner, S. Washington, and the Tapleys, infected by *three or four punctures*, although there was an excess of inflammation, it did not extend beyond the shoulders :

That William Hall, S. Keene, and J. Swinton, infected with virus from James Hall, which was inserted by many punctures, were the greatest sufferers.

I shall content myself with stating these facts, without presuming to risque an opinion on the proximate cause of the evil. This point has been taken up by men of eminence in

the profession; the public therefore may look forward with confidence to the result of their investigation.

It has been said, that the death of James Hall was occasioned by the secondary inflammation excited by the derangement of the pustule on the tenth day. This remark might have been supported, if symptoms equally violent had not been excited, at the same instant by the same lancet in William Hall, S. Keene, and J. Swinton.

How far the mixture of blood and Vaccine virus, which had dried upon the lancet, became softened, by the freedom with which the lancet had been inserted in the pustule on the arm of James Hall, and mixing with the fresh virus, might excite violent inflammation, remains to be ascertained.

In the mean time it may be confidently presumed, that if the Vaccine virus for this inoculation had been taken, with a clean lancet, before it had lost its transparency, and had been inserted in each patient by a single puncture, the violent inflammatory

matory symptoms would not have been excited; and that, when excited, their progress might with equal certainty have been arrested by destroying the local action of the virus.

The “discredit” of these cases does not attach to Mr. Buckland so much as to those, who, little acquainted with the phenomena of Cow Pox, have been forward to condemn the rules and cautions, which appear in different parts of Dr. Jenner’s publications.

If they had repeated his experiments with temper; if they had conscientiously attended to his opinions, formed on the observations of a series of years; the *Small Pox* would not have been disseminated through the country for the *Cow Pox*; nor should we have had to record the melancholy catastrophe at Clapham.

FINIS.

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