

## **Observations on the cow-pock / By John Coakley Lettsom.**

### **Contributors**

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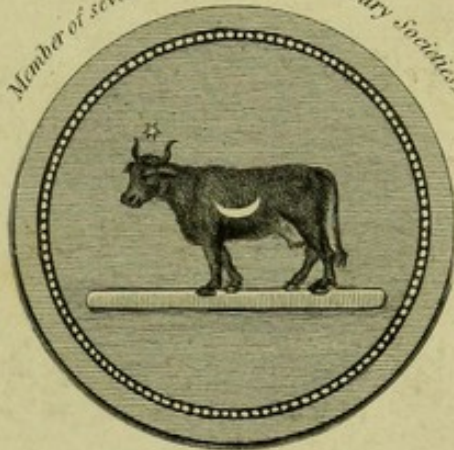
*Observations*

on the

COW-POCK;

By John Coakley Lettsom M.D.

Member of several Academies and Literary Societies.



Printed by Nichols & Son Red Lion Passage Fleet Street

for Joseph Mawman Printer.

1801.

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*DR. LETTSOM'S*

OBSERVATIONS

ON THE

*COW-POCK.*

DR. LITTLETON'S

OBSERVATIONS

ON THE

LOW-WATER

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P R E F A C E.

INDIVIDUALS, in the intercourse of society, however limited the circle may be, gradually form mutual attachments, which beget mutual confidence; and hence the opinions of one person determine those of another; a sentiment that encourages me to write upon a subject, although anticipated by several distinguished authors, under the persuasion, that my testimony may have some influence within the periphery of my associates and particular friends; some of whom, resident in different parts of the world, have requested my opinion respecting the inoculation of the Cowpock, with some account of the institutions established in this country for promoting the general practice of it; and I hope their laudable wishes will be gratified by the perusal of the subsequent observations.

If these afford no novelty of relation, the reader will have the pleasure of possessing engraved likenesses of gentlemen highly distinguished in medical science, and, in a particular manner, in the knowledge of the interesting discovery I have presumed to discuss. The contemplation of the resemblance merely of a great character, excites in the mind, a spirit of laudable emulation; and may stimulate latent powers, that might otherwise remain dormant, to cultivate pursuits equally conducive to private happiness and public good.

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OBSERVATIONS

ON THE

*COW-POCK.*

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A JUDICIOUS Physician, who has long and attentively cultivated medicine, must have witnessed the rise and progress of various systems, and speculative opinions of its professors; but, whilst experience enables him to appreciate these opinions, his judgment will not bias him against the reception and encouragement of medical discoveries and improvements. Under such sentiments I have been

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led



led to pay particular attention to a subject, which forms a new æra in practical medicine, and a new source of human felicity, if not of human existence; and, as I have been requested, by many professional and other respectable characters, to deliver my opinion on this important subject, as likely to influence their conduct, I have deemed it my duty to declare my sentiments, however superfluous they may be considered by others, after the communications of JENNER, WOODVILLE, PEARSON, RING, WATERHOUSE, ADDINGTON, and AIKIN.

An animal whose lactarious fountains afford in our infancy a substitute for that of the parent, and from which we draw, through life, a considerable portion of our nutriment, is destined by the sagacity of one enlightened philosopher to protect the human species from the most loathsome and noxious disease to which it is subjected. In reflecting upon its ravages, the mind revolts with horror; not merely from its fatal devastation, but likewise from the deformity it inflicts upon its victims, by rendering the fairest sublunary being, that  
god-like





*E. Jenner. M.D. F.R.S. &c.*

god-like countenance impressed by the Creator, an object of compassion, if not of disgust. I contemplate, therefore, with medical pride, and not less with national gratitude, the name and discovery of Dr. EDWARD JENNER\*;  
by

\* Although the Cow-pock had long since been found by incidental experience a security against the small-pox, it had never been applied to any beneficial purpose, till the genius of Jenner discriminated its powers, and introduced it into practice, as a permanent security against the variolous infection. This preventive quality of the vaccine fluid was certainly known even to scientific professional men many years ago; but, strange as it may now appear, no one till Jenner promulgated his discovery had ever improved that knowledge, by applying it to the process of inoculation. About twenty years ago, when Dr. Archer was the physician of the hospital for inoculation, Catharine Wilkins, now Titchenor, from Cricklade, in Wiltshire, who had had the Cow-pock in consequence of milking cows, came to her brother in London, (where she is now resident,) who, being desirous of ascertaining whether this circumstance could be depended upon as preventive of the small-pox, sent her to the hospital for inoculation, when she received the variolous matter from Dr. Archer; against which, however, she was proof, and the small-pox of course could not be communicated; but no advantage was derived from this fact.

Archer was a prudent, cautious, and rather timid practitioner; and the hospital for inoculation owes much of its  
B 2 importance

who by conveying from a small pustule on the teats or nipples of the udder of the domestic cow, a particle of matter, under the cuticle of the human subject, has established the divine art of preventing the ravages, and even the appearance, of that scourge of his existence, the small-pox.

From time immemorial this domestic animal has been consecrated among antient nations as an object of worship \* ; to all it is now an object of grateful admiration. What then is due to that philosopher, who has drawn new and heretofore unexplored sources of happiness from this salutiferous animal! Gratitude calls upon the nation for a national reward ; and great indeed would it be, were it adequate to the national good that must result from this wonderful discovery, which embraces at once the following axioms :

importance to his persevering attention to its interests ; but he neither possessed the spirit of penetrating inquiry of Woodville ; nor the genius of discovery of that man, who was destined to form a new æra in medical practice.

\* Hence I have introduced it in the frontispiece, under its sacred character.

I. It

I. It prevents the accession of the most fatal malady under heaven—the variolous infection.

II. It is not infectious or contagious.

III. It is believed, that it never has been fatal, and never will be.

IV. It creates no blemish, or mark, on the human frame.

V. It conveys no constitutional disease.

It has indeed been calculated that, of 60,000 persons who have been inoculated with the Cow-pock, four have died. I cannot bring my imagination, from the experience I have had, to conceive, that any healthy subject can die of a process which can hardly be called a disease; or, in other words, that a single pustule (for there is rarely more) can prove fatal. Prejudice or ignorance have given rise to various reports, which inquiry has proved unfounded. It must, however,  
be

be acknowledged, that many mistakes have been committed by practitioners; matter has been taken from the chicken-pox (*varicellæ*), and too frequently from the purulent fluid round the scab of the Cow-pock, or in the variolous pustule; and in either case it is needless to say, inoculation under such circumstances is no security against the small-pox.

But, supposing four might have died in 60,000 persons inoculated by the Cow-pock, it can hardly afford an argument against the practice; for if we calculate, that the process of the eruption, &c. may occupy fourteen days, who would ensure 60,000 healthy persons for fourteen days, under the chance of no more than four dying in that period?

It is not in vaccine inoculation alone that mistakes have been committed, even by practitioners of established character. I lately attended two young persons under the small-pox, each an only child, of considerable family, who had been inoculated two or three years

years before by respectable gentlemen; and the mothers of the children shewed me what they conceived to be the marks or pitting from the inoculated small-pox: happily, they both recovered from an alarming eruption of the disease; but two relations I once claimed, who were inoculated with matter supposed to be variolous, by an eminent inoculator, afterwards caught the small-pox, on one of whom it proved fatal. These instances of error, so injurious to the medical character, and distressing to the community, should excite the most guarded circumspection in the professors of the healing art.

