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AN ACCOUNT

OF THE

NATURE AND EFFECTS

OF THE

C O W - P O C K,

ILLUSTRATED WITH

CASES AND COMMUNICATIONS ON
THE SUBJECT;

ADDRESSED PRINCIPALLY TO PARENTS,

WITH A VIEW TO

PROMOTE THE EXTIRPATION

OF THE

S M A L L - P O X.



BY JOHN MILNER BARRY, M. D.



... C O R K : ...

PRINTED BY M. HARRIS, CASTLE-STREET.



1800.

Dr. Brown
with the respectful Compt.
M.B.



1841

TO DR. LONGFIELD.

DEAR SIR,

If the inoculation of the Cow-pock has already made some progress in this City, it is principally due to the early proof you gave of your belief in its efficacy, by the inoculation of your grand-son. This is a sufficient reason for dedicating the following pages to you: permit me, at the same time, to express publicly the deep sense I entertain of your personal kindness, and my admiration of the extent and variety of your philosophical and professional knowledge:

I have the honour to be,

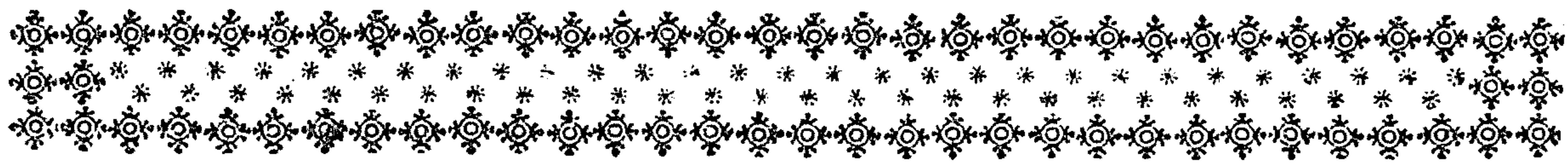
Dear Sir,

Your sincere humble servant,

TUCKEY-STREET,
Nov. 20, 1800.

J. M. BARRY.





AN ACCOUNT
OF THE
NATURE AND EFFECTS
OF THE COW-POCK.

THE practice of inoculation for the small-pox has been esteemed one of the greatest medical improvements of modern times: yet this dreadful malady still continues to spread its ravages throughout the different nations of Europe. To investigate fully the cause of its great fatality would be foreign to my purpose. I may, however, be allowed to observe, that from the partial manner in which inoculation has been hitherto conducted, it has undoubtedly served to keep up and spread the infection of small-pox, in situations where it may otherwise be extinguished for years. Hence, of all the plans, which benevolent individuals have proposed for the extirpation of the small-pox, a general inoculation forms the basis. But to render this effectual the consent of nations, as well as of private families, should be previously obtained. This

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forms a grand obstacle to such an undertaking, which it appears to me impossible ever to surmount. Positive laws, compelling people to submit their children to inoculation, would be evaded. In the various circumstances which render the inoculation of the small-pox dangerous, the feelings of nature, which are implanted in the breast of every parent, would revolt against such an interference of power, as tyrannical and unjust. Hence, the effect of inoculation would still be partial, and its grand object, the extirpation of the small-pox, unattainable.

But what seemed so extremely difficult, promises to be effected with great facility by the late fortunate discovery of Dr. Jenner. The *Cow-pock*, a disease which can be communicated to children in the weakest state, without subjecting them to the smallest danger, and which is not infectious like the small-pox, has been found to afford a lasting security against this formidable disease.

Having for some time witnessed and lamented the havoc occasioned by the small-pox in this city, as soon as I became satisfied of the facts stated by Dr. Jenner, I determined to give the vaccine inoculation an early trial. I therefore procured cow-pock infection in the beginning of last June. Having since had some experience in the nature and effects of the cow-pock, I adopted the resolution of publishing a short work on the

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the subject, which is intended to convey to unprofessional, as well as professional readers, as correct an idea as I can of a highly interesting discovery. As very few of the original works on the cow-pock have yet reached this country, the grossest errors and misrepresentations have been hitherto advanced on the subject without contradiction. If by the following account, in which the reports of the best writers have been confirmed by my own observations, I contribute to extend a medical practice, which must ultimately banish from the earth a disease highly destructive to human happiness, I shall think myself sufficiently recompensed.

Dr. Jenner's attempt to refer the origin of the cow-pock to the grease of the horses' heel, has not, in general, been considered satisfactory. The history of a number of cases of the natural cow-pock which I have collected in this neighbourhood, compared with Dr. Jenner's history of the disease, will throw considerable light on this subject. Should these cases lead me to a different conclusion on the origin of the disease, from that adopted by the illustrious discoverer of its virtues, I must declare, that in delivering my opinions I am actuated solely by that love of truth, which has never forsaken him in the course of his interesting inquiry.

H I S T O R Y

OF THE

NATURAL COW-POCK.*

“ The Cow-pox appears on the nipples of the cows
 “ in the form of irregular pustules. At their first
 “ appearance they are commonly of a palish blue, or
 “ rather of a colour somewhat approaching to livid,
 “ and are surrounded by an erysipelatous inflamma-
 “ tion. These pustules, unless a timely remedy be
 “ applied, frequently degenerate into phagedenic
 “ ulcers, which prove extremely troublesome. The
 “ animals become indisposed, and the secretion of
 “ milk is much lessened. Inflamed spots now begin
 “ to appear on different parts of the hands of the
 “ domestics employed in milking, and sometimes on
 “ the wrists, which quickly run on to suppuration,
 “ first assuming the appearance of the small vesica-
 “ tions produced by a burn: Most commonly they
 “ appear about the joints of the fingers, and at their
 “ extremities: but whatever parts are affected, if the
 “ situation will admit, these superficial suppurations
 “ put on a circular form, with their edges more
 “ elevated than their centre, and of a colour dif-
 “ tantly

* Dr. Jenner's Inquiry into the causes and effects of the Variolæ Vaccinæ.

“ tantly approaching to blue. Absorption takes
 “ place, and tumours appear under each arm. The
 “ system becomes affected;—the pulse is quickened,
 “ and shiverings, with general lassitude and pains
 “ about the loins and limbs with vomiting, come
 “ on. The head is painful, and the patient is now
 “ and then even affected with delirium. These
 “ symptoms, varying in their degrees of violence,
 “ generally continue from one day to three or four,
 “ leaving ulcerated sores about the hands, which,
 “ from the sensibility of the parts, are very trouble-
 “ some, and commonly heal slowly, frequently be-
 “ coming phagedenic, like those from whence they
 “ sprung. The lips, nostrils, eye-lids, and other
 “ parts of the body, are sometimes affected with
 “ sores; but these evidently arise from their being
 “ needlessly rubbed and scratched with the patients’
 “ infected fingers. No eruptions on the skin have fol-
 “ lowed the decline of the feverish symptoms in any in-
 “ stance that has come under my inspection, one only
 “ excepted; and in this case a very few appeared on
 “ the arms: they were very minute, of a vivid red
 “ colour, and soon died away without advancing to
 “ maturation; so that I cannot determine whether
 “ they had any connexion with the preceding symp-
 “ toms.”

