

was at least double its usual size, and the branches which the same artery sends off to the internal and external vastus, sartorius rectus, and crural muscles, were much larger and more numerous than on the left side, and freely communicated with branches which arose from the obliterated part of the femoral artery, and which at their origin were accordingly obliterated themselves. The three perforating arteries had increased to treble their usual size, and were tortuous; from the first perforating artery, a branch, of the size of a quill, was sent off to the ischiadic nerve, along with which it was seen running down to the knee; on the left side the corresponding branch could be hardly traced. The muscular branches of the two first perforating arteries were larger and more numerous than usual, and communicated with branches which arose from the obliterated portion of the femoral artery, and which were obliterated at their origin. Besides similar anastomoses from the third perforating artery, the latter vessel freely communicated with the inferior perforating artery, and by means of one branch with the pervious part of the femoral. From the lower ramifications of the profunda, circumflexa, and perforans inferior, the injected mass was traced to the arterial plexus, which is formed by the ramifications of the articular arteries, of which the external inferior only was completely pervious; the upper articular arteries were throughout obliterated; the internal inferior was closed at its origin, but three of its branches, which were evidently enlarged, were open, and appeared to have formed the principal link between the upper portion of the femoral artery and the tibial vessels. One of these branches communicated with the trunk of the recurrent tibial, the second with the upper portion, and the third with the middle of the posterior tibial. The recurrent tibial had increased to treble its usual size, and communicated very freely with the arteries of the thigh. In the popliteal cavity, the large branch of the first perforating artery, which was traced along the ischiadic nerve, divided into two branches, one of which was inserted into the anterior tibial artery, the other forming anastomoses with the inferior external articular.

VACCINATION.—DEGENERACY OF VACCINE.

(Communicated by JOHN FOSBROKE, Esq.)

SIR,—As THE LANCET is generally considered to be the most influential and extensively circulated medical journal in the United Kingdoms, I shall be obliged by your early insertion of the following important communication,—

ON THE PRESENT STATE OF VACCINATION IN FRANCE,

By DR. DELAGRANGE, of Paris.

(Translation.)

“I do not know if in England you have remarked the diminution of the antivarious property of the vaccine, but, in France, we observe it every day. Many children submitted to the vaccine have had the small-pox, even the confluent, and many have been victims of that frightful malady. In vain have some physicians denied the degeneracy of the vaccine. That fluid, evidently, is no more what it was; it has no longer the same degree of energy; it produces not the same fever and pustules as formerly. The latter are less large, and present a less vivid areola; the elevation which borders the pustule is not so full and prominent, the surrounding skin is less shining; in general, the working of the tumour is less active; in a word, the pustule has neither the aspect nor the nature of the primitive vaccine; and what appears to me to prove this statement is, that those physicians here, who wrote upon the vaccine at the first period of the discovery, assert, that having inoculated different cows with it, it was perfectly developed, and being transferred from the teats of those animals to children, it succeeded very well, and proceeded as in vaccination transferred from arm to arm. This fact is attested by all who have written on the subject. In the mean time, I have often repeated this experiment upon young cows, and have never been able to communicate it. Most of the punctures which I have made, have healed without any inflammatory action, and those which have inflamed, gave origin merely to false pustules, the matter of which produced nothing upon the children who underwent the operation. Hence I conclude, as I have already said, that the vaccine is no more what it formerly was. It has evidently degenerated through the continuity of its employment, and to restore its efficacy, I think it will be necessary to return to its origin, and, henceforth, derive it only from the teats of the cow. This practice will preserve the vaccine in all its purity, and cause less inquietude to parents. It is known how much they dread its inoculation from arm to arm. It is a useless endeavour to persuade them, that the vaccine is not charged with some principle foreign to its nature, and that it will not become the vehicle of some contagious vice. They remark, that every vaccine pustule is developed at the expense (*aux dépens*) of the humours of the person vaccinated; and if the *vaccinée* is infected with some vice, it is impossible for them to believe in the innocuous nature of the vaccine

