Of INOCULATION (As described by Dr. Robert Thomas in the Modern Practice of Physic)

Experience has taught us that by applying variolous matter to a scratch or wound, so as to occasion an absorption, we shall in general procure fewer pustules and a much milder disease than when the small-pox is taken in the natural way.

Notwithstanding these evident advantages, objections have been raised against inoculation, on the score that it exposes the person to some risk, when it is possible he might have passed through life without being attacked by the disease in question; but in reply it may be urged, that he will be exposed to much greater danger from the intercourse which he must have with his fellow-creatures, by taking the disorder in the natural way.

In objection to inoculation, instances have been adduced to support the probability of a person's being liable a second time to the small-pox, when produced at first by artificial means; but such instances are very rare indeed, besides not being sufficiently authentic; and we may safely conclude, that in most of those cases the matter used was not variolous, but that of some other eruptive disorder, such as the chicken-pox, which, when severe, may be mistaken for the small-pox by those who are not very conversant with the difference between them.

It has been computed that a third of the adults die who take this disease in a natural way, and about one-seventh of the children; whereas of those who receive it by inoculation and who are properly treated afterwards, the proportion probably is not greater than one in five or six hundred.

Although inoculation for the small-pox may have been beneficial to individuals by greatly lessening the chance of death, yet it may safely be asserted that it has proved of no benefit to the community at large, but the reverse; which is evident by the bills of mortality, as they clearly prove that the disease of small-pox has increased in England since the introduction of inoculation, in the proportion of 19 in every 100.

This has arisen in a great measure from the want of some laws of exclusion, analogous to those of quarantine, by which those who produce the disease by inoculation should be prohibited from exposing the inoculated persons in the way of such as are liable to the infection. A recent decision in the Court of King's Bench, however, has shown, that such an exposure, where it produces the disease in others, is a misdemeanor (sic) by common law, and that those who thus trespass on the community, and are guilty of the act, are liable to imprisonment.

The practice of inoculation is generally supposed to have been introduced into Britain from Turkey, by Lady Mary Wortley Montague, about the year 1721, whose son had been inoculated at Constantinople during her residence there, and whose infant daughter was the first that underwent the operation in this country. Some letters, however, of Dr. Willaims, Mr. Owen, and Mr. Wright, which may be seen in the Philosophical Transactions for the year 1722, assert, that inoculation was well known in the south of Wales at that time, and had been of long standing. It seems likewise to have been practiced in the Highlands of Scotland before its introduction into England.

Mr. Mungo Park, in his Travels into the Interior of Africa, found that inoculation had long been practiced by the negroes on the Guinea Coast, and nearly in the same manner, and at the same time of life, as in Europe.

Where inoculation really originated is a matter of doubt, although it has been ascribed to the Circassians, who employed it as a mean for preserving the beauty of their women. It is more than probably that accident suggested the expedient among the different nations to whom the small-pox had long been known, independently of any intercourse they had with each other: and what greatly adds to the probability of this conjecture is, that in most places where inoculation can be traced back for a considerable length of time, it seems to have been practiced chiefly by old women before it was adopted by regular practitioners.

Many physicians held the practice of inoculation in the greates contempt at first, from its supposed origin; others again discredited the fact; while others, on the testimonies of its success in distant countries, believed in the advantages it afforded, but still did not think themselves warranted to recommend it to the families they attended; and it was not until after the experiment of it had been made on six criminals (all of whom recovered from the disease and regained their liberty), that it was practiced in the year 1726 on the royal family, and afterwards adopted as a general thing.

To ensure success from inoculation, the following cautions should strictly be attended to:-

1st, That the person should be of a good habit of body, and free from any disease apparent or latent, in order that he may not have the distemper and bad constitution, or perhaps another disorder, to struggle with at the same time.

2dly, To enjoin a temperate diet and proper regimen; and where the body is plethoric, or gross, to make use of gentle purges, together with mercurial and antimonial medicines, as hereafter mentioned.

3dly, That the age of the person be as little advanced as possible; but not younger, if it can be avoided, than four months.

4thly, To choose a cool season of the year, and to avoid external heat, either by exposures to the sun, sitting by fires, or in warm chambers, or by going too warmly clothed, or being much in bed.
5thly, To take the matter from a young subject who has the small-pox in a favourable way, and who is otherwise healthy and free from disease; and when fresh matter can be procured, to give it the preference.

Where matter of a benign kind cannot be procured, and the patient is evidently in danger of the casual small-pox, we should not however hesitate a moment in recommending inoculation from any kind of matter that can be procured, as what has been taken in malignant kinds of small-pox has been found to produce a very mild disease. The mildness or malignity of the small-pox appears therefore to depend little, if at all, on the inoculating matter. Variolous matter, as well as the vaccine, by being kept for any length of time, particularly in a warm place, is apt, however, to undergo a decomposition by putrefaction, and then another kind of contagious material has been produced.