Condamine, in describing the superior safety of variolous inoculation, compared with the natural infection; represents the latter as a rapid river, which every individual is liable to pass over; and the former to a boat, which each may avail himself of, to ensure a safe passage; whilst those who do not embrace this conveyance must incur the risk of plunging into this dangerous current. If this allusion exhibit the superior advantages of variolous,



lous, may we not substitute an adamantine bridge in favour of vaccine inoculation?

The highest honours have been conferred on heroes both antient and modern, who have desolated provinces by the destruction of their fellow creatures: trophies and statues have been erected to commemorate sanguinary deeds. Saul may have boasted of his thousands slain, and David of his ten thousands; but the altar of JENNER is not consecrated by hecatombs of the slain; his claim is that of having multiplied the human race, and happily invoked the goddess of health, to arrest the arm that scatters pestilence and death over the creation!

All Europe is now convinced of the salutary result of vaccine inoculation. In Asia, Africa, and America likewise, wherever it has been practised, it has arrested the progress of the small-pox; at the same time, in this salutary process, it occasions no serious disease itself. The most unequivocal and unbiassed relations, from various parts of the European

European and American continents, attest these facts; even France, supine perhaps at first in appreciating the value of this discovery, has at length participated in the general acclamation of its inestimable benefits, as appears by a paper inserted in the *Moniteur* of the 11th Ventose, 1801, as a letter addressed to the respective mayors of the twelve districts of Paris, by the Medical Committee of that city, in which it is observed :

“ That the vaccinated have been incessantly exposed to the contagion of the small-pox, even by sleeping in the same bed, and eating and drinking out of the same vessels without any effect \*. More than seventy-two have been inoculated for the small-pox, yet none have taken the infection †.

\* Children sucking, under the vaccine disease, do not infect their mothers, who have not had it; nor the mothers the children.

† In England, and other parts, the number may be extended to full 50,000, or even perhaps double that number at this time.

“ The Committee have thus by numerous experiments, verified the observations of the English physicians; and is convinced of the truth of the three principal statements :

- I. That the vaccine is a very slight disease.
- II. That it is not contagious.
- III. That it is an effectual preservative against the small-pox.

“ The Committee is preparing a report, in which, as well as rendering an account of its own labour, it will demonstrate these great truths; and establish the public opinion with respect to *the most brilliant, and the most important discovery of the eighteenth century; to which France, Europe, and the whole world, will be indebted to the annihilation of that most destructive scourge, which has ravaged and desolated it for so many centuries.*”

Our Gallic neighbours, with whom a warm imagination is a prominent passion, in speaking of the Jennerian discovery, as the most brilliant

brilliant of the eighteenth century, have expressed a sentiment inadequate to its magnitude; as it is believed to be the greatest discovery in antient or modern history. I may be deemed an enthusiast in my opinion; but if he, who is able to exhibit a more momentous discovery, is alone permitted to apply this epithet, I may challenge the *imputation* with impunity. If we appreciate the importance of the discoveries of *Gunpowder*, *Printing*, the *Mariner's Compass*, and the *Circulation of the blood*, the JENNERIAN DISCOVERY will still display a prominent æra in the contemplation and gratitude of posterity.

Ye *Literati*, under the designation of Reviewers and Critics, whose penetrating eye pervades the ample circle of science; and whose decisions impose a tone upon public opinion, and widely influence even the judgment of every reflecting mind; in proportion to that influence, ought you to stand forward upon this interesting occasion.—Not with that cold approbation, bordering upon indifference, if not apathy, which has been painfully

fully noticed in some of your criticisms; but with an impressive ardour adequate to the imperious necessity of animating the multitude to self-preservation.

When Herschell fixed the site of the Georgium Sidus in the great volume of the heavens, you raised the theme of ardent praise to this unrivalled astronomer; but what is the Georgium Sidus, in competition with the Jennerian discovery! Has it conveyed to one human being a single ray of advantage? Contemplate with impartiality the latter, whose beneficent rays are destined to dissipate the gloomy atmosphere of pestilential mortality; whose fatal victims, I am bold to suggest, amount to 210,000 annually in Europe alone! Does this reflection admit of a coldness of description? Dip your pens in ætherial and indelible ink!—Impress your observations in characters legible to the most distant regions of the globe!

Ye

Ye *Pastors*, whose congregations listen to you for information ; may a retrospection of the ravages of the small-pox, and the prospect of its extinction by the vaccine inoculation, excite your piety to promote the salutary practice in public and private ! As the Creator, it is believed, gave existence to rational beings, in order to augment rational happiness ; may you co-operate in forwarding this benign purpose, by inculcating the duties of self-preservation ! and,

Ye *Parents*, who are the natural guardians of your offspring, do not hesitate in adopting a process that exempts them from variolous contagion, and its frequent concomitant, death ; when you read in the bills of mortality, the weekly returns of its victims, in numbers from forty to fifty ; and reflect, that each of them might have been living objects of affection to their parents, and of national benefit to the state, had their guardians embraced the salutary discovery I allude to ! Not a day passeth in this metropolis, without witnessing the immolation of infants sacrificed  
by

by this contagion \*! And shall they not excite one pang of remorse to surviving guardians; on reflecting, that with as much security as they pass through the chambers of their houses, might these infants have escaped the valley of the shadow of death! I do not hesitate to declare, that I never enter the habitations of the rich or the poor (for each may be equally useful in their respective allotments) without feeling an ardent desire for the security of their infantile denizens, against this most destructive disease.

*Mothers!* Your infants cannot reason for themselves, but they call upon your protection, by every tender and winning gesture. How have you been delighted, when their playful hands instinctively press your bosoms, to solicit the flow of that nutritive fluid that percolates from your heart's blood, and adds to theirs! When they look up to you with smiling innocence, how ardently you press their

\* About 8,000 children annually die in London under four years of age; chiefly occasioned by the small-pox!

lips with careffes and kisses ! With ardour I invoke you to fhield their endearing features with the *ægis* of Jenner.

In fpite of the moft obvious and uniform fuccesfs of vaccine inoculation, individuals have oppofed the practice from a refinement of reafoning, that on the other hand appears to be rather conclufive in its favour ; they have objected to it on account of its origin, and conferred upon it the epithet of a beaftly difeafe, and branded its promoters, as being poffeffed with the cow-mania \*. Of the primary fources of infectious difeafes, little is yet clearly afcertained ; that fome have originated from animals is certain ; but, of all animals, the cow is moft congenial to the habits of man ; its food is fimple, and its difeafes

\* I am truly forry that my friend Dr. Mofeley, whofe learning and extenfive practice muft greatly influence the public opinion, fhould have adopted fuch an expreffion, or in the leaft degree difcouraged the moft important, brilliant, and falutary difcovery, in the annals of the eighteenth century. Probably he may have formed his opinion from fome miftakes he might have witnessed in the early practice of vaccine inoculation.



are few: we are from infancy nourished by its milk, and its flesh constitutes a large portion of human aliment; and surely a particle of matter extracted from this almost sacred animal, can excite no disgust, or rational idea of impurity; whilst that of man, too often the creature of appetite and morbid indulgence, with juices vitiated by intemperance, and a constitution injured by vice, may indeed afford some suspicion of contamination and impurity.

The Cow-pock, this eruptive affection of the nipples of the cow, which I attempt to elucidate, has long existed in various parts of the counties of Gloucester, Wilts, Somerset, Buckingham, Devon, Hants, Suffolk, Norfolk, Leiceſter, Stafford, and vicinity of London; and, in some parts, long and well known as a preventive of the ſmall-pox; but it was not employed in medical practice, as has been intimated, till Dr. Jenner introduced it to the knowledge of the publick; and by whom it was even ſuſpected to originate from a ſuppurative eruption, or the greaſe, ſo called,

led, a disease liable to appear on the heel of the horse.

