both properly and universally performed; for, just as it will be necessary for a complete system of primary infantile vaccination, in order to control small-pox, by the prevention of the many deaths which are due to its neglect, so will it be necessary for an universal adoption of the practice of revaccination, in order to stamp out small-pox, both by preventing deaths where the primary vaccination has not been satisfactory, and in preventing the occurrence of the disease, even in its mildest form, in those cases in which the primary vaccination has been good, but, from lapse of time or other causes, the disease is liable to be taken in a modified form.

Before concluding the subject, we must consider briefly the objections advanced against vaccination. We shall not, however, stop to argue some of the absurd notions that have been put forward: such as the idea that vaccination has produced new and unheard-of diseases; that it has caused degeneration, mental and physical, of the human species; diminishing men's stature; incapacitating them for the fatigue of military service, or even for the exercise of dancing; and driving them for consolation to tobacco. These must be regarded in much the same light as notions that diseases are produced by witchcraft and the evil eye. But many, who firmly believe in the protective power of vaccination, have expressed very conflicting opinions with regard to the question: whether it is the means of increasing the mortality of other diseases, or of producing them. It has been alleged that vaccination has led to increase of the mortality of other diseases; that cutaneous and glandular diseases and syphilis may be communicated from one person to another by vaccination; and, lastly, it has been urged, as an objection to vaccination, that it is occasionally followed by erysipelas. It is alleged that, even if vaccination have lessened mortality by its protection from small-pox, yet it has increased the number of deaths in another direction, viz., of the diseases which have been communicated by its means; and, therefore, there has been no saving of life on the whole. The answer to this is: The mortality of other infantile diseases, such as measles, scarola, tuberculosis, etc., is not so great since the introduction of vaccination as before, and this has been well shown by statistics published by Mr. Simon.

The communicability by vaccination of cutaneous, glandular, and other diseases, including syphilis, although a popular, has never been a professional, belief. Those who have had most to do with the performance of vaccination, on the one hand, and those who have been most concerned in the treatment of infantile disease, on the other, concur in the belief of the non-communicability of disease by vaccination. Dr. Seaton says that, although he has investigated many of such alleged cases, he has never yet in a single instance found that the child from whom the lymph was taken was suffering from the disease it was said to have imparted. Mr. Marson states that, in the performance of forty thousand vaccinations, he had never seen any other diseases communicated with the vaccine disease, nor did he believe in the popular reports that they are so communicated. The experience of the late Mr. Leese, whose vaccinations had been equally numerous, was the same. Sir W. Jenner, at University College Hospital, London, in six years, in thirteen thousand cases, and Dr. West, in seventeen years, in twenty-six thousand cases, both say that in no single case had they reason to believe that any constitutional taint had been conveyed from one person to another by vaccination. The experience of Drs. Latham, J. H. Green, and others, including Sir James Paget, is to the same effect. The latter, from his experience among children at St. Bartholomew's Hospital, states his opinion as follows:—"Vaccination may, though I believe it very rarely does, give opportunity for the external manifestation and complete evolution of some constitutional affection, which, but for it, might have remained rather longer latent." "This is," he added, "the worst thing that can, with any show of reason, be charged against vaccination. Even this can very seldom be charged with truth."

In short, if men who have been all their lives professional vaccinators, as Marson, Leese, or Tomkins; if men whose professional lives have been spent in the midst of syphilis, as Lee, Acton, or Langston Parker, have met with no cases in which syphilis originated in this way, the conditions under which the occurrence can take place must be instances of rare exceptionability. During the time that there has been systematic inspection of vaccination in England, some millions of vaccinations have been performed; but the inspectors have no knowledge of such accident having occurred in any one instance. "Either," as Simon has well put it, "it is the case that, even with reprehensible carelessness as to the source of lymph, vaccination (so long as, in any sense of the word, it is vaccination) cannot be the means of communicating any second infection, or else it is the case that, in the world of vaccinators, care is almost universally taken to exclude the possibility of danger."

The thousands of lives which are, on an average, saved annually from

small-pox in England alone are not gained without here and there a child getting erysipelas from its vaccination, and even, in cases of excessive rarity, dying of it; and what reasonable man ever hesitates, on account of this risk, to have his child vaccinated? The danger, if indeed there can be any at all, of communicating through vaccine-lymph, as, in all ordinary well performed vaccinations, any other infection than its own must be so infinitesimally small that, for all practical purposes, we may regard it as non-existent.

With regard to the communicability of syphilis by vaccination, it is important to know that Taupin and others have tried by experiment to inoculate syphilis and other contagious diseases purposely, but without effect. Unvaccinated persons suffering from chancre have been vaccinated, and vaccine vesicles raised in the neighbourhood of the chancre; and from the vesicles so raised vaccinations have been performed. But never has it happened on a single occasion that syphilis, or that any other result than vaccinia, has followed the use of vaccine lymph thus purposely taken from a syphilitic subject.

These experiments have been very numerous, and yet in no single case have they succeeded. Moreover, it is known that, if lymph be taken from a vaccine vesicle in a patient suffering from variola, with due care to procure it from the vaccine vesicle only, and unmixed with the products of any of the variolous vesicles, nothing but vaccinia is ever produced. "Since then," says Simon, "it is a quite unquestionable certainty that, even when the system is drenched with that subtlest infection small-pox, the Jennerian vesicle preserves its own contagion pure and isolated, the argument may be reasonably extended; and, even if there were no evidence in relation to other diseases, this analogy would have rendered it eminently improbable that any, the most infectious of their number, could admix its contagion with the specific products of cow-pox. Indeed, so definitely and so constantly characterised are those local changes which morbid poisons severally and specifically produced that, to say of a given phenomenon, 'This is a typical Jennerian vesicle', is, I believe, tantamount to saying, 'This is a vesicle which only one unmodified influence can produce, which no second influence can concur in producing, and in the contagion of which no second principle of infection can possibly reside'."

With regard to the occurrence of erysipelas after vaccination, it should be borne in mind that this follows as the result of external causes or irritation of the wound, just as it may, in surgical operations or wounds, however slight; but that it is never caused by any effective influence in the lymph.

The whