

treated according to circumstances, which can only be judged of by the practitioner at the time of their occurrence.

Thus, Gentlemen, have I stated, as impartially as possible, the result of my success with the nitrate of silver, and should be glad to hear if any of your Correspondents, through their course of practice, should meet with a similar result. I forgot to mention, that in the four fortunate cases, the patients have remained for twelve months free from any return of the fits.

I am extremely sorry to find, that in medical investigation a degree of resentment seems amongst disputants to predominate over candor and generosity, the true marks of real professional worth. And in every science where improvement is the aim, we ought invariably to be possessed of zeal without prejudice, and faith without fanaticism. I am, &c.

Garstang, May 20, 1801.

WILLIAM KNIPE.

On the Origin of the Vaccine Inoculation.

THE most important discoveries, when familiarized to the mind, are contemplated with indifference. Who now wonders at the discovery of America, or the circulation of the blood? There is, however, a period between the conception of a discovery and its mature birth, fraught with more pangs than war or women know; and there is no light, in which the human mind can be viewed, more interesting than during this anxious period. Whenever, therefore, the author of any greatly useful invention details the progress of his own mind, during the completion of his plan, the history is perused with avidity. On these grounds, we conclude that our readers will be much gratified by the following narrative.

“ I am induced to give the following concise History of the Origin of Vaccine Inoculation, from my frequently observing that those who only consider the subject cursorily, confound the casual Cow Pox with the Disease when excited by Inoculation.

Bond Street, May 6, 1801.

EDWARD JENNER.

“ My inquiry into the nature of the Cow-pox commenced upwards of twenty-five years ago. My attention to this singular disease was first excited by observing, that among those whom in the country I was frequently called upon to inoculate, many resisted every effort to give them the Small-pox. These patients I found had undergone a disease they called the Cow-pox, contracted by milking Cows affected with a peculiar eruption on their teats. On inquiry, it appeared that it had been

known among the dairies time immemorial, and that a vague opinion prevailed that it was a preventive of the Small Pox. This opinion I found was, comparatively, new among them; for all the older farmers declared they had no such idea in their early days—a circumstance that seemed easily to be accounted for, from my knowing that the common people were very rarely inoculated for the Small-pox, till that practice was rendered general by the improved method introduced by the Suttons: so that the working people in the dairies were seldom put to the test of the preventive powers of the Cow-pox.

“In the course of the investigation of this subject, which, like all others of a complex and intricate nature, presented many difficulties, I found that some of those *who seemed to have undergone the Cow-pox*, nevertheless, on inoculation with the Small-pox, felt its influence just the same as if no disease had been communicated to them from the cow. This occurrence led me to enquire among the medical practitioners in the country around me, who all agreed in this sentiment, that the Cow-pox was not to be relied upon as a certain preventive of the Small-pox. This for a while damped but did not extinguish my ardour; for as I proceeded, I had the satisfaction to learn that the cow was subject to some varieties of spontaneous eruptions upon her teats; that they were all capable of communicating sores to the hands of the milkers; and that whatever sore was derived from the animal, was called in the dairy the Cow-pox. Thus I surmounted a great obstacle, and, in consequence, was led to form a distinction between these diseases, one of which only I have denominated the *true*, the others the *spurious*, Cow-pox, as they possess no specific power over the constitution. This impediment to my progress was not long removed, before another, of far greater magnitude in its appearances, started up. There were not wanting instances to prove, that when the true Cow-pox broke out among the cattle at a dairy, a person who had milked an infected animal, and had thereby apparently gone through the disease in common with others, was liable to receive the Small-pox afterwards. This, like the former obstacle, gave a painful check to my fond and aspiring hopes: but reflecting that the operations of Nature are generally uniform, and that it was not probable the human constitution (having undergone the Cow-pox) should in some instances be perfectly shielded from the Small-pox, and in many others remain unprotected, I resumed my labours with redoubled ardour. The result was fortunate; for I now discovered that the virus of Cow-pox was liable to undergo progressive changes, from the same causes precisely as that of Small-pox; and that when it was applied to the human skin in its degenerated state, it would produce the ulcerative effects in as great a degree as when it was
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not decomposed, and sometimes far greater; but having lost its *specific properties*, it was incapable of producing that change upon the human frame which is requisite to render it unsusceptible of the variolous contagion: so that it became evident a person might milk a cow one day, and having caught the disease, be for ever secure; while another person, milking the same cow the next day, might feel the influence of the virus in such a way, as to produce a sore or sores, and in consequence of this might experience an indisposition to a considerable extent; yet, as has been observed, the specific quality being lost, the constitution would receive no peculiar impression.