However dubious this hypothesis may be, it is of serious importance to know, that the udder and teats of the cow are affected with ulcerations totally different from the Cow-pock; and consequently, to discriminate with precision the genuine appearance of the latter, which is best ascertained by actual observation, as many mistakes have occurred by substituting the chicken-pock and other eruptive affections, as has been already observed. The Cow-pock is distinguished from the slighter sores of the udder, by a tendency to produce a deep hollow sore, and differs from the other ulcerations of this organ, by a livid blueness, which commonly attends it, and which experience will alone effectually distinguish. The matter or fluid of the Cow-pock is introduced by inoculation, in its recent state, in the same manner as the variolous; and it should also be introduced by the smallest possible puncture. Its progress is likewise very similar: in about two days a

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small

small reddish eminence is visible; this increases in size, becomes hard, and by the sixth day acquires a bluish, or light crimson circle about half an inch in diameter, with a discoloured speck, pustule, or rather vesicle, in the centre, somewhat less than a pea; this circle, or areola, progressively increases till the eleventh or twelfth day; after which it gradually vanishes.

About the eighth day, a slight sensation of pain in the inoculated part, and arm-pit, takes place, with a little shivering, head-ach, and feverishness. These usually subside spontaneously in a day or two, little or no confinement or restraint being requisite; and indeed, in general, very little indisposition whatever is observable. The pains, however, in the inoculated part is sometimes troublesome, with considerable inflammation, whilst the pustular or vesicular part is surrounded with a broad circular margin; which, with the preceding symptoms, indicate, that the system is affected by the vaccine matter. Soon after this period, that is, about the 12th or 13th day, the fluid  
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in the vesicle gradually dries up, and the vesicle itself, or pustule, forms a dark-coloured hard scab, which adheres several days, unless pulled off. Sometimes one or more smaller spots appear on different parts of the body, but in general there is only a solitary pustule, where the vaccine fluid had been inserted.

Fluid for inoculating other subjects may be taken, from the sixth to the tenth day of the eruption: when taken early, that is, about the fifth, sixth, or seventh days, it is supposed to be more active, and more certainly to be depended upon for propagating the disease \*. After the tenth day, the pustule is usually formed into too dry a scab to afford matter for inoculation.

By this cursory relation of the progress of the vaccine, a considerable similarity with that of the variolous inoculation must be perceived; the eruption of the former, however, resembles more a watery vesicle, no suppu-

\* This will be confirmed by Dr. Jenner's opinion, quoted in a subsequent page.

ration in general taking place; whilst the matter of the small-pox is purulent, and the pustule itself has the character of phlegmonic inflammation. The greatest dissimilitude appears in one being infectious and dangerous, whilst the vaccine inoculation is neither infectious nor dangerous.

The progress of the vaccine inoculation is not always thus uniform; sometimes the part inoculated has not shewn signs of the disease having taken place for upwards of a week; and occasional instances have been known, that a pustule or two resembling the vaccine has appeared about or after the time that the original vaccine pustule has been formed into a dry scab, or even fallen off. Whether this last circumstance may not have arisen from a particle of vaccine matter having been conveyed by the patient's fingers to some part of the body, may be suspected; it is however certain, that this super-vesication occasions no disease or morbid inconvenience. It has been long believed, that one morbid action will impede that of another, in  
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the same constitution; and perhaps this disposition of the vaccine and variolous inoculation to remain latent, may be occasioned by some other morbid action in the constitution; although unknown and unsuspected. When I practised inoculation, I was always desirous of conveying as small a particle of matter as possible under the cuticle, and even preferred the repetition of the operation (should the first appear not to have succeeded) every three or four days, rather than introducing a large portion of variolous matter at one time. Whether or not this precaution is of real importance I cannot decide, though it has been suggested, that deep incisions produce a much larger eruption; but I well recollect instances, where I have inoculated three or four times from a suspicion of the preceding operation's having failed; and, at the end of ten, or twelve, or even fourteen days, all the inoculated punctures have shewed evidence of having taken the infection, and have suppurated nearly in a synchronous progress; from whence it might be inferred, that some latent previous morbid action had impeded that of the variolous,

olous, and might in like manner that of the vaccine.

Various methods have been adopted of conveying the vaccine fluid to distant parts, in a state of activity : as it is more readily decomposed than variolous matter, it requires more attention in taking and preparing it for transportation. A piece of cotton thread should be effectually moistened by the recent fluid ; the more of which it imbibes, the more likely to have its powers preserved ; the moistened thread should be allowed to dry in the open air, and not by the heat of a fire, lest it should be decomposed thereby. When it has acquired a proper state of dryness, it may be closely rolled up in writing-paper in the form of a scroll ; and in this state it may be conveyed in a letter or packet, or enclosed in a bottle, or quill. Or the cotton well saturated with the vaccine fluid, and carefully dried as above directed, may be simply enclosed in a bottle with a glass stopper.

Another

Another method is, to procure two square pieces of glass of equally smooth surfaces, and to place the vaccine fluid between them, and enclose the glasses in gold-beaters skin.

It has been recommended to apply sealing-wax round the edges of the glasses, to exclude the air; and in this manner I transmitted vaccine matter to professor Waterhouse, of Cambridge, near Boston, in America, which retained its pristine power unimpaired by the voyage; but from repeated experience, this precaution does not appear to be requisite, as the matter has been kept between flat glasses, without any additional security, for at least four months in its active state. The same has been experienced from a thread moistened with the fluid, placed in a quill open at one end, and incautiously kept in the pocket, for nearly five months. The vaccine matter taken on a lancet soon corrodes the metal, and is itself decomposed, so as not to preserve its active quality, so long, and successfully, as by the preceding methods of preserving the fluid; the latter, therefore, is only proper, when it is



is to be conveyed in its recent state to another subject.

The vaccine matter, which first succeeded with professor Waterhouse, was transmitted from England, in a bottle with a glass stopper.

This vaccine matter was afterwards lost, and there was not a particle on the whole American continent till the beginning of the present year; when Dr. Waterhouse informed me in a letter, dated Cambridge, April 6, 1801; That the vaccine fluid I had transmitted had happily communicated the disease again. "We certainly", says the Professor, "lost the genuine infection in this region, more, I now suspect, by not taking the matter early enough, than by a natural degeneration\*."

Dr. Jenner, to whom I related the foregoing sentence, and who has communicated

\* The Professor had formerly entertained some doubt, whether the transitions of weather on the American continent, or the repeated transmission of the vaccine fluid, might not have lessened its activity.

to his coadjutor in vaccine inoculation (my valuable friend, Dr. Waterhouse), with his usual liberality, his ample and decisive ideas on the subject, also favoured me with the following remarks. "I am extremely obliged to you, for the perusal of Dr. Waterhouse's letters; and not a little pleased to observe that the doctor coincides in opinion with me, respecting the supposed degeneracy of the vaccine matter. If inoculators would be attentive to this (which I lay down as a golden rule in vaccine inoculation), *never to use the virus after the formation of the efflorescence around the pustule*, they never, or scarcely ever, would experience disappointment. I never, in any one instance, saw a pustule formed by the virus, taken in this early state of its formation, and transferred immediately to the skin of a person fully susceptible of its action, that was not properly characterized, in other words, that was spurious. How easy then is the science of vaccine inoculation! It consists only in the knowledge of the true Cow-pock; the period of taking the virus, and the

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treatment of the arm, if it should be ever necessary to check redundant inflammation\*."