But the circumstance which renders the discovery
 of Dr. Jenner so important, is, *that a person who has
 once experienced the local disease and constitutional fe-*
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ver of cow-pock, is never after susceptible of the small-pox. In proof of this position, Dr. Jenner relates several cases, both of the natural and inoculated cow-pock, in which ineffectual attempts were afterwards made to communicate the small-pox by inoculation, or by exposure to its infection in various ways. The following cases of cow-pock, collected in this country, furnish equally convincing proofs of this extraordinary fact, and shew that the cow-pock is much more generally known, than was at first imagined.

C A S E S

OF THE

N A T U R A L C O W - P O C K .

C A S E I.

Johanna Buckley, aged 20, took the cow-pock last spring, from a cow of Mr. Ruby's. The night previous to the appearance of the eruption, she had sickness at stomach, general lassitude, and was much hotter than usual;—next day five pimples appeared on one hand, and two on the other, which suppurated in two or three days, and became so painful that she could not go through her work. The glands under her arms were much swelled, and gave her great uneasiness. She described the pustules as resembling
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small whitish blisters, with a black spot in the middle of each. She has been since twice-inoculated with the small-pox without effect.

C A S E II.

Mary Walsh, aged 45, had the cow-pock twenty-four years ago; she suffered great pain from the eruption in her hands for four or five days. She was since married and had a number of children, of whom eight or nine perished successively in the natural small-pox. She attended each of them, as well as her surviving children, and handled them repeatedly during their illness, without taking the small-pox, and attributes her escape to her previously having had the cow-pock.

C A S E S III. & IV.

Cornelius Creeden, aged 60, a labourer in the service of Mr. Townshend, Firmount, several years ago slept with a cow-boy, who took the *shinach* (cow-pock) from handling the teats of cows affected with it. He had shivering, general uneasiness, and sickness at stomach, which subsided on the appearance of an eruption on his neck, breast and arms. The axillary glands were swelled and very painful. In ten years after he was inoculated with the small-pox, and has since handled and nursed his children in the inoculated small-pox without the least effect. He and all his neighbourhood attributed his escape to his previously having had the cow-pock. His sister had the disorder

disorder at the same time, and was also inoculated with the small-pox, but without effect.

C A S E S V. & VI.

Ellen Goggin, 17 years ago, after previous sickness at stomach, and symptoms of general fever, had a copious eruption of cow-pock on her hands. The sickness she describes as being more severe than she ever experienced, either before or since; but was greatly relieved by the appearance of the eruption. She had an infant at the breast who got the eruption from her handling him: but the eruption, though copious, did not suppurate, and she could not observe any signs of general disturbance in him. In two years after, this boy and his brother were inoculated for the small-pox. They lay together the whole time. Three more of his family have been since inoculated, with one of whom he slept through the whole progress of the small-pox, without taking it. His mother attended the children during both periods, and handled them frequently, but escaped the small-pox, as she believes, from having previously had the cow-pock.

C A S E VII.

Catherine M'Carthy had the cow-pock at fifteen years of age. She has been since frequently exposed to the infection of small-pox, particularly after the inoculation of her children, one of whom had
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it very feverely, but escaped the infection, although she nursed them through the entire of their illnesses.

C A S E VIII.

Ellen Lucy had the cow-pock 24 years ago in both her hands and one of her feet. She was inoculated twice with the small-pox, and slept with her children, who were at the same time inoculated, and had a copious eruption of small-pox; she, however, did not take it.

C A S E S IX. X. & XI.

Mr. D. Reardon, Woollen-Draper, North Main-Street, when he was seven or eight years of age, his mother, himself, and one of his brothers, had the disease of cows, called shinach by the country people. In about five years after, the three were inoculated for the small-pox, together with five or six more of his family. Mr. Reardon, his mother, and the brother who had the cow-pock, did not take the small-pox, although his arm was very sore from the incision, and he lay with one of his brothers, who had a copious eruption, through the entire of his illness. In some time afterwards they were again inoculated without effect. He also was carried purposely to a house where there were several in the small-pox, and let remain there a considerable time exposed to the contagion, but did not take the disease. He attributes his want of susceptibility to the small-pox, to his pre-
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viously having had the cow-pock, which is considered by the people where he lived in the country, as a preventive of that disease.*

*Extract of a Letter from the Rev. Mr. KENNEY,
of Moviddy, containing*

C A S E S XII. & XIII.

“ The cow-pock, or shinach, is well known here,
“ and has long been deemed a preventive of small-
“ pox. William Whelply, aged about fifty years,
“ was rubbed with the cow-pock matter, together
“ with his brothers and sisters, but as no incision
“ was

* NOTE. The above Cases were drawn up entirely from the accounts of the patients, except that of young Goggin, which his mother related to me, as he was himself too young to remember the circumstances;—Creeden’s sister, whose case I have not detailed, but had the facts of her having the cow-pock, &c. from her brother;—And the Cases of Mr. Reardon’s mother and brother, were mentioned to me by Mr. Reardon.

The eight first I collected in the neighbourhood of Mr. Townshend, of Firmount, and are, the majority of them, either his tenants or personally known to him.

To those who know the Rev. Mr. Kenney personally, or have heard of his virtues at a distance, his name will be a sufficient authority for the interesting facts and cases contained in his letter.

“ was made, none of them took the infection.
 “ Their mother had taken that disorder from milk-
 “ ing cows, before her marriage, and never took
 “ the small-pox, though she frequently attended
 “ persons ill of it.

“ The Widow Sweeny, aged more than fifty
 “ years, took the disorder at the age of 30, from
 “ an infected cow, and never had the small-pox,
 “ though she frequently attended persons ill of it.”

Not long after the publication of Dr. Jenner's book, Drs. Pearson and Woodville inoculated a great number with cow-pock matter, procured in the neighbourhood of London, and their experience fully justified the hopes which Dr. Jenner's publication had excited. They afterwards transmitted vaccine infection to different parts of Great Britain and the Continent. By the latest publications on the subject, it appears that not less than *twenty thousand* have been already inoculated with the cow-pock: of these better than a *third* were inoculated with variolous matter, but not one of them was found susceptible of the small-pox. The gentlemen engaged in this inquiry were most of them men of the greatest eminence in their profession, so that the leading fact which Dr. Jenner has announced cannot now be reasonably doubted. The superior mildness and safety of the cow-pock, have been also very generally acknow-

ledged. Out of the great number inoculated, there is but one solitary case where the disease is said to have proved fatal, and I think it appears very doubtful, whether death, in this instance, was occasioned by the cow-pock.