proceeding from such a source. Thus they reason, and this way of thinking inspires them with so much disgust towards it, that very few seek it, in spite of all our government has done to propagate it. The vaccine, then, is fallen into general discredit; and it may be said, at least in France, that it is upon the point of being absolutely abandoned, unless steps are soon taken to put an end to the cause of this rejection. This cause, I have just made appear, arises from the habit of vaccinating from arm to arm. To remove it, it is necessary to change this dangerous and repugnant method, and to take the vaccine even from the cow's teats, and thus determine parents to profit, without apprehension, by this precious preservative. As to myself, assured of the success which this new method of vaccination will find, I have made arrangements for an establishment, in which I propose to keep some cows, as depositaries of a virgin vaccine, (*vaccin vierge*,) exempt from all reproach. With this view, I wish to procure some primitive vaccine, taken from the nipple of the cow, and nothing else. This condition is rigorous. Without it, experience has proved to me there could be no hope of success, and it would be merely labour lost to attempt it otherwise. Now if you think it possible to find this natural vaccine, of which I am in quest, I beg you to do me the favour of inquiring for it, and sending me as much as possible, in closed tubes that it may be secure from the contact of the air. By complying with this request, you will render my country a most important service.

"If it do not trespass too much upon your complaisance, I request you, after having collected the vaccine in the tubes, to reserve some drops from the cow's teats for experiment upon a child, and afterwards vaccinate another cow from the child, to make sure of the possibility of the transmission of the vaccine from a cow to a child, and *vice versa* from a child to a cow.

" DELAGRANGE. D.M.

" Rue Montmartre, No. 84, à Paris."

OBSERVATIONS BY MR. FOSBROKE.

These are very different tidings from France, from those which were conveyed in the long and admirable reports which were transmitted in Napoleon's time to Dr. Jenner. It is clear, from the statements of this respectable physician, that vaccination is very rapidly declining in France, and if it go down there, it will as certainly go down all over the Continent; the evil report will readily cross the Rhine. It cannot arise from any lukewarmness on the part of the French government, for I copied myself, at Paris, last May, *affiches* which were posted up at the Garden of Plants, and

through all the *arrondissemens* of that city, in which a reward of five francs *per* head was offered for every child that should be brought to be vaccinated at the appointed stations. I question if this is not more than would be done in England, if all the country were down with the small-pox. When I was living with Dr. Jenner, during the years 1820, 1, and 2, there was a great *hubbub* about the small-pox. It broke out with the great epidemic in the north, whence we had long reports from Mr. Hennen, who saw it at Queensbury house, Dr. Thomson, and others. It spread into England, and Mr. Cross, of Norwich, wrote an excellent book upon it, as it appeared there. It pressed close home to Dr. Jenner himself, and kept me occupied in assisting him to answer letters upon the subject. The results of that constitution of small-pox, which prevailed in those years, are very well known. It attacked many who had had small-pox before, and often severely; almost to death; and of those who had been vaccinated, it left some alone, but fell upon great numbers. The difference between the phenomena, when it occurred to vaccinated and unvaccinated subjects was, that with the former, the grave symptoms generally disappeared upon the coming on of the eruptive fever; and on account of some modifications of the pock, these post-vaccine diseases were called varioloids. Mr. Fry, of Dursley, and the medical men of Wotton-under-Edge, two towns densely populated with the cloth-workers, had numbers of their vaccinees attacked with this disease, but few or none died, and it was characterised, as I have stated. Mr. Fry drew up a faithful report of his cases, which would have certainly told well for the cause of vaccination, but he did not publish it. Well-informed country practitioners, I am sorry to say, are too diffident in publishing the results of their observations. The lymph which Dr. Jenner then used, and which he had kept in circulation three or four years about Berkeley, had been taken by him, not from the cow, but the horse, and never subsequently passed through the constitution. In fact, the disease is an equine, not a vaccine pox, and, as he decisively ascertained before he died, obtained from vesicles which arise upon the *skin* of the horse's legs, in consequence of an erysipelatous affection excited by the matter of grease. It is the lymph in these equine vesicles, not the *matter of grease*, as he strenuously stated in his first work, "The Inquiry," which produces the preservative pox both in cows and men. It is possible that the disease may be propagated to other milch animals, for I have extracted an account from some country of a goat pox, which so resembled the vaccine, that the doctors inoculated with

it, and found it an equal preservative. However, this equine lymph of Dr. Jenner produced a vesicle, which, he declared, precisely resembled the natural cow-pox vesicle on the teat of the cow, being of a greyish blue colour, (see plate in Jenner's Inquiry,) which is the distinguishing characteristic of the natural cow-pox, with a bold relief, a regular circular edge, a fine areola, in due course, and some surrounding tumefaction of the cutaneous tissues. Certainly this is very different from the degenerated vesicle which Dr. Delagrange describes. Notwithstanding the high opinion which I entertain, from what I have witnessed, of the French faculty in general, and the incomparable system of their schools, since the abolition of medical colleges and corporations, I must venture to think, without disrespect, that they may have been committing some serious blunders in the conduct of vaccination, from inattention to, or perhaps ignorance of, certain rules which Dr. Jenner propagated, and may have thus produced the degeneracy of which they speak.*

If the same pains had been taken in extending these rules, as in seeking a mare's nest in identifying chicken-pox, small-pox, and what not, half of the evils which have occurred, might have been prevented. They were the deliberate convictions of a translucent mind, and by far the best qualified to investigate the subject, obtained after many years' observation of facts, and witnessed by many of his friends. These important practical deductions were first published in the *Medical and Physical Journal*, No. 66, for August, 1804, and afterwards in a circular letter in 1821. The positions laid down were as follows:—

1st. That varieties and modifications of the vaccine vesicle, of different characters and different degrees of influence upon the vaccine protection, are produced by diseases in pre-occupation of the skin.

2dly. That a single serous blotch upon the skin, existing during the progress of the vaccine vesicle, may occasion such irregularity, and deviation from correctness, that vaccination, under such circumstances, cannot be perfectly depended on. The same with abrasions of the cuticle; such, for example, as we find in the nurseries of the opulent, as well as the cottages of the poor, behind the ears, and upon many parts where the cuticle is thin; with herpetic blotches, “not to be considered of less consequence when occupying a small space,—a speck behind the ear, which might be covered with a split pea, being capable of dis-

ordering the vaccine vesicle. Dandrif may be considered as a malady of this class, the incrustation on the scalp being formed from excoriation beneath; and, however slight, for there is every gradation between a thin scurfy layer of a dirt-looking substance, and tinea itself, shingles, vesicular ringworm, and impetigo, may be included. In short,” Dr. Jenner adds, “every disease of the skin which may be called serous, has the power of exerting this modifying and counteracting influence. I have also seen purulent fluids exert a similar influence.” He mentions sore eyes and whitlow.

3dly. That these deviations occur more frequently in the early than the declining stages of the vaccine process; that varieties of the vaccine vesicle may be produced from those trifling deviations, which prove no impediment to the vaccine security, up to that point of imperfection in the vesicle which affords no security at all. Perhaps I commit an error in saying *no security at all*, for it strikes me that the constitution loses its susceptibility of small-pox contagion, and its capability of producing the disease in its perfect and ordinary state, in proportion to the degree of perfection which the vaccine vesicle has put on in its progress, and that the small-pox taken subsequently, is modified accordingly. When no deviation takes place in the ordinary course of the vaccine vesicles, or when it is inconsiderable, the herpetic blotches or vesicles, of whatever kind they may be, often assume (sometimes as early as the third or fourth day after the insertion of the vaccine fluid) a new character, not unlike the vaccine, and keeping pace in their progress with the vesicles on the arm, die away with them, leaving the skin smooth.

4thly. Fortunately for the safety of the vaccine practice, and fortunately, too, for the ease of the practitioner, all these affections of the skin may be removed with very little trouble. The most effectual application is the ung. hydrargyri nitratæ, as much lowered with ung. cetacei, or any other bland ointment, as the irritability of the subject may require. The dandrif demands a double process; the first consists in removing the incrustation, the second in subduing the oozing. There are skins that will not bear unctuous applications; the desiccative lotions may then be made use of two or three times a day; such as those prepared with the sulphate of zinc, supracetate of lead, &c.

5thly. Dr. Jenner says, “If I were asked what were the other actual impediments to perfect vaccination, as a general answer I should say, that I scarcely knew any other except spurious matter, or impediments too obvious to require my mentioning them here, such as deranging the vac-

* I have since seen, that the talented M. Koston, the physician of the Salpêtrière, in his *Médecine Clinique*, vol. ii. p. 229, alludes to these rules.

cine vesicle in its progress, by incautiously robbing it of its contents, or producing a new action by external violence."