When Dr. Woodville visited Paris, to introduce there the vaccine inoculation; he took the matter, both on thread enclosed in a bottle with a glass stopper, and between thin plates of glass secured from the accession of air, which succeeded at Boulogne, as will be hereafter noticed; but the matter, he conveyed to Paris, preserved under the same circumstances, unfortunately failed. There is a mode of conveying the vaccine fluid, that might be attempted, under the direction of a judicious captain, with great probability of success; by inoculating one or two of the seamen, or passengers, on departing from port, and repeating the process successively, so as to preserve the matter fresh throughout the voyage. Those who have had the small-pox would suffer little or no inconvenience; and the fluid formed on the inoculated part

\* "The best application is Aqua Lithargyri Acetata and water.— One part of the former, to five of the latter."

would

would in general produce the desired effect on one who had not passed through the disease, and thereby a source of vaccine matter might afterwards be secured.

By the uniform experience of nearly two years, at least with London practitioners, it has been proved, that the vaccine matter neither loses its original powers, or acquires any new ones, by transmission from one human subject, that has not had the disease, to another; though some experiments made elsewhere have suggested an idea, that its efficacy is gradually diminished, and becomes at length inert. The futility of this opinion is now ascertained; and we know, that the vaccine fluid has been conveyed from one patient to another in seventeen hundred subjects, in succession, with undiminished efficacy; and it is hoped that it will not be deteriorated, or lose its pristine virtue, till that dreadful scourge the small-pox shall have been annihilated. This might be effected in the present year, should a due sense of self-preservation influence the community in general. Should the people

of these kingdoms be thus actuated, about 36,000 additional inhabitants would be added to its population in the year 1802, and so progressively every subsequent year, till the next century, when the whole gained by the Jennerian discovery would amount to about twelve millions of fellow-creatures.

Let it be here recorded to the honour of the medical professors, that they have very generally encouraged this salutary practice, although it is certainly calculated to lessen their pecuniary advantages, by its tendency to extirpate a fertile source of professional practice; with a laudable spirit, which, whilst it disposes them to sacrifice their time and their health, and even to visit distant and inhospitable climes, to administer aid to the sick, actuates them to endeavour to lessen human misery, by the prevention of disease; thus liberally and gloriously sacrificing private emolument to the comfort, happiness, and security of the public.

When

When the infected thread is to be applied in the process of inoculation, the cuticle, usually of one arm, should be slightly divided, so as just to afford the appearance of blood, of the length of about one third of an inch, and the same extent of thread applied to the incision, and kept upon it, by means of adhesive plaster or bandage, till the next day, when it may be removed, and no farther application admitted. If matter be introduced on the point of a lancet, in its recent state, it should be allowed to dry on the part, and requires neither bandage nor plaster. If the vaccine matter be taken from plates of glass before described, it may be moistened with a particle of water on the point of the lancet, which is to be used in inoculation.

Preparative medicines, or a restricted diet, have been little attended to, as the Cow-pock is usually so mild as scarcely to be called a disease, or to require either confinement, or medical treatment. The most troublesome circumstance is the inflammation of the infected arm, and therefore a cool regimen and  
mild

mild aperient medicines are adviseable. To the pustule, if requisite, may be applied the saturnine lotion (page 26. n.). Mercurial ointment has also been used; and also the vitriolic acid has been applied to the pustule only, on the end of a probe, and in half a minute afterwards washed off. In a state of inflammation from variolous inoculation, the late ~~Baron~~ Dimfdale advised a blister to the inflamed part: but it has not been applied under vaccine inoculation; and I imagine it never will be requisite to have recourse to any other application, than the Aqua Lithargyri, diluted with five times its quantity of water, which Dr. Jenner informed me, as has been observed, are the proportions he adopts. I have known a common bread and milk poultice answer every salutary purpose.

The moment I had finished this page, I received a second letter from Dr. Jenner; the conclusion of which is so applicable to the present subject, and so forcibly expressed, that I have presumed upon the kindness of my correspondent by inserting it here.

“ The

“The small-pox rages at this time in the metropolis with desolating fury. We have the means in our power of stopping the calamity:—Why not employ them?”

“We perceive as it were our houses on fire, and with *buckets* in our hands stand idly gazing on the flames.

“We bar the door against foreign plagues by our laws of quarantine; whilst the greatest domestic plague that ever infested us, is suffered to advance without controul. Would it not be wise in the Legislature to interfere in the cause of suffering humanity?”

In London and its environs, there are about one million of inhabitants, of whom, 3,000 die annually by the natural small-pox, or about 36,000 in Great Britain and Ireland. The population that might result, from their preservation by the Cow-pock, would probably re-people these kingdoms every century, or give existence to twelve millions of human beings! What a glorious reflection to my friend, who has been the means of preserving  
more



more lives than ever fell to the lot of any other human being!

It was natural to suppose, that a practice so highly salutary would soon gain the attention of the professors of a liberal science like that of medicine; and accordingly my esteemed friend Dr. Woodville, who had cultivated no department of science without improving and elucidating it, and who had secured by his writings, and by his practice in the history of the small-pox, and of inoculation, the highest reputation, early availed himself of the opportunities, which his situation as physician to the hospitals for the small-pox and inoculation afforded; and communicated to the public his extensive experience of the vaccine inoculation.

His reputation in this department being generally known, he procured permission to visit France, and introduced this salutary practice in its metropolis; the following account of which was published here, and the particulars were even deemed of sufficient impor-



*W. Woodville M.D.*



importance to be inserted in the National Institute of France.

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“ DR. WOODVILLE began the vaccine inoculation upon three children at Boulogne, where he first landed on his tour to Paris, and placed them under the care of Dr. Nowell, an English physician, who was desired to send vaccine matter upon lancets to Paris, as soon as the arms of those children produced a sufficient quantity for the purpose. This precaution proved to be very fortunate; for, five days afterwards, when the matter of the same pock was tried at Paris, it produced no effect whatever; and the Cow-pock, which Dr. Thouret had received from Geneva, and which had not been longer than four or five days upon the thread, was found to be equally incapable of producing the disease. As Reaumur's thermometer at Paris was, about that time, frequently about 29 degrees, or above 96 of Fahrenheit, it was concluded, that these fail-

ures afforded a proof, that the vaccine matter does not preserve its efficacy so long during hot, as during temperate or cold weather \*. The disappointment from the above trials was not, however, of long continuance. The inoculation at Boulogne succeeded; and from them Dr. Woodville was supplied with matter at Paris, which fully answered his expectation. Dr. Colon's only child was the first person inoculated in this city; and other medical men, in order to testify the confidence they placed in the new inoculation, followed the example; so that Dr. Woodville had the satisfaction to see the practice extended, not only amongst the children in different hospitals, but also in private families in Paris, where, no doubt, it will soon become general. At Boulogne, the Cowpock inoculation has been continued by Dr. Nowell, who lately transmitted to Paris a report of the numbers to whom he had communicated the infection. With the vaccine

\* By the modes already mentioned of preserving the vaccine fluid, any inconvenience in future may be avoided.

matter

matter which Dr. Pearson sent to Paris, thirty children had been inoculated, of whom ten took the disease; from these ten, only five others were infected, when all farther attempts to propagate the Cow-pock entirely failed, and the *matter* was lost several weeks before Dr. Woodville's arrival at Paris.

In addition to his valuable treatise on Vaccine Inoculation, he has more fully elucidated some circumstances, which experience enabled him to do, in the following judicious remarks printed in the Medical and Physical Journal.

