

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

I Observe that discussions on the Cow-pox still continue to occupy several pages in each Number of your Journal. Perhaps no subject ever met with so ample an examination within so short a time; and indeed its importance to the welfare of mankind is commensurate to the pains bestowed upon it. The real merits of the discovery, however, seem to lie within a narrow compass, and to rest chiefly on two points: First, whether it be a security against the Small-pox? and, secondly, whether it be a milder disease? If the testimony of medical men in its favour, more general than ever was before published on any one professional subject, can be supposed to determine the former, it must be admitted as proved beyond all controversy; and, with regard to the latter, the result of unambiguous experience is alike convincing. These two points then being as satisfactorily proved as any others in medicine, it is unfair to charge the discovery itself with mistakes which have occurred in conducting the inoculation.

The sources of error in inoculating for the Cow-pox, appear to have arisen from mistaking the proper time for taking the fluid, and by not noting the characteristic progress of the disease on the part inoculated. In my own practice I have observed, that the vesicle contained the largest quantity of fluid on the tenth day, including that of inoculation, and, on the eleventh, that it had nearly disappeared, and what little remained had become inert; at least, when taken in that stage, it has failed with me in exciting the disease, in the several instances in which I have tried it. There is some variety however in the course of the disease, and the ninth day may, in some cases, be more proper for taking it, as, in others, I have found the eleventh and twelfth to be. About a month since I inoculated a boy for the Cow-pox, and till the tenth day I was not certain that he had taken the infection; the changes on the arm were thence very rapid, and no fluid could be discerned in the vesicle on the thirteenth. His two brothers, both younger than himself, were inoculated from the same thread, at the same time, and went through the disease in the usual way.

Much apprehension has been entertained of an extensive inflammation spreading from the inoculated part, and of a consequent ulceration. In my own practice, the inflammation has sometimes been considerable, but it has not furnished me with
a single

a single instance of a troublesome degree of ulceration. In several, where the inflammatory appearances have been threatening, I have thought that they have been aggravated by the tightness of the dress, and accordingly on ordering a loose vest, they have disappeared in due time. But in the worst cases I have yet seen, no other application has been necessary than the *vegeto-mineral water*.

An eruption of pustules was, for some time, a pretty constant attendant on this inoculation; latterly, however, seldom any have appeared on distant parts of the body, and not more in number than three or four; the inflammation on the arm, together with a pustular eruption on that part, and a slight febrile attack, have constituted all the signs of disease. The true character of the Cow-pox had undoubtedly been changed by an intermixture of the variolous and vaccine virus.

Frequent disappointment has arisen from the fluid employed for inoculation having lost its activity; this may be obviated in future, by inoculating immediately from the ripe vesicle; or, where that cannot be complied with, the chance of miscarriage may be lessened by saturating a thread, and keeping it in a well-corked vial till the time of using; for, when taken upon a lancet it soon becomes inert. There is a striking difference in this respect, between variolous matter and the vaccine; which I have been accustomed to explain by supposing that, in the Small-pox, the active particles are so enveloped in pus, as to prevent their sudden exhalation or decomposition; whereas, in the Cow-pox, no suppuration takes place, and the fluid being but little more viscid than water, is soon deprived of its peculiar properties by the specific portion flying off, or by undergoing some chemical alteration.

Though no instance of a violent or unmanageable degree of inflammation or ulceration has occurred to me, the experience of others proves, that both are sometimes very troublesome and alarming. As I cannot write upon this point from my own observation, I should have stopped here; but, reasoning from analogy, I am led to suspect, that in those cases where either one or other of the above symptoms, particularly the former, has taken place in a violent degree, the future security of the patient against the variolous contagion must be rendered somewhat doubtful. The inflammation on the part, and symptoms of general irritation described by writers, resemble those produced by the absorption of putrid matter from a wound, or what are caused by a simple incision in a bad habit of body, and are essentially different from the regular course of the disease. These bear a close analogy to a chancre happening in a bad constitution, and followed by inflammation terminating in

in gangrene, or in an ulcer difficult of cure. How violent soever these symptoms may be, the system not uncommonly escapes contamination by the venereal poison; and therefore I hold it safe, when the inflammatory appearances on the arm greatly exceed the usual limits, that the Vaccine Inoculation should be repeated at a convenient distance of time, to guard against all chance of disappointment. It is only after the changes upon the inoculated arm have been regular and well defined, that a patient can be said to have securely undergone the disease.

On the origin of the Cow-pox, conjecture has been busily employed; but, whether it originate in the horse or in the cow, or by the united influence of both, does not appear to be of much practical importance. The objections derived from the loathsomeness of the origin of it in the horse, would, by parity of reasoning, reject the use of pork and of duck for food, because swine and ducks are foul feeders. It is not the source whence it may be derived, so much as the useful purposes to which it may be applied in its mature state that claim our attention. We should be little solicitous whether mercury were derived from the animal or vegetable instead of the mineral kingdom, whilst we know that it is an antidote to the venereal poison. However, as an object of curiosity, and as opening a new field for physiological inquiry, the suggestion may be submitted again to the test of experiment, the only mode of ascertaining its truth or fallacy. In those experiments which I published on this subject two years ago, every attention of which I am capable was paid to accuracy, and the result was decidedly against that opinion. Lately, the matter of grease has been said to have been employed with success; but surely where the genuine Cow-pox fluid, of any age, had been suffered to come in contact with the ulcerated surface, it must throw an ambiguity over the whole. An experiment so loosely conducted, may deserve repetition, from the reported contradiction of former facts, and the seeming singularity of the result; but cannot be deemed conclusive against the experiments of others, as well as myself to the contrary. Nevertheless, I am not at all tenacious of my opinion, and shall readily relinquish it, on seeing proper grounds for a conviction of its error.

Besides the two cardinal points of security and mildness, the Cow-pox possesses other properties of a very useful though subordinate nature; it is not contagious; it neither stirs up scrofula, nor any other disposition to disease that may lie dormant in the system; nor with itself is any other introduced; and it may be communicated at all ages, and under all circumstances

in which a rational practitioner would think of communicating it. By the general introduction of this practice, the comfortable hope of exterminating the Small-pox may be reasonably entertained, and thus millions of lives yet unborn be preserved to their friends and society.

We learn by the accounts from the Mediterranean, that the Cow-pox preserves its characteristic mildness even in a more southern latitude; where, when it appears, the Small-pox is dreadfully destructive. This is particularly the case upon the coast of Africa, and on board our slave-ships; to obviate which in future, I would recommend the introduction of the Cow-pox, and that every slave should be inoculated for it, as soon as taken on board. By this means their lives would be preserved, and their value enhanced by the security, when arrived at the place of their destination. The most beneficial consequences might be expected also from introducing it among the slaves in the West Indies, as the Small-pox is likewise very destructive to them in that climate.

I have put together these few observations, in order to add my testimony in detail, in favour of the new practice, to the mass of evidence already before the public; and to pay my tribute of respect thus publicly to Dr. Jenner for the original suggestion, and to Dr. Pearson and others for the zeal and industry with which they have promoted the practice of this valuable discovery. Should they be deemed of sufficient importance to merit a place in your Journal, they are entirely at your disposal. I am, &c.

Manchester,
December 9, 1800.

W. SIMMONS.

To the Editors of the Medical and Physical Journal.

GENTLEMEN,

AT the conclusion of a paper honoured with insertion in your valuable Miscellany (No. XIX.) about three months since, I signified my intention of treating more largely on the benefit which is derived from the exhibition of the Artificial Musk in Hooping Cough, as well as in cases of extreme debility. Leisure now permitting me to make a few observations on the subject I, without further apology, submit them to your notice.