But the appearance of variolous eruptions after the vaccine inoculation, which occurred principally in Dr. Woodville's practice, tended very much to diminish the public confidence in the new discovery. As such eruptions had not appeared in the practice of Dr. Jenner, he very naturally inferred that they were produced by the accidental use of lancets infected with the small-pox. But in his last reports, Dr. Woodville denies that these appearances could be justly attributed to this cause, as he had been careful always to use lancets solely appropriated to the vaccine inoculation. Are we then to attribute the variolous pustules to the cow-pock matter with which the patients were inoculated? Dr. Woodville will not admit this conclusion, and clears up the difficulty in the following satisfactory manner.

Most of his cow-pock patients were inoculated at the small-pox hospital, where, from the number of patients in the small-pox, constantly in the house, the atmosphere must necessarily be loaded with the contagion of this disease. Hence the patients received the variolous contagion at the same time with the cow-pock,

pock, and the variolous pustules became more widely extended, by incautiously inoculating with matter taken from those who had the disease under this form. That such eruptions could not be derived from the cow-pock, is obvious, as they were principally confined to the Metropolis, no similar instances having occurred in the practice of Dr. Jenner, or any other country practitioner, that of Mr. Evans, of Ketley, in Shropshire, excepted. “ This gentleman
 “ gives an account of the variolous and vaccine
 “ inoculation, carried on separately on different
 “ persons, at the same time, and in the same house,
 “ so that several of his patients, while under the vac-
 “ cine infection, were exposed to the variolous efflu-
 “ via. The number of those he inoculated for the
 “ cow-pock, was sixty-eight; and, it is worthy of
 “ remark, that more than half of these had pustules.”*

From a consideration of these facts, and perceiving that no such eruptions happened in his private practice which is extensive, Dr. Woodville concludes, that wherever variolous pustules appeared, they were caused by variolous contagion. The precautions which have been lately observed in avoiding the small-pox contagion, and in taking vaccine matter only from persons in the genuine disease,

* Observations on the cow-pock, by Wm. Woodville, M. D.

disease, have banished those sinister appearances from the Metropolis, and hence one very principal objection to the *Jennerian* inoculation has been removed.

I must remark, that the only instance in which the cow-pock is supposed to have proved mortal, happened in Dr. Woodville's practice, and that convulsions were the immediate cause of the fatal event. Now as there is no other recorded example where convulsions have taken place after the inoculation with cow-pock matter, were they not excited in this instance by the action of variolous infection, till then latent in the system? The affirmative of this question seems to be supported by the view which I have taken of Dr. Woodville's practice.

INOCULATION OF COW-POCK,

IN

CORK AND ITS NEIGHBOURHOOD.

The progress of vaccine inoculation in this city may be worth relating, as furnishing evidence of its efficacy upon the spot. The vaccine matter which

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I first used was sent me on a silk thread, enclosed in a letter from Dr. Bradley of London. On the 6th of June, eight days after the infection had been taken in London, I inoculated six children, by raising the skin with a lancet, and inserting a bit of the silk, which I then secured with a little sticking plaster. In three of the children the inoculation succeeded, from whence I procured an abundance of the infection, with which I inoculated a number of children in this city, and its neighbourhood. Not long after I had commenced inoculating with the matter sent to me by Dr. Bradley, I received a second thread from Dr. Pearson, the respectable physician to the newly established institution for inoculating the cow-pock in London; with this thread Dr. Sugrue inoculated several children at the north end of the town, and it is through his means that the infection was at this time preserved, as, from being much engaged in the country, I had suffered my stock to be exhausted, and was compelled to have recourse to Dr. Sugrue for a fresh supply.

The whole of these I have inoculated since the 6th of June amount to above two hundred and seventy, and in addition to this number, Dr. Sugrue tells me he has inoculated sixty. The experience which I have derived from these cases fully confirms the report, which had been made of the cow-pock by Dr. Jenner, and the other gentlemen, who have since followed

lowed him in establishing, by more extensive experience, the truth of his discovery. Indeed the mildness of the distemper exceeded my most sanguine expectations. Not above three or four of the children had eruptions on the body, which quickly disappeared without suppurating. The constitutional fever was remarkably mild. In some instances the indisposition from it was so slight, as almost to elude observation. In others no indisposition whatsoever could be observed, which indicated the constitutional affection. A very few had sore arms, which, in general, arose from the pressure of clothes, and were more frequent after inoculation with a thread than in the usual way, probably from the largeness of the incision, when performed in the former method.

The inoculated cow-pock is never attended with the violent symptoms, which affect those who take the disease naturally, and the infection is even said to become milder in proportion to the number of people who have been successively inoculated with it, and the more distant the period at which it was originally taken from the cow.

On the second or third day after inoculation, a small swelling may be felt under the finger at the punctured part, which is gradually elevated into a pimple. On the top of this pimple a white spot appears on the fourth or fifth day, which about the seventh

venth or eighth day is expanded in the form of a small flat vesicle, of a very faint blue colour, and filled with a limpid fluid. The edges of this vesicle are smooth and regular, more elevated than the centre, which is marked by a dark spot. In the greater number of instances the constitutional fever did not take place 'till the eighth day, but it sometimes happened as early as the fifth. The symptoms which usually accompany the constitutional fever are slight sickness at stomach, increased thirst, and quick pulse. In addition to these symptoms, a few were attacked with headache, vomiting, and diarrhœa. The febrile symptoms seldom continued longer than twenty-four hours, except in two or three children breeding teeth, who, from the additional irritation, were feverish for three or four days. On the ninth, tenth, and eleventh day the pustule assumes a darker hue, becoming more like the small-pox, until it terminates in a dark scab, for the most part completely circular. Such is the usual progress of the symptoms in the inoculated cow-pock. Sometimes, however, the vesicle at the arm is later in forming, in consequence of which the constitutional fever is also deferred. I am certain if irritation be avoided the inflammation at the arm will seldom require the formality of medicated applications. When such are thought necessary a fold of linen wet with a weak solution of sugar of lead, or vinegar and water will be found sufficient.

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The peculiar efflorescence which surrounds the cow-pock pustule seldom appears before the 9th day, occupying a space somewhat larger than a crown piece. I am disposed to consider this symptom as an evidence that the constitution has been affected, as I have never seen it occur previous to the period at which the specific fever usually happens. The vivid redness, which characterizes this symptom has occasioned considerable uneasiness in many who had no previous opportunities of observing the disease. It is, however, attended with no ill consequences, and is often dissipated merely by taking infection from the arm.