In inoculating, the operator is to make the slightest puncture or scratch imaginable in the arm of the person, rubbing that part of the lancet which is besmeared with the matter repeatedly over it, by way of ensuring the absorption; and in order to prevent its being wiped off, the shirt-sleeve ought not to be pulled down until the part is perfectly dry.

In preference to either puncturing the arm, or scratching it in a direct line, it has been recommended to introduce the lancet armed with the matter obliquely beneath the cuticle, so as to wound very slightly, and occasion little or no flow of blood. This mode may probably be preferable; but in withdrawing the point of the lancet, it will be right to press the wound with the finger, that the parts in contact with the matter may wipe it off the lancet, and thereby secure the success of the operation. When inoculation is performed in any of these ways, the application of a plaster or bandage will be unnecessary.

The matter of small-pox must be applied to a wound in order to induce the complaint. Dr. Rush informs us, he could not induce the small-pox by rubbing the matter on the entire skin; and he likewise mentions, that a negro girl took some variolous matter mixed with a dose of physic, which produced no sensible effect.

A singular circumstance attending inoculation is, that when this fails in producing the effect, the inoculated part nevertheless sometimes inflames and suppurates, as in cases where the complaint is about to follow; and the matter produced in such cases is as fit for inoculation as

that taken from a person actually laboring under the disease. The same happens very frequently in inoculation for the cow-pox.

If on the fourth or fifth day after the operation, no redness or inflammation is apparent on the edges of the wound, we ought then to inoculate in the other arm in the same manner as before; or, for greater certainty, we may do it in both.

Some constitutions are incapable of having the disease in any form. Others do not receive the disease at one time, however freely exposed to its contagion, even though repeatedly inoculated, and yet receive it afterwards by merely approaching those labouring under it. Dr. Huxham makes mention of cases of this nature. His words are, "I know an old nurse, and one apothecary, who for many years attended persons, and a great number too, in the small-pox, and yet never had them; nay, many that have industriously endeavoured to catch the infection, by frequenting the chambers of the sick, have done it without effect, and yet some of these persons, some months or years after, have been seized with the small-pox."

On the coming on of the febrile symptoms, which is generally on the seventh day in the inoculated small-pox, the patient is by no means to be suffered to take to his bed; but, on the contrary, must be constrained to keep up, and to be as much in the cool air as possible: and if thirsty, he may partake freely of some cooling antiseptic drink. As the number of pustules would probably be much increased by lying with another person, the patient should always have a bed to himself.

From the time that the matter is introduced into the system to the appearance of the eruptions, it will be necessary to observe a total abstinence from all animal food, and to give some gentle purgative every secod or third day, if the person is of a gross habit; and on the intervening ones, he may take a dose of the following preparative powder:- Mix a drachm of prepared chalk with twelve grains of hydrargyri submurias, and one grain of tartarized antimony, which for an adult may be divided into three doses, and for a child of a year old, into twelve.

Some late experiments might induce us to believe that preparation has little or no effect on the future eruption, and that the cause of its mildness, in the inoculated small-pox, is to be ascribed to the operation itself, independent of any thing else. Mons. Desserts, in the sitting of the French National Institute, is said, however, to have adduced a number of facts to prove that the natural small-pox is rendered much milder by the use of mercurial remedies, and probably the inoculated disease may likewise be influenced by them. Indeed, it appears from the experiments of Van Woensel, that the submuriate of mercury, given as an alterative (sic) for

some days before inoculation, and till the eruptive fever commences, does with certainty render the disease mild. A singular circumstance, mentioned by the same author, is, that this preparation of mercury, triturated with varioulous matter, incapacitates it from conveying the disease by inoculation.

The mode of treating the small-pox being the same, whether it arises naturally, or from inoculation, a reference must be had to the plan which is laid down in the preceding pages; and as purging is not less necessary after the small-pox by inoculation than by the natural way, it ought by no means to be neglected,.

Various plans have been proposed with a view wholly to banish the casual small-pox. Dr. Haygarth has bestowed much attention on this subject; and were the regulations pointed out by him to be rigidly enforced, there is reason to believe they would be found sufficient for the purpose. A surer and more effectual way, however to eradicate the disease, is by inoculating with vaccine matter every adult who never has had the small-pox; as likewise every child soon after its birth.

It has frequently been attempted to communicate the small-pox and measles to quadrupeds by inoculation, but in vain.