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“ AS the inoculation of the Cow-pock is known to be conducted upon a very extensive scale at the Inoculation hospital, and as the advantages which this new practice possesses, are only to be learned from experience, I have hitherto judged it proper, from time to time, to furnish the public, not only with

the general results, but with most of the principal facts that have occurred to me in the propagation of this disease.—It appears, from my last publication on this subject, written about six months ago, that the number of persons who had then received the vaccine infection at the hospital exceeded 2500; since that time upwards of 1500 have been inoculated for the Cow-pock at the same place, and of these I have a report to present similar to that stated by me in July last, viz. “With none of the patients did the infection occasion a severe disorder, or excite one alarming symptom.”—The number of pustular cases under the vaccine inoculation, in the hospital, has been even less than three or four out of an hundred, the proportion in which such cases were stated to occur at the period above mentioned. Respecting those to whom I have communicated the infection out of the hospital, or among my private patients, I have not yet met with one instance in which variolous-like pustules took place. Indeed, I am convinced an eruption of that appearance will be found to be a very rare occurrence, unless,

unless, previously to the vaccine inoculation, or during its local progress, the patient has been exposed to the action of variolous matter. Though such an exposure may not have been known, nor even suspected to have taken place, yet this will not be deemed an objection of much weight against the opinion here advanced, when it is considered that the same observation will apply to four-fifths of all who casually receive the small-pox.—If a person, who has been exposed to the contagion of the small-pox for four or five days, be then inoculated for this disease, the inoculation anticipates, or prevents, the effects of the contagion, and the inoculated small-pox is produced. But, if the vaccine inoculation be employed in a case thus circumstanced, the small-pox is not prevented, although the tumour produced by the inoculation advance to maturation. Hence we are to expect, that the casual small-pox will more often supervene to the vaccine than to the variolous inoculation.

“ It



“ It was not before the commencement of the present year, that I ascertained the Cow-pock had not the power of superseding the small-pox; for though, from the first trials I made of the new inoculation, it appeared that these diseases, as produced in the same subject from inoculation, did not interrupt the progress of each other, yet as the casual does not act in the same manner as the inoculated small-pox, and may be anticipated by the latter, I thought it still probable that the Cow-pock infection might have a similar effect. Numerous facts have, however, proved this opinion to be unfounded, and that the variolous effluvia, even after the vaccine inoculation has made a considerable progress, have, in several instances, occasioned an eruption resembling that of the small-pox. This latter effect of the small-pox I did not conceive to be possible, till after I had made repeated trials of the new inoculation out of the hospital; nor is the fact to be easily explained, when it is considered, that the vaccine inoculation imparts its effects to the constitution in a shorter  
time

time than the latent period of variolous infection, which is commonly from the eleventh till the fourteenth day.

“ In those cases of vaccine inoculation in which the variolous infection has an early effect, I have observed that the tumour at the inoculated part proceeds slowly, and never exhibits any efflorescence; the pustules also are more numerous, when they appear early in the disease, than when they do not appear till after the twelfth day of the inoculation.

“ From the preceding observations we may infer, that in this metropolis, and its vicinity, where the small-pox constantly more or less prevails, the vaccine inoculation must sometimes be attended with a pustular eruption, of which it is not the cause. But inoculators, not adverting to this, have generally ascribed the eruption to a variolated state of the Cow-pock matter, with which the patient was inoculated; and the inoculation-hospital has been commonly represented as the place in which this adulterated matter was generated and obtained.

tained. To refute this opinion I adduced several facts, proving that varioliform pustules had frequently accompanied the Cow-pock inoculation, though no doubt could be entertained of the genuineness or purity of the vaccine matter employed for the inoculation; and also a number of experiments, sufficient to shew that the Cow-pock does not *hybridise* with the small-pox, but that both diseases continue distinct in the same patient; of which the following singular instance may be considered as an additional proof.

“ About two months ago, a girl, eleven years of age, was admitted into the inoculation hospital, where she was inoculated with vaccine matter. Five days afterwards, she was seized with the symptoms of small-pox, and an eruption of pustules (about 200) took place. On the 10th day of the inoculation, one of the variolous pustules appeared distinctly within the margin of the vaccine tumour. I charged a lancet with matter taken from the centre of the tumour, and with it inoculated a child, in whom it produced a regular  
case



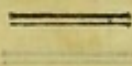


*G. Pearson. M.D.  
F.R.S. &c.*

case of Cow-pock. Mr. Wachsel, the apothecary to the hospital, who inoculated three children with matter taken from the pustule in the vaccine humour, found that it communicated the small-pox to all of them.

WILLIAM WOODVILLE.

*Ely-Place, Dec. 1800.*"



AMONG those luminaries of the present age who have added lustre to medical science, Dr. Pearson is conspicuous; and happy for the student it is, that this distinguished instructor has no less inclination to communicative knowledge, than facility in conveying it; and whilst science laments the premature fate of a Lavoisier, may it long claim the living prototype in a Pearson! who, to other benefits conferred on the community, successfully exerts his influence in founding and promoting an institution for vaccine inoculation, of which the following is the plan.

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INSTI-

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INSTITUTION *for the* INOCULATION *of the*  
VACCINE-POCK, *Golden-Square.*

FOUNDED *December, 2, 1799.*

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THOSE who are acquainted with only part of the history of the small-pox, scarcely take into their contemplation more than the advantages of the *inoculated* over the *natural small-pox*, in the points of preservation of the lives of individuals, and the substitution of a disease generally flight for a disease generally severe; and such persons imagine, that the practice of inoculation neither requires, nor is, perhaps, capable of farther improvement: but those who are more extensively acquainted with the history of the small-pox know that

that it is productive of a great deal of mischief, notwithstanding the advantages of inoculation—for,

1. Under the best treatment, a certain proportion of persons die in the small-pox; and, although the proportion of deaths to the recoveries may not exceed five out of a thousand patients, the distress occasioned by these fatal cases is more severely felt than when such cases occur in the casual disease: therefore, the substitution of a milder disease will contribute to lessen the distress which would thereby be occasioned.

2. It seems fair to calculate, that, in the inoculated small-pox, one in twenty-five patients undergoes a severe disease.

3. The numerous sources of the small-pox infection now preclude every prospect of extinguishing this disease; and unless inoculation were universally practised, it is most likely that the proportional mortality by the natural small-pox is rather increased than diminished,



x diminished, in consequence of the more extensive diffemination of the infection by inoculation.

x 4. In a certain proportion of inoculated cases of small-pox, deformities of the skin are produced, which no practitioner can be answerable for preventing in any instance. Diseases also are frequently excited by inoculation, to which a disposition pre-existed in the constitution.

x 5. In particular families, and in particular states of the constitution, as in pregnancy, &c. the small-pox is an exceedingly dangerous disease, even by inoculation. Now, it is manifest, from the accounts which have been collected of the disorder called by the name of the Cow-pock, and particularly from the experience by inoculation of it since January last, that the hurtful effects of the small-pox above stated may be prevented, by substituting for it the inoculation of the Cow-pock—because,

1. Of above four thousand persons who have had the inoculated Cow-pock, one only has died \*. There is, however, good ground for believing, that the proportional mortality will be even less than here stated.

2. Not a single well-attested instance has been produced, among more than 2000 of the above persons known to have had the inoculated vaccine-pock, and who were subsequently inoculated for the small-pox, of this disease being subsequently taken; although many of these were also exposed to the infectious effluvia of the natural small-pox. And traditionally, this fact has been established time immemorial, with regard to the casual Cow-pock.

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

\* If this fatal case be the one that I imagine is alluded to, it could not be referable to the Cow-pock.

4. It

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

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

6. It has been found that a person, whose constitution has distinctly undergone the vaccine disease, is in future unsusceptible of the same disorder. Hence no objection can be made to the new inoculation, as was once urged,

urged, on account of its being believed, that, by the commutation of the small-pox for the vaccine-pock, an eruptive disease would be introduced, to which the same person would be repeatedly liable.