There is some difficulty in communicating the cow-pock by inoculation, particularly if the infection be not well preserved. Lancets are very soon rusted by the virus, and hence become unfit for retaining the infection. A method which seldom fails is to inoculate with fluid matter directly from the arm of an infected person. The matter is in the best state for inoculation from the sixth to the tenth day. This is an object well worthy of attention, as on the decline of the pustule at the arm the secretion does not differ from the matter of a common ulcer. By the use of such matter a considerable inflammation is sometimes excited at the arm, accompanied with feverish symptoms, resembling those produced by genuine vaccine matter.

matter. In this predicament attention to the characteristic marks of the true cow-pock can alone prevent very fatal mistakes. A child of Mr. Haynes's, apothecary, of this city, was inoculated with matter taken on the eleventh day; the arm became inflamed, the inflammation spread, and on the seventh day she exhibited strong marks of constitutional disturbance, as, quick pulse, increased heat, and vomiting. The inflammation terminated in a large irregular scab. A second inoculation was followed by nearly similar symptoms, but the constitution was less affected, and the scab, though by no means resembling that which follows the cow-pock, was smoother at the edges. It is remarkable that I could not collect as much fluid matter as would serve to inoculate one person at any period after either of these inoculations. The child has been since inoculated a third time, and at length shewed the true cow-pock on the arm, but with very slight marks of indisposition.

I had satisfied myself by actual observation of the superior mildness and efficacy of the cow-pock, but I had not yet ascertained, by my own experience, a point of no less importance: and I confess, notwithstanding my entire faith in the ample and respectable testimony advanced in favour of the antivariolous power of the cow-pock, that I entered on this part of my task, not without apprehension. I made

use of fresh variolous infection, taking care to make the incision deeper than is customary. In most of the cases there was an interval of from one to two months, between the period when the vaccine disease was completely passed, and that of the inoculation for the small-pox. In one case only a variolous pustule was formed on the arm, so early as the seventh day, which was not followed by the least constitutional disturbance or eruption. In the remaining cases the punctures appeared for two or three days more than usually inflamed, and then suddenly declined, without any further effect.

CASES OF PERSONS

INOCULATED WITH VARIOLOUS MATTER,

WITHOUT EFFECT,

AFTER HAVING HAD THE COW-POCK.

1. R. Radcliffe, aged 2 years, } sons of Mr. Rad-
2. J. Radcliffe, aged 2 months, } cliffe, Henry-St.
3. ——— Supple, aged 2 years, daughter of Mr. Sup-
ple, Fishamble-Lane;
4. Ann Notter, aged 5 months, daughter of Mr.
Notter, St. Patrick's-Street;
5. Peter

5. Peter Reardon, aged 1 year and an half, son of Mr. Reardon, St. Patrick's-Street ;
6. *William Kennedy*, aged 19 years, servant to the Rev. Giles Lee ;
7. *A Negro Girl*, aged 18 years, servant to Mr. Smith, Nile-Street ;
8. *A Boy*, 3 years of age, living with ditto ;
9. — *Cowen*, aged 4 months, daughter of Mr. Cowen, Attorney ;
10. — *Broughton*, aged 2 years, son to Mr. Broughton, Nile-Street ;
11. Ellen Barry, aged 2 years, daughter to Mr. Barry, Mallow-Lane ;
12. Judith Herrick, aged 6 months, daughter to Mr. Herrick, Currahaly ;
13. William Gregg, aged 2 years, son to Mr. Gregg, Attorney ;
14. M. Champion, aged 6 months, daughter of Mr. Champion, Dromore.

Dr. Sugrue, inoculated two children, of Mr. Montjoy's, Kyrl's-Quay, who had passed through the vaccine disease last June, with fresh small-pox matter, together with another child, who never had the cow-pock. The latter passed through the stages of the small-pox regularly; in the former the punctures remained inflamed for three or four days and then healed up. He also inoculated two children of Mr. Hayes's, North Main-Street, after having had the vaccine disease, with fresh variolous matter.

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The punctures inflamed early, and continued so for several days, but no small-pox pustule was formed. In three more whom Dr. Sugrue inoculated, and five whom I inoculated, with variolous matter, the event was similar.

We should have extended our trials to a greater number; but from some superstitious notions, the lower classes were unwilling to allow their children to be inoculated a second time. From the care which was taken to use fresh infection, and to avoid any fallacy in this important part of the inquiry, the number will, however, probably appear sufficient, particularly to such as are acquainted with the extent of the trials made in England, mentioned in the early part of this work. The five marked in *Italics* shewed no symptom whatsoever of constitutional fever, and if I had not early learned to place considerable reliance on the progress of the appearances at the arm, I should scarcely have ventured to inoculate them with the small-pox. Indeed if I were allowed to conjecture upon a fact not fully ascertained, I should be led to think that the arm can alone furnish decided proofs of that change in the constitution, which is to destroy the susceptibility to the variolous action. Fever is so frequently excited in children from the slightest causes, that it must be a very imperfect criterion, and as the constitutional change has been effected without any obvious symptoms of fever, though never without the characteristic local marks of cow-pock, the latter will probably hereafter claim all our attention.

COMPARATIVE VIEW

OF THE EFFECTS OF THE COW-POCK AND SMALL-POX.

The facts I have stated are sufficient to shew the manifest superiority which the cow-pock must possess in practice over the small-pox. It has, however, other advantages, which will appear in a comparison of the two diseases, both in their immediate and remote effects.

But I must previously notice a peculiarity attributed to the vaccine disease, by Dr. Jenner, which, if established, would destroy all analogy between it and other specific eruptions. He asserts that the cow-pock may be repeatedly taken by the same person. In the infancy of this discovery, it is not wonderful that imperfect conclusions should be formed, with respect to some of the effects of a disease which *he* had first observed with the eye of an experienced physician. In one of his late publications, Dr. Jenner expresses himself less positively on the subject; more recent experience seems to have decided, that though the eruption may occur, the constitutional fever of the cow-pock never takes place more than once. It is a matter of common observation, that a nurse who has had the small-pox, will, notwithstanding, have a number of specks on her breasts and arms,
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from suckling a child in the disease, which wither without occasioning any constitutional affection. The vaccine infection operates in like manner, and thus, what appeared a peculiarity which could not be reconciled with the known laws of specific infections, seems now, when better understood, to shew a perfect analogy between the small-pox and the cow-pock.

Another opinion of Dr. Jenner's was received with very general scepticism, viz. that the cow-pock may be communicated both locally and generally to a person who had previously experienced the small-pox. Dr. Jenner relates the case of a boy, the numerous pitted on whose face seemed to leave no room to doubt of his having had the small-pox very severely, who took the cow-pock from inoculation, and had the constitutional fever at the usual period. In whatever manner this case may be explained, subsequent experiments tend to prove, that when the vaccine eruption occurs after the small-pox, the system is not affected.

To obtain a determination, with respect to this important question of fact, Dr. Pearson instituted experiments. Ten persons who had long since passed through the small-pox, of which Dr. Pearson himself was one, were inoculated with fresh vaccine infection. The effect on each was merely slight local inflammation at the arm, which soon withered without affecting

fecting the constitution.* Dr. Richard Walsh of this city, who very early took a decided part in favour of the new inoculation, and has been lately actively engaged in it, inoculated two of his children, who formerly had the small-pox, with fresh vaccine infection; on the second day the punctures were very much inflamed, the inflammation was much less on the third day, and completely subsided on the fourth.