“ Here the close analogy between the Virus of Small-pox and of Cow-pox becomes remarkably conspicuous; since the former, when taken from a recent pustule, and immediately used, gives the perfect Small-pox to the person on whom it is inoculated: but when taken in a far advanced stage of the disease, or when (although taken early) previously to its insertion, it be exposed to such agents as, according to the established laws of Nature, cause its decomposition, it can no longer be relied on as effectual. This observation will fully explain the source of those errors which have been committed by many inoculators of the Cow-pox. Conceiving the whole process to be so extremely simple, as not to admit of a mistake, they have been heedless about the state of the Vaccine Virus; and finding it limpid, as part of it will be, even in an advanced stage of the pustule, when the greater portion has been converted into a scab, they have felt an improper confidence, and sometimes mistaken a spurious pustule, which the Vaccine fluid in this state is capable of exciting, for that which possesses the perfect character.

“ During the investigation of the casual Cow-pox, I was struck with the idea that it might be practicable to propagate the disease by inoculation, after the manner of the Small-pox, first from the Cow, and finally from one human being to another. I anxiously waited some time for an opportunity of putting this theory to the test. At length the period arrived. The first experiment was made upon a lad of the name of Phipps, in whose arm a little Vaccine Virus was inserted, taken from the hand of a young woman who had been accidentally infected by a cow. Notwithstanding the resemblance which the pustule, thus excited on the boy's arm, bore to variolous inoculation, yet as the indisposition attending it was barely perceptible, I could scarcely persuade myself the patient was secure from the Small-pox. However, on his being inoculated some months afterwards, it proved that he was secure. This case inspired me with confidence; and as soon as I could again furnish myself with virus from the Cow, I made an arrangement

ment for a series of inoculations, A number of children were inoculated in succession, one from the other; and after several months had elapsed, they were exposed to the infection of the Small-pox; some by inoculation, others by variolous effluvia, and some in both ways; but they all resisted it. The result of these trials gradually led me into a wider field of experiment, which I went over not only with great attention but with painful solicitude. This became universally known through a Treatise published in June 1798. The result of my further experience was also brought forward in subsequent publications in the two succeeding years, 1799 and 1800. The distrust and scepticism which naturally arose in the minds of medical men, on my first announcing so unexpected a discovery, has now nearly disappeared. Many hundreds of them, from actual experience, have given their attestations that the inoculated Cow Pox proves a perfect security against the Small Pox; and I shall probably be within compass if I say, thousands are ready to follow their example; for the scope that this inoculation has now taken is immense. An hundred thousand persons, upon the smallest computation, have been inoculated in these realms. The numbers who have partaken of its benefits throughout Europe, and other parts of the globe, are incalculable; and it now becomes too manifest to admit of controversy, that the annihilation of the Small-pox, the most dreadful scourge of the human species, must be the final result of this practice.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

THROUGH the medium of your interesting Journal, the use of yeast in typhus and putrid fevers has several times been spoken of; could my practice add a mite to the stock of information, the duty I owe to my profession would induce me to exert every ability in my power. If the following cases are worthy of your insertion, they are much at your service.

I was requested to visit Margaret Jackson, aged 42, who had been ill for some time with putrid fever; she was then delirious, her tongue, teeth, and lips were covered with a black fur, and she had also a violent diarrhoea. I thought this a favourable opportunity for trying the yeast: I told the daughter, the time for medicine to be of service was gone by, but if she would attend punctually to my directions, I could lay down a plan that might possibly relieve her mother. The girl, anxious for her mother's recovery, (having left her place of service