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

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

9. The extensive practice of the vaccine inoculation in the present year, and the accounts of the disease in the casual way, do not show that any other disease will be excited.

cited subsequently, which is peculiarly imputable to the new practice.

It may be useful to add, that the present institution is perhaps the best imaginable for procuring evidence to inform those who are unacquainted with the new practice; for determining all doubtful points relating to it; and for discovering errors: as every case will be registered; every new trial be made under the direction of the medical establishment belonging to the institution; and the results of the practice will be reported to the governors. A farther considerable public benefit expected is, that a stock of efficacious vaccine matter, free from contamination by the small-pox, will, by this institution, be preserved for the use of the public.

From the above comparative statement, it is manifest that it is highly to the interest of the British Public to adopt universally the inoculation of the vaccine-pock in place of the small-pox. And that the poorest ranks in society may enjoy the benefit of the new inoculation,

culatation, the following plan of an institution is submitted to the confideration of benevolent perfons; confiding, that it will be readily perceived, that, perhaps, no charitable institution ever promifed to be productive of fo much benefit at fo little expence; and that, when the objects are well understood, it will receive fuch aids as are neceffary to its eftablifhment and maintenance.

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### P L A N.

1. AT a houfe to be called The INSTI-  
TUTION FOR THE COW-POCK OR VAC-  
CINE INOCULATION, a phyfician and a  
furgeon fhall attend every Tuefday and Fri-  
day, at One o'clock, to examine, inoculate,  
and prefcribe for the patients; who fhall at-  
tend at the institution at fuch times as they  
fhall be directed by the phyfician and fur-  
geon.

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2. An

2. An apothecary shall also attend at the same time with the physician and surgeon, to discharge the duties of his department.

3. The patients admitted to receive the benefits of the institution shall be those who apply with recommendatory letters from the governors.

4. The patients shall be supplied with proper medicines at the expence of the institution, and, when necessary, be attended at their own houses.

5. Subscribers of one guinea annually to the institution shall be entitled to a right of having two patients constantly on the books of the charity; or they shall have the same right during life, by paying ten guineas at one time. Subscribers of larger sums may have the right of having a proportionally greater number of patients constantly on the books.

6. The

6. The subscribers are to be called governors; they shall possess the power of transacting all the business relating to the management of the institution in such a manner as shall be agreed upon by themselves.

7. The subscriptions shall be employed to defray the expences of the institution.

8. The establishment belonging to the institution shall consist of a President, six Vice-Presidents, a Treasurer, and the Governors, besides the necessary medical officers for carrying on the business which is the object of it.

9. The medical duties are to be discharged gratuitously by two physicians, two consulting surgeons, two surgeons, and three visiting apothecaries. These officers are to be governors.

10. There shall be a resident apothecary, to prepare and dispense medicines; a secretary,



tary, a collector, a porter, and such other officers as shall be found necessary.

The Form of a Recommendatory Letter.

*I recommend the Bearer  
as a proper object for the Benefit of Inoculation at the Cow-Pock Institution.*

Applications being frequently made to the institution for vaccine matter, it is desired that it may be understood, that such matter is not warranted, unless it be delivered under the seal of the institution.

For the benefit of the charity, it has been thought proper that half a guinea shall be paid for arming three lancets.

DIREC-

*Institution, No. 5, Golden-square, January, 1801.*

## DIRECTIONS

FOR

### THE VACCINE INOCULATION.

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

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

that should be done by a particle of hot water hanging on the extremity of a needle.

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

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

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

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

Between

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

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

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

7. For inoculation, matter may be taken between the seventh and thirteenth days, generally; but probably it is most efficacious, and is in greatest quantity, on the ninth and tenth days\*.

8. A considerable redness, like Erysipelas, sometimes comes on, and spreads over the arm, about the eleventh or twelfth day, which goes off of itself commonly in a day or two;

\* Dr. Jenner prefers the sixth or seventh day. See pp. 19 and 25.

but

but cooling applications will often be of service, and never do harm. An emollient poultice should not be applied, except in particular cases of phlegmonous inflammation.

9. The medical treatment is the same as that of the inoculated small-pox.

10. As the vaccine inoculation, as well as the small-pox, produces sometimes a local affection only, without any perceivable disorder of the constitution, it will be safest, in doubtful cases, to re-inoculate the subject; and if no local disease be produced, or only an imperfect vesicle of a few days duration, sufficient security will have been obtained by the first inoculation.

*Note.*—It has been thought proper to require half-a-guinea for arming three lancets, or one guinea annually, for supplying each practitioner with matter for his own use *only*, as often as wanted; the expence of postage and portorage being discharged by those who apply.

MAN-

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MANCHESTER, distinguished as much for the science of its citizens as for its amplitude of commerce, has often stood prominent in suggesting, and carrying into execution, many useful and salutary establishments. Their recent ADDRESS TO THE POOR, which I shall introduce here, affords a pleasing confirmation of their laudable attention to the interests of the community.

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“THE experience of several years has fully proved, that inoculation for the Cow-pock is a certain *preservative*\* against the small-

\* Two families near Manchester have lately inoculated for the Cow-pock many hundreds of the labouring poor, who have all recovered without any sickness to confine them a single day. Twenty of them were afterwards inoculated for the small-pox; for a few days the usual signs of infection were perceived on the arms, but soon disappeared, without communicating the small-pox to any one of the twenty patients on whom this very satisfactory experiment was made.

I

pox;

pox; and is, besides, so mild and safe a disorder, when compared with the inoculated small-pox, that it has been generally introduced among the better informed and more wealthy inhabitants, both of this kingdom and of various parts of Europe. In order, therefore, to impress strongly on the minds of the poor the usefulness and superior advantages of this new plan of inoculation, the medical gentlemen belonging to these charities have thought it their duty to state, in this public manner, the following observations, for the serious perusal of all those poor persons who feel *proper affection for their offspring*, and who are desirous of promoting their own interest and comfort.

“ 1. *Inoculation for the Cow-pock* has been practised for several years, with constant success, in various parts of this kingdom.

“ 2. It has never failed to prevent the infection of the natural small-pox.

“ 3. It

“ 3. It may be communicated with safety to persons of every age and sex, and at all times and seasons of the year, with equal advantage.

“ 4. The Cow-pock is much preferable to the inoculated small-pox, as being a milder and safer disease, and not capable of infecting the persons living in the same family, or even sleeping in the same bed.

“ 5. It does not produce eruptions, which scar and disfigure the face; and is seldom, if ever, attended with any other marks of the disease, than what appear on the arms from inoculation.

“ 6. Neither swellings, blindness, lameness, nor any other complaints, which are known frequently to be the consequences of the natural small-pox, (and sometimes, though but seldom, of the inoculated small-pox) have been observed to follow the Cow-pock.



“ 7. Alarming fits frequently seize children when sickening of the small-pox; and while cutting their teeth, this disorder often proves dangerous: but no such objections lie against the Cow-pock.

“ 8. So far from proving hurtful, delicate and sickly children are often improved in health by having passed through this complaint.

“ 9. Scarcely any remedies or attendance are required for the Cow-pock.

“ 10. There is no necessity for a course of physic either before or after inoculation.

“ 11. *The time of the parents will not be taken up in attendance upon the sick, to the injury of the support of the rest of the family; and to poor families this is an object of no small importance.*

“ The prejudices of the poor against inoculation for the small-pox, by which thousands

hundreds of lives have been annually saved, have been often lamented; but if they suffer unjust prejudices to prevent their laying hold of the advantages now offered to them by the inoculation of the Cow-pock, they will neglect the performance of a duty they owe to themselves, to their families, and to society at large. For surely it is little less than criminal to expose their helpless children to the attack of so terrible and fatal a malady as the small-pox, when it may be readily avoided by the inoculation of so mild, simple, and safe a disease as that of the Cow-pock.