If the small-pox thus renders the system unsusceptible of the action of the vaccine poison, the inoculation of the cow-pock may be resorted to as a criterion to ascertain in doubtful instances, whether the constitution had undergone the variolous action or not.† As many persons to whom the inoculated small-pox could not be communicated, though they were repeatedly inoculated, have perished afterwards of the natural small-pox, such a test must be invaluable to those, who are in a state of uncertainty on this head. Mrs. Walsh, wife of the gentleman above-mentioned, had been fourteen times inoculated for the small-pox but without effect. Dr. Walsh, who was apprehensive that she was still liable to take the small-pox, and had frequently enjoined her to avoid

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* See Medical and Physical Journal, vol. 2, p. 219, and Medical Annals, vol. 4. p. 223.

† See Dr. Pearson's letter, Medical and Physical Journal, vol. 2.

the contagion, was not a little rejoiced that he had now the means in his power of securing her for ever from all danger of this formidable disease; he inoculated her for the cow-pock. The progress of the punctures on both arms were exactly similar to what usually takes place. The vesicles were formed regularly and on the seventh day she experienced some sickness at stomach, attended, as she informed me, with an unusual general sensation which she could not describe. These symptoms did not long continue, and were next day succeeded by the bright redness around the pustules, which I consider as a sign that the constitution was affected. As this lady shewed such evident symptoms of the constitutional fever, it is very probable that in spite of all the caution in her power she might at some future period have taken the small-pox.

If at length more extensive experience decide that a person is not susceptible more than once of the cow-pock virus, and if it be also determined that a person who has undergone the small-pox is thus rendered unsusceptible of the constitutional action of the cow-pock, the cow-pock may turn out to be merely a mild modification of the small-pox.

Comparative

Comparative danger of the two Distempers.

In ordinary Cases: According to the most accurate computations, the proportion of deaths from the inoculated small-pox amounts to one in two hundred, in the middling and upper classes of society. This agrees with the report of Physicians of the greatest eminence in England, as well as the most respectable of the profession in this city. But to whatever cause it may be attributed the mortality among the poor is not so great, the proportion of poor children who die of the inoculated small-pox being not above one in five hundred.

Since the commencement of the vaccine inoculation at least twenty thousand have been inoculated, one of whom it is supposed died of the disease. I have already stated my reasons for doubting that the fatal termination of this case can, with justice, be referred to the cow-pock. But to avoid disputation, let us admit that the vaccine virus was the cause of so unexpected and uncommon a termination as the convulsions which proved fatal in this case: still the danger from the cow-pock may be considered as so trifling, as to destroy all apprehensions for the lives of those inoculated with it.

In Pregnancy: The almost absolute certainty with which abortion follows the small-pox, and the con-

frequent danger to life, have deterred practitioners from inoculating pregnant women. But even in the advanced stages of pregnancy women have been inoculated for the cow-pock with perfect safety to themselves and their offspring. Of this I had myself one example: A woman six months gone with child, having the small-pox raging in the neighbourhood, as she had recent instances of its mortality in her own family, applied to me to be inoculated with the cow-pock; she took the infection, and passed through the disease without any accident, the symptoms proving as mild as possible.

In teething and other indispositions of Children: The vaccine fever continued longer in children who were breeding teeth, but without any other mark of increased violence, nor was this uniformly the case with all these I inoculated in this state. Three children who had those marks of gradual decay, which get the name of *Atrophy*, had the disease mildly, but it produced no alteration in their constitutions. I inoculated one, who was very ricketty, and has since recovered the use of his limbs. Several had eruptions on their bodies; others were rendered weak by previous disease, but all had the cow-pock with its usual mildness. Such instances would lead one to think that there is no state of exhaustion or debility,
to

to which the system may be reduced, which should preclude the inoculation of the cow-pock, where it seemed necessary to prevent the invasion of the small-pox.

In advanced life: I inoculated a man, 57 years of age, his wife aged 40, and a neighbour aged 45, all of whom had the disease very mildly.

Differences in their subsequent effects: The frequent occurrence of the *Scrophula*, or Evil, after the small-pox has given rise to a well-known popular prejudice, that the poison of the scrophula has been communicated with that of the small-pox, from one family to another. Whatever reason there may be to doubt this opinion, from a consideration of the laws of the animal economy, yet, its being so very general, proves the frequent appearance of the scrophula, after the small-pox, where no pre-disposition to it had before existed. From an observation of this fact, and historical reference to the period when scrophula was first known in Europe, it has been suspected that this disease was primarily occasioned, and is still continued by the small-pox.

It is not the least valuable characteristic of the cow-pock, that no scrophulous swellings of the glands of
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the neck, or other scrophulous affection, has been known to follow it in any of the numerous persons hitherto inoculated. With what additional pleasure we shall contemplate this discovery, if, by the more general extension of the vaccine inoculation, we shall, with the small-pox, exterminate another loathsome distemper, in its ultimate effects no less fatal, and from its supposed hereditary nature, infinitely more dreaded than the small-pox.

As eruptions seldom occur after the cow-pock, and when they do occur quickly disappear without suppurating; there are no marks from it, except on the inoculated arm. If this advantage be little estimated for its influence on health, yet it is of considerable importance to beauty. Undoubtedly inoculation has much diminished the number of those who are horribly seamed by the small-pox; yet, even in this point, inoculation of the small-pox has, probably, been over-valued; for it has been with justice remarked, that when the small-pox fails to leave such deep marks of virulence as totally to change the features and expression of the countenance, yet, in a milder form, it frequently alters the delicate texture of the skin, and banishes the rosy hue with which nature adorns her favourites.

The Cow-pock is not infectious.

Of this important fact I had some strong proofs last summer. In the month of august last, I inoculated fifty children with vaccine matter, which had been a few days taken; whether the extreme heat of the weather had diminished the activity of the virus, or that I was not yet sufficiently careful in the inoculation, out of the fifty inoculated not above twenty shewed the disease at the usual time: thinking this a fair opportunity of determining whether the cow-pock were infectious, I suffered the infected children to sleep as usual with the uninfected; the event justified the opinion I had formed, as not one of these children caught the distemper. I soon after inoculated them a second time with fresh infection, from which they took the cow-pock, and went through it with the usual symptoms.

But there have been still more decided proofs of the uninfectious nature of the cow-pock. Children who had not yet passed through the small-pox have been made to breathe over the pustule at the arm, previously broken for the purpose, without effect. The skin has been also rubbed with recent vaccine matter with similar* event, so that the conclusion is

irresistable,

* See Dr. Jenner's further observations, &c. and Rev. Mr. Kenney's communication, page 10, of this work.

irresistable, that the cow-pock cannot be communicated without abrasion of the external skin, or inoculation. Hence where there may be objections to a more general inoculation, one child in a family may be inoculated without danger of infecting the rest.