Dr. Jenner intended to publish the facts upon which he founded these positions; I arranged them, though imperfectly, at his request, previously to his death. They were consigned to a gentleman, an earlier connexion than myself, who has since published a volume, containing some account of Dr. Jenner's life.*

Dr. Jenner evidently conceived, that cases of small-pox, or what has been termed the varioloid disease after vaccination, arose from those deviations at the time of vaccination in the progress of the pustules on the arms, which he described as liable to take place when the skin is affected by different classes of eruptive affections. It is true that these impediments, disregarded, produce irregular vaccine pustules, consequent liability to small-pox, and, perhaps, the degeneracy described by M. Delagrangé; but I am convinced that the natural disposition to small-pox in some constitutions is so strong, that many persons will have that disease, after either vaccine or variolous inoculation, however perfectly the process may have been conducted. One of the oldest and most extensive vaccinators in London is of that opinion. I have seen myself proofs of it in Cheltenham, after Dr. Jenner's own vaccinations. This affair of dispositions is a general law of the human constitution. Cullen, in limiting it to gout, scrofula, epilepsy, mania, and pulmonary consumption, took a very narrow view of the subject. I have found a disposition to several of the ordinary diseases of the different organs of the body, descend through whole families.

As to Dr. Delagrangé's experiments on cows, I have not knowledge to speak on that head. Dr. Turton, who wrote the Medical Glossary, said he had seen small-pox pustules on cows. Dr. Coley, of Cheltenham, who, I must do him the justice of stating, has been the most active vaccinator in that place, inoculated cows with small-pox, and failed to produce the disease. He advised me to repeat his experiments on heifers and calves, but the inconvenient manner in which, according to the doctor's account, the cows endeavoured to kick and toss him in the air, with certain other considerations, deterred me.

If any of your readers should have natural small-pox in their neighbourhoods, I should be obliged to them to transmit me some lymph directed to Cheltenham. I am in search of it myself, but up to the present moment, to as much purpose as Zaidig in quest of the basilisk. I am told that it occurs frequently in the north of Ireland.

* Dr. Baron, of Gloucester.

ON THE TREATMENT OF SPINAL CURVATURE.

To the Editor of THE LANCET.

SIR,—From your version of Mr. Abernethy's Lectures, I shall, in continuation of my remarks on this subject at page 523, make the transcript that follows:—

"But people will ask me, 'Can't you do any thing more, Sir?' and I must say, 'I don't know that you can, unless you choose to be gibbeted. That is sometimes done; it is a fashionable way of going to work, and is what I shall call gibbeting. This was first proposed by M. Vacher, and the plan is, taking the weight of the head from the pillar that supports it. A most horrible annoyance it is to the patient; oh, the pressure against the chin and the lower part of the jaw is dreadful! it produces a thickening and ulceration of the ligaments, when it is carried on, as, according to the principle, it ought to be.

"Now, there is a Mr. Cheshire, of Hinkley, in Leicestershire, I think it is, who, perhaps, understands the principles on which these machines *should* be constructed better than any body else; yet I have seen patients who have been there, and certainly no such good done to them as I should boast of. But he certainly does support the principle, and that principle does support the weight of the body, but greatly to the annoyance of the patient, and producing the effects I have been describing, *occasioning abscesses and deformities*, and thickenings, and so on; but he does it effectually, and the effect too of taking the weight off from its proper place is, that by using these machines for years, which they have to do, they cannot afterwards do without them; and therefore, if they lay them aside, they have to lie down until they have the power of their muscles, until they can properly support their weight. But I cannot say I like his system at all, therefore I do not give my mind to it, but I advise all my patients to avoid all causes which might affect the original curvatures, to take off the weight by lying down, and so on; but the child should not lie down in any constrained attitude. In a boarding school you will see the mistresses of the school having all the girls lying down for half an hour; that's a short time, but they can do nothing while they are lying down in that posture, like corpses. Now, I remember, they may do this on a rug or carpet, and, I say, why can't your child lie down in that way, which is the ancient fashion; but, to be sure, the other is the more modern. But I know that weight on the upper part of the body must tend greatly to increase the curve; I know also, that people will become straight if the