“ N. B. All poor persons, whose affection for their families leads them to embrace this favourable opportunity, may have their children inoculated for the Cow-pock, at the hospitals and dispensaries, from twelve to one in the afternoon, every day in the week, (Sunday excepted) throughout the year. No time ought to be lost by the poor in freeing their families from the apprehension of the small-pox, which daily increases both in frequency and malignity throughout this town.”

MY

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MY esteemed friends, Dr. WILLAN and Dr. MURRAY, with the judicious Surgeon and Committee of the Public Dispensary, have evinced their good sense and philanthropy by the subsequent resolutions, in imitation of the Manchester Address to the Poor; and which I hope will be followed by every medical establishment in Europe.

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PUBLIC DISPENSARY, CAREY-STREET.

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At a Meeting of the COMMITTEE, June 9,  
1801.

RESOLVED UNANIMOUSLY,

*That the Physicians and Surgeon of this Charity do inoculate for the Cow-Pock all such persons as shall be recommended by the Governors for that purpose; and that they be requested to make this Regulation known, as well*

*to the Governors, as amongst the Poor within the limits of this Dispensary, with such observations thereon as they shall think proper.*

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IN pursuance of the above Resolution, we hereby give notice, that all persons, desirous of being inoculated for the Cow-pock, may attend at the Dispensary for that purpose on any *Tuesday* or *Saturday*, at Twelve o'clock; and we earnestly recommend the following facts to the consideration of all whom the subject may concern.

*No one who has once had the Cow-pock can afterwards take the small-pox.* This has been proved in many thousands of cases, in which persons, after having had the Cow-pock, have been inoculated for the small-pox, or have even lived in the same room, or lain in the same bed, with others covered with that disease, and yet have not received the infection. This being the case, it is better to inoculate with the Cow-pock than the small-pox for two reasons:

1. Be-

1. Because the Cow-pock is a milder disease. It occasions but little pain or fever, and is not followed by any of the painful and dangerous complaints, which are often produced by the small-pox.

2. Because the infection of the Cow-pock cannot be communicated by the breath or perspiration; whereas there is always danger that a person, who has even the inoculated small-pox, will communicate the disease to others; and in this manner the inoculation of one person has often occasioned the loss of a great number of lives.

We therefore advise all those, who regard the health and life of their children, the safety of their friends and neighbours, or the good of the community at large, to avail themselves of the opportunity now offered to them of preventing, by easy and certain means, one of the most loathsome and fatal diseases to which the human body is subject.

ROBERT WILLAN, }  
T. A. MURRAY, } *Physicians.*

JOHN PEARSON, *Surgeon.*

ON

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ON the American continent, inoculation of the small-pox is not very generally encouraged\*; perhaps it has been thought, that unless the practice were general, it would rather tend to keep up and propagate the disease; for its safety beyond the natural small-pox is indubitably established. The Cow-pock has no peculiarity so different from it,

\* The Duke de la Rouchefaucault Liancourt, (Travels in America,) speaking of Virginia, he observes, "That a law exists, which interdicts inoculation for the small-pox without permission from the justices, and from all the neighbours within the distance of two miles. Any physician who should presume to inoculate without these precautions, would be punished by a fine of ten thousand dollars. Whoever is accidentally attacked by the small-pox is carried to a lonely house in the middle of the woods, and there he receives medical assistance. If the village, the town, the district, to which he belongs, catch the infection, these places are cut off from all communication with the rest of the country, and are permitted to have recourse to inoculation: otherwise it is never allowed." Monthly Review, N. S. June, 1801, p. 116.

X as that of not being infectious, which removes this important objection to inoculation.

My friend Dr. WATERHOUSE, of Cambridge, near Boston, with a mind equally liberal and well informed, and possessing an ardent spirit of inquiry, which has been successfully exercised for the honour of his country, and benefit of the community, by his extensive correspondence with Europe, was enabled early to avail himself of the discovery of the Cow-pock, which he introduced into America, and which he has employed with undeviating success, as the following relation from his own pen justifies; and his countrymen now justly hail him their benefactor \* as the Jenner of America, an appellation which was first applied by physicians of this city to their transatlantic coadjutor.

\* See the letters of the late President Adams, and the present, Jefferson, annexed.



R. Kew. sc.

*B. Waterhouse. M.D.*

*Professor of the Theory and Practice of Medicine.*





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“ IN the beginning of the year 1799, I received from my friend Dr. LETTSOM, of London, a copy of Dr. EDWARD JENNER’S “ *Inquiry into the Causes and Effects of the VARIOLÆ VACCINÆ, or Cow-Pock;*” a disease totally unknown in this quarter of the world. On perusing this work, I was struck with the unspeakable advantages that might accrue to this country, and indeed to the human race at large, from the discovery of a mild distemper that would ever after secure the constitution from that terrible scourge, the small-pox. My attention was not the less awakened by a previous impression, that the small-pox came originally from the brute creation; for all that I could recollect of the history of the famous Mahomet, and his *successor*, and of modern Arabia, conspired to strengthen the idea, that the small-pox came to the human race through the brute creation.

“ Perceiving that this disease began to excite a spirit of enquiry among our literary men, I deemed it of importance to collect and examine every thing that had or might be published on the subject, and to acquire, from my correspondents in England, every information respecting a distemper so interesting to humanity.

“ As the great question which the professional public were anxious to have resolved was, *whether a person who had been fairly infected with the genuine COW or KINE-POCK, were thereby secured against the small-pox*, I bent all my enquiries to ascertain this point.

“ It would be superfluous to mention every question I put, and tedious to relate the different answers received. Suffice it for the present to say, that I made my inquiries of the physicians living in different parts of Great Britain, and of those too who were the least sanguine, although most interested in the event; of men, who objected much, and believed slowly, yet have in the end become its  
most

most potent advocates. And I do now deliberately declare, that I have received a crowd of evidence in confirmation of the doctrine, "that the cow or kine-pock renders the human frame unfusceptible of the small-pox," too great to be resisted by any mind not perverted by prejudice. In truth, the subject has been traced in England, by those who doubted, until conviction became too strong for argument, and theoretical objections gave way to stubborn facts. The consequence has been, that THIRTY THOUSAND persons, from two weeks old and upwards, have passed safely through the disease. Dr. JENNER has been particularly noticed by the KING, who gave him permission to dedicate the new edition of his book to him.

"But distance of space operates on some minds like distance of time. People are not so ready to believe what happened a great while ago, or a great way off. I therefore found it necessary to bring the matter home to us, and to repeat in America the experiments performed on the other side the Atlantic.

lantic. I wished also to examine another *important fact*, of which some eminent physicians in London expressed some doubts, and which I myself was anxious to see more firmly established, namely, *whether this new disease, this COW-POCK or KINE-POCK, (denominate it which you will,) be really not CONTAGIOUS, or catching from one person to another.* And I do now assert, that from all the experiments hitherto made public, it clearly appears, that *this substitute for the small-pox cannot be communicated by any other means than by the actual CONTACT OF MATTER; or, in other words, is not catching from one person to another by effluvia, like the small-pox or measles.* Even the cows do not convey the distemper by effluvia, or when there is a fence or hedge interposed between them; and not, says Dr. JENNER, unless they be handled or milked by those who bring the infectious matter with them.