The cow-pock differs from the small-pox in the earlier accession of the specific fever.

It has been ascertained by accurate observation, that the eruptive fever of small-pox commences exactly fourteen days after exposure to its contagion;* but the vaccine fever generally begins on the seventh or eighth day, and sometimes as early as the fifth or sixth day after inoculation. Hence the dangerous effects of the natural small-pox may be anticipated by inoculating for the cow-pock, even several days after exposure to variolous contagion.

While I was on this subject an instance happened in which, from not being applied to in time, Doctor Bullen failed to anticipate the small-pox, by inoculating for the cow-pock. Dr. Bullen finding this case much misrepresented, was good enough to furnish me with the following statement of it, which will, I hope, remove every doubt which may have been occasioned, either by a partial knowledge of the facts, or ignorance of the real nature of the distemper:

“ The

* Darwin's Zoonomia, vol. 2.

“ The particular circumstances attending the case
 “ of Mr. Blackledge’s child, which have been so
 “ much misrepresented, are explicable in few words.
 “ This infant, aged about eight months, slept in the
 “ room adjoining that in which I attended a boy,
 “ upwards of five years old, labouring under severe
 “ confluent small-pox, which ran the ordinary course,
 “ and he was in a state of convalescence, before any
 “ application was made to me to guard against the
 “ consequence of such exposure by inoculation.—
 “ October 19, I inoculated the child, together with
 “ many others, with fresh vaccine matter, taken from
 “ the arm of a child in the neighbourhood; the usual
 “ appearances took place, and on the Wednesday
 “ following (22nd. October) a severe fever with vo-
 “ miting, and a coldness of the feet supervened,
 “ which was succeeded next day by a copious erup-
 “ tion of small-pox of the confluent kind. The
 “ progress of the local inflammation of the inoculated
 “ part seemed in no respect affected by the general
 “ fever. At the end of the seventh day it was such as
 “ was observable on the arms of the other children
 “ inoculated at the same time, (among whom were
 “ Master J. Connor, son of Mr. Connor, Chatterton’s
 “ Buildings, Miss Parks, daughter of Mr. Parks,
 “ Limner, and my daughter Catherine) this child
 “ lived till the 5th of November. This case cannot
 “ be considered as militating in any respect against
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“ the new inoculation, as the *small-pox* took place
 “ so soon after the *cow-pock* inoculation, that the
 “ *general or constitutional* effect of the latter on the
 “ system, could not possibly have taken place, and
 “ consequently it could not have afforded the child
 “ the smallest security.”

Dr. Bullen farther observes, that the quantity of variolous eruption was so great, after the seventh day, as totally to obliterate the characteristic appearances of the cow-pock on the arms.

To determine, experimentally, whether the inoculated cow-pock, or small-pox, would sooner affect the constitution, Dr. Sugrue inoculated two children on the same day with *small-pox* matter in one arm, and with *vaccine* in the other. Both punctures inflamed, and the *cow-pock* pustule was regularly formed on each. In one of them, after the sixth day, the period at which the vaccine fever often occurs, the *small-pox* puncture began to wither, but did not entirely disappear until the tenth day. In the other, a pustule was formed in the place where the puncture was made with small-pox matter; but it did not resemble the genuine small-pox pustule, nor did it seem in the least to affect the system.

OBJECTIONS

OBJECTIONS ANSWERED.

HAVING proved the advantages which the vaccine inoculation possesses over the variolous, in being less dangerous to life, infinitely milder, not infectious, and what is of considerable importance, never the source of scrophula, or any other unfavourable effect on the constitution: It remains that I should answer some objections which have been urged against its introduction into practice.

Persons who have had the Cow-pock, are said to have afterwards taken the Small-pox.

If this objection were well-founded, it is evident that it would overturn the whole fabric, which it has cost so much labour and ingenuity to raise. But let us consider the matter with attention and our doubts must disappear. The evidence that the cow-pock completely destroys the susceptibility to the small-pox, is as respectable as was ever adduced in support of any discovery in physical science. A number of professional men,* whose minds have been long habitua-

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* See Appendix.

ted to inquiry, who are infinitely above the temptation of deceiving others, as they are themselves incapable of being deceived, have pledged their reputations on the truth of this fact. The farmers in England and Ireland, wherever the cow-pock has been known to prevail, unite in their testimony to the same effect. Can the peasantry in different counties of England, and in the south of Ireland, who have little intercourse with each other, have all entered into a combination with the faculty to impose upon mankind? Or, if this were possible, could the people, of all ranks, whose children have been inoculated with the cow-pock, suffer themselves to be universally the dupes of such a combination? Since the publication of Dr. Jenner's book, in the year 1798, no person has, however, attempted to caution the public against the deceit, while numbers could not contain the warmest expressions of their gratitude, and their satisfaction of the truth of the discovery.