“ Having thus traced the most important facts respecting the causes and effects of the *kine-pock* up to their source in England, and  
having

having confirmed most of them by actual experiment in America, one experiment only remained behind to complete the business. To effect this, I wrote the following letter to Dr. ASPINWALL, physician to the *Small-pox Hospital* in the neighbourhood of Boston."

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Cambridge, Aug. 2, 1800.

"DEAR DOCTOR,

"YOU have doubtless heard of the newly-described disorder, known in England by the name of the *cow-pock*, which so nearly resembles the *small-pox*, that it is now agreed in Great Britain, that the former will pass for the latter.

"I have collected every thing that has been printed, and all the information I could procure from my correspondents, respecting this distemper, and have been so thoroughly convinced of its importance to humanity, that

I have

I have procured some of the vaccine matter, and therewith inoculated seven of my family. The inoculation has proceeded in six of them exactly as described by JENNER and WOODVILLE; but my desire is to confirm the doctrine by having some of them inoculated by you.

“ I can obtain variolous matter, and inoculate them privately, but I wish to do it in the most open and public way possible. As I have imported a new distemper, I conceive that the public have a right to know exactly every step I take in it. I write this, therefore, to enquire whether you will, on philanthropic principles, try the experiment of inoculating some of my children who have already undergone the Cow-pock. If you accede to my proposal, I shall consider it as an experiment in which we have co-operated for the good of our fellow-citizens, and relate it as such in the pamphlet I mean to publish on the subject. I am, &c. &c. B. W.”

*Hon. WILLIAM ASPINWALL, Esq.*

*Brookline.*

“ To

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“ To this letter the Doctor returned a polite answer, assuring me of his readiness to give any assistance in his power, to ascertain *whether the Cow-pock would prevent the small-pox*; observing, that he had at that time fresh matter that he could depend on, and desiring me to send the children to the hospital for that purpose. Of the three which I offered, the Doctor chose to try the experiment on the boy of twelve years of age, whom he inoculated in my presence by two punctures, and with matter taken that moment from a patient who had it pretty full upon him. He at the same time inserted an infected thread, and then put him into the hospital, where was one patient with it in the natural way. On the 4th day, the Doctor pronounced the *arm* to be infected. It became every hour forer, but in a day or two it dried off, and grew well, without producing the slightest trace of a disease; so that the boy was dismissed from the hospital, and returned home the 12th day after the experiment. One fact, in such cases, is worth a thousand arguments.”

L

*From*



*From the* PRESIDENT *of the* UNITED STATES  
*to* Dr. WATERHOUSE.

“ Quincy, Sept. 10, 1860.

“ DEAR SIR,

“ I HAVE received, and will communicate to the American Academy of Arts and Sciences, your “ *Prospect of exterminating the small-pox.*”

“ I have read your history of the Kine-pock with great pleasure. Your zeal and industry in giving these experiments fair play in America deserve the thanks of all the friends of science and of humanity.

“ To difarm the small-pox of its contagion is an enterprize truly worthy of an HERCULES in medicine. With great regard I am,

“ Dear Sir, your obliged friend,

“ and humble servant,

“ JOHN ADAMS.”

(Copy.)

Dr. Waterhouse, Cambridge.

Pre-

*President* JEFFERSON to *Dr.* WATERHOUSE.

*Washington, Dec. 25, 1800.*

“ SIR,

“ I RECEIVED last night, and have read with great satisfaction, your pamphlet on the subject of the Kine-pock, and pray you to accept my thanks for the communication of it.

“ I had before attended to your publications on the subject in the newspapers, and took much interest in the result of the experiments you were making. Every friend of humanity must look with pleasure on this discovery, by which one evil more is withdrawn from the condition of man; and must contemplate the possibility, that future improvements and discoveries may still more and more lessen the catalogue of evils. In this line of proceeding *you deserve well of your*

*country*; and I pray you accept my portion of the tribute due to you, and assurances of high consideration and respect, with which I am, Sir,

“Your most obedient, humble servant,

“THOMAS JEFFERSON.”

(Copy.)

*Dr. Waterhouse, Cambridge.*

CONCLU-

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**CONCLUSION.**

THE vaccine inoculation having been established by indubitable experience in every quarter of the civilized world, we may now pause to consider, whether or not the variolous inoculation be a justifiable practice? Opinions and even prejudices, although ill-founded, which result from old habits, strengthened by domestic sensibility, claim attention, and demand indulgence; for there are many individuals, who still prefer variolous to vaccine inoculation; but allowing due condescension to these feelings and prejudices, can a conscientious medical practitioner encourage, or give his sanction, to the old practice, which he knows to be attended with the sacrifice of at least one victim in five hundred cases (independent of its injurious effect in propagating the infection); while the modern, by vaccine inoculation, is believed never fatal?

Were

Were parents previously informed of the probable proportion of deaths by variolous inoculation, and were it, like the vaccine, incapable of communicating infection to others, some apology might be admitted, and the old practice in a great measure justified; but, if we take into the balance, the dangerous influence of variolous inoculation, by spreading infection, and endangering the lives of those who have not had the small-pox, I can hardly consider a professional man justifiable in supporting this practice in the present period of experience.

At the instant of writing this passage, a valuable performance \*, by my friend Dr. WILLAN, is put into my hands; and one of the first pages presented to my view contains the following observation:

“ The small-pox and measles have prevailed more during this spring (Report of April and May, 1798,) than has been known

\* Reports of the Diseases in London, particularly during the years 1796, 97, 98, 99, and 1800. London, 1801.

for

for many years past. They were diffused in the course of last month (February) through all the villages adjacent to the metropolis. I cannot here pass over a striking instance of the bad effects arising from partial inoculation. A child was inoculated in April, whose parents kept a shop in a court, consisting of about twenty houses. As the inhabitants repaired every day for necessary articles to the source of infection, the consequence was, that *seventeen* persons were affected with the small-pox in the natural way, within a fortnight after the child's recovery; and *eight* of them died of the disease."

What a dreadful mortality of our fellow creatures, of *eight* in *seventeen*, is here exhibited! Would not a medical practitioner at this period of improved knowledge be responsible for so fatal a catastrophe? Knowing the indubitable safety of the vaccine-pock, it would be his duty to place before the parents, who might solicit the variolous infection, the certainty of life on one hand, and the danger of death on the other; and if they refused to accept the former,

former, he ought not to be accessory to the latter, by acting as the medium of diffusing the fatal poison, unless under very particular circumstances.

What will be the fate of the hospitals for the small-pox and inoculation, at Pancras, near London? The vaccine inoculation will gradually supersede the other. These hospitals are directed by governors of extensive information, and sound observation; and under the management of a physician of a scientific and independent mind, my friend Dr. WOODVILLE, who superior to all selfish considerations, will promote that mode of practice which is most conducive to the good of the community at large.

*In the Press, and speedily will be published by the  
same* AUTHOR,

## H I N T S

DESIGNED TO PROMOTE  
BENEFICENCE, TEMPERANCE,  
AND  
MEDICAL SCIENCE.

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IN THREE VOLUMES OCTAVO.

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- \* Sect. II. Hints respecting the Distresses of the Poor, in 1794, 1795; and continued to the present Time.
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Sect. IV. Hints respecting the Society for the Discharge and Relief of Persons imprisoned for Small Debts.

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\* \* The whole is designed to comprize Thirty-five Essays, and Forty nine Plates and Prints. The First and Second Volumes are printed off; but the Contents of the Third Volume cannot at present be so accurately ascertained. A few Copies of the Papers with \* prefixed, were printed before, principally to present to Friends; and most of these are considerably altered in the present Edition.

ERRATUM.

P. 80. l. 7 from bottom, after "poultice," add, "moistened with the saturnine solution,"