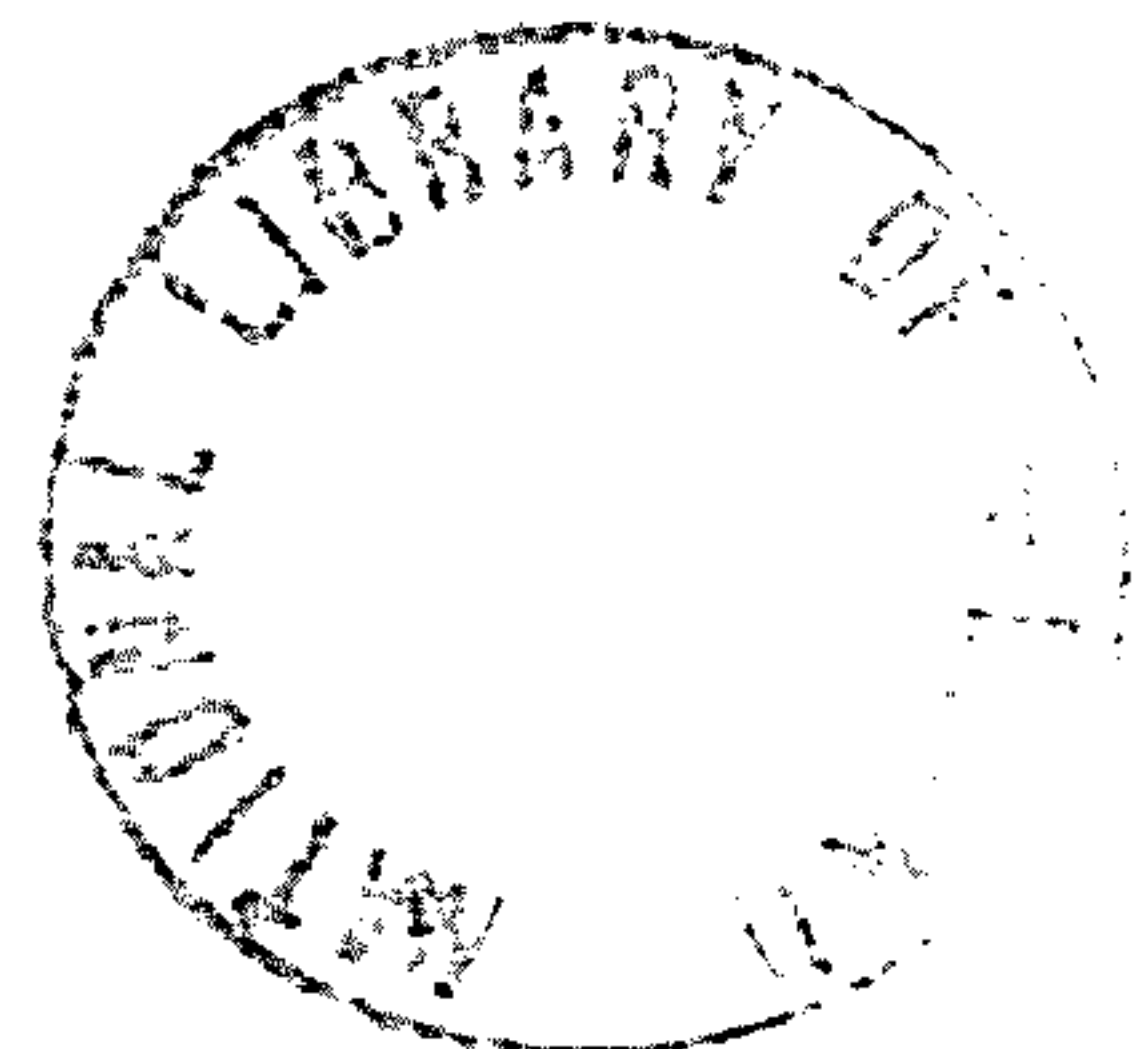
I am aware that a case has been published,* and another has been mentioned to me in conversation, in which the natural cow-pock failed of securing the constitution from the small-pox; but it is well known that cows are subject to other eruptions, which may be taken from them in the same manner as the cow-pock

* Page 470, West of England Contributions. The cases mentioned by Mr. Cooke, p. 392, of the same work, exactly answer the description given by Dr. Jenner, of the spurious cow-pock.

pock. From the description Dr. Jenner gives of one of these eruptions, it bears as close a resemblance to the genuine cow-pock, as the chicken-pock has to the small-pox. Hence I should rather distrust the discriminating power of men, not particularly interested in solving a question, which, though important at present, could not then have very forcibly arrested their attention, than conclude that the cow-pock could have failed in what has been since ascertained by a great mass of evidence* to be one of its most invariable qualities. Such reasoning cannot be considered over-strained, when even professional men have been mistaken in their early observations of the cow-pock, which, like other disorders, in order to be well known, requires to be repeatedly seen. Indeed, wherever its power of procuring exemption from the small-pox has been doubted, I am so certain that it must arise either from ignorance of, or inattention to the local symptoms, that I defy any two physicians, who have each observed twenty cases of the cow-pock attentively, to have a difference of opinion on the subject. It is evident from the example of Mr. Haynes's child,† that severe local inflammation, followed

* Dr. Woodville alone has inoculated one thousand persons, who previously had the cow-pock, with variolous infection, without communicating the small-pox to one of them.

† See page 19. See also Medical and Physical Journal, vol. 4, p. 2, for a similar fact, being the case of one of Lord Derby's children, in a letter from his lordship to Dr. Denman.



lowed by smart general fever, may be occasioned in children by inoculating with imperfect matter. Hence a want of efficacy may be attributed to the cow-pock, which, in fact, belongs to a common ulcer. As other facts of a similar nature have occurred, I conceive it a sacred duty, which a physician owes to society, as well as to his own character, not to decide too hastily; but to wait 'till farther observation shall either confirm or destroy his suspicions; before he uses the authority of his name to retard the influence of a discovery which promises such incalculable benefits to mankind. And here I cannot withhold my tribute of applause from these gentlemen, who, perhaps, surpris'd by the novelty of the facts stated by Dr. Jenner, or misled by the imperfect nature of their early trials, at first oppos'd the new inoculation; but on acquiring a more perfect knowledge of the subject, atoned for the temporary evil occasioned by their opposition, by a public recantation of their former error.

But if it is even granted that, in a few instances, the cow-pock may have failed of producing its usual effect on the constitution, it is not less certain that the natural small-pox has been sometimes taken after the inoculated small-pox. The following instance, of this nature I relate on the respectable authority of Doctor Callanan: he inoculated two children with variolous matter; the arms of both became inflamed, and suppurated at the usual time; one of them had
a copious

a copious eruption on different parts of the body, while the other had only a few pustules, which Dr. Callanan thought sufficient, particularly as he had lain with the other during his entire illness. In a year after, however, this child was brought to Dr. Callanan, with a fine distinct natural small-pox. Now, I ask, would any one in his senses decline availing himself of the inoculation of the small-pox, upon hearing of a case of this kind? And if the inoculated small-pox possesses such advantages, as to induce mankind to overlook such objections, can they be reasonably opposed to the inoculation of the cow-pock, which is considered, by high authority, to be as much milder than the inoculated small-pox, as the latter is unquestionably milder than the natural small-pox?*

But, it may be said, we are satisfied that the cow-pock affords a temporary protection against the small-pox; but, granting that it may render the body unsusceptible of this disease for a month, or a year, may not its influence cease at some future period? And, are not people inoculated with the cow-pock doubly exposed to danger, from the confidence and security with which they are inspired? If the cow-pock were known only since the æra of its inoculation by Dr. Jenner, such reasoning may occasion

* Doctor Woodville.

hesitation in timid minds ; but, fortunately, there is a number of cases recorded of persons who have had the cow-pock from thirty to above fifty years ago, who have since been frequently inoculated, or exposed at different times to the effluvia of small-pox, and have nevertheless escaped this distemper. There are seven cases of this nature mentioned by Dr. Jenner, in one of whom the interval between the time of infection of cow-pock, and inoculation of small-pox, was fifty-three years : and five by Mr. Fermor. In addition to the cases given in the beginning of this work, in confirmation that the antivariolous power of the cow-pock, is not *fugitive*, but *permanent*, I beg leave to insert the following :

C A S E XIV.

OF THE NATURAL COW-POCK.

Johanna Sullivan, aged 50, (cook-maid at Doctor Richard Walsh's of this city) when she was 13 years of age, was brought with a number of other children to a dairy, for the purpose of being infected with a disorder of cows, called the Shinach, which, by the general belief of the neighbours, would secure for ever such as took it from the small-pox. She and the other children were made to squeeze the cows' teats 'till their hands and fingers were covered with the fluid
matter

matter of the disorder. She recollects that a number of the children did not take the disease; she, however, had one pimple on her hand, which inflamed and suppurated. When she was twenty years of age she was twice inoculated by Mr. Godwin, an apothecary at Bantry, without effect; but on hearing from her mother that she had the disease above-mentioned, he declined inoculating her a third time, alleging that there was not the smallest danger of her ever taking the small-pox, as he could aver from experience. She has since resided in Cork, where she was frequently exposed to small-pox, particularly about eleven years ago, when the grand-children of the late Mr. Attiwell Hayes, with whom she then resided, were inoculated. In order, as she said, *to be sure of herself*, she lay with the children four nights in the height of the eruption, but did not take the disease.

The following cases were contained in a letter from a near relative of the family, and deserve particular attention from the respectable nature of the evidence. As I cannot well separate the cases, from the other interesting information on the same subject, I prefer publishing the whole together:

CASES XV. & XVI.

— “ It is forty years since my mother (Mrs. Cotter) had the cow-pock. She recollects having had

two pimples on one hand, which were much inflamed, and afterwards went on to suppuration. She was inoculated 16 years ago, and since exposed to the infection of small-pox in various ways, without taking it, which has been attributed to her having had the cow-pock, universally known among our farmers by the name of Shinach. I was last night speaking to my grandmother (Mrs. M'Carthy) on the subject. She had the cow-pock fifty years ago. Her account agrees with my mother's. She had the eruption on one hand, and, she says, she never in her life experienced so much pain as while the inflammation lasted. She has never been inoculated, but was very often exposed to the small-pox without taking it. At the time she had the disease, there was scarcely a spring that the cows were not affected with it; and it was so universally believed that those who took it were ever after exempted from the small-pox, that people exposed themselves as much as possible to it. My grandmother, who is above eighty years old, says, that the same opinion always prevailed in this country."

Having, as I conceive, fully answered the most weighty objections to the inoculation of the cow-pock, I should decline noticing others which are chiefly verbal, were I not convinced that words have often a powerful effect upon the mind, even when they are used without any definite meaning. Thus the cow-pock has been called a bestial humour, and in one sense

sense the expression is appropriate: but the opponents of the new inoculation must have thought very meanly of the public intellect, to suppose that this word, repeated with peculiar emphasis, would have sufficient magic to impede the beneficial effects, of a discovery, so strongly marked with characters of truth.

But it has been insinuated that this bestial humour may occasion some morbid change in the human constitution, for which, the power which it possesses of destroying the susceptibility to the small-pox, can but ill compensate. But this is evidently a gratuitous supposition, which will deserve refutation when it is supported by facts. From the comparative view which I have taken of the two distempers, it appears that the small-pox is not only a much feverer disease, but, that its agency on the constitution, causes other distempers which are ultimately as fatal in their effects, and infinitely more destructive to human happiness.

A parent, whom I advised to have his child inoculated with the cow-pock, asked, why should I try experiments on my child? Give me the good old small-pox, with which all my family have been heretofore inoculated, and reserve this new pock for those who relish novelties! But, “an experiment is something done to discover an uncertain or unknown effect, and when used on the human system, generally

implies some risque. In this sense the inoculation for the cow-pock cannot now be properly called an experiment, as its power of securing the constitution from the small-pox, as well as its being totally destitute of danger, has been already proved in several thousand instances; but, long as the inoculation of small-pox has been practiced, it is still more deserving of the name of an experiment, as you expose your child to a certain immediate danger to avoid a future one. With respect to another part of your argument, I cannot perceive the wisdom of adhering to a noxious practice, merely, because it is old." This reasoning was sufficient to convince my friend, who, making allowance for his attachment to old customs, was, in other respects, a man of sense.

In the short period which has passed since I began this work, I find that the vaccine inoculation has gained a great accession of profelytes among the faculty in this city; and, that the disease has preserved its mild character in above two hundred cases, besides those enumerated in this work. I wish to make the disposition of my medical brethren known, that it may induce some of the numerous public spirited gentlemen of this city, to form an institution for inoculating the poor with cow-pock. In this period of scarcity, it would be a most desirable object to check the progress of a malady, which, from its more than usual fatality among the poor, adds considerably to the

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the miseries of their situation. By promoting a general inoculation of the cow-pock in this city, and the neighbouring towns, the small-pox would be utterly exterminated from this part of Ireland: the example would spread, 'till the whole kingdom would be freed from one of its most dreadful scourges. An institution for this purpose may be formed at little expence, by annexing it to the Dispensary, as has been actually done at York.

If my readers agree with me, as to the influence of Dr. Jenner's discovery on human happiness, they must feel the most lively gratitude to its author: my feeble praise could add little to the lustre of a name, which will be pronounced with veneration by the most distant nations, and by the remotest posterity: for as the advantages of his discovery cannot be confined within the limits of any age or country; he is destined to enjoy that enviable species of immortality, which belongs exclusively to the great benefactors of mankind.

F I N I S.



A P P E N D I X.

*Declaration of the London Physicians, and Surgeons,
in favour of the Cow-pock.*

MANY unfounded reports having been circulated, which have a tendency to prejudice the minds of the public against the inoculation of the cow-pock; we, the undersigned Physicians and Surgeons, think it our duty to declare our opinion, that those persons who have had the cow-pock, are perfectly secure from the infection of the small-pox, provided such infection does not exist in the system at the time of the inoculation for the cow-pock.

We also declare, that the inoculated cow-pock, is a much milder and safer disease than the inoculated small-pox.

William Saunders, M. D.

Matthew Baillie, M. D.

Henry Vaughan, M. D.

Maxwell Garthshore, M. D.

John Coakley Lettsom, M. D.

James Sims, M. D.

John Sims, M. D.

William Lister, M. D.

Robert Willan, M. D.

C. Stranger, M. D.

Alexander

Alexander Crichton, M. D.	Samuel Chilver.
Thomas Bradley, M. D.	J. M. Good.
Thomas Denman, M. D.	James Horsford.
John Squire, M. D.	Francis Knight.
Richard Croft, M. D.	James Leighton.
Robert Batty, M. D.	James Moore.
R. J. Thornton, M. D.	Thomas Paytherus.
Richard Dennison, M. D.	Thomas Pole.
Henry Cline.	J. W. Phipps.
Edward Ford.	John Ring.
Astley Cooper.	James Simpson.
John Abernethy.	H. L. Thomas.
Joseph Hurlock.	Jonathan Wathen.
William Blair.	Thomas Whateley.



Barry, John Milner. An account of the nature and effects of the cow-pock, illustrated with cases and communications on the subject; Addressed principally to parents, with a view to promote the extirpation of the small-pox. By John Milner Barry, M.D. Printed by M. Harris, Castle-Street, 1800. Eighteenth Century Collections Online, link.gale.com/apps/doc/CB0126532697/GDCS?u=crepuq_mcgill&sid=GDCS&xid=1ca391b4&pg=1. Accessed 9 Mar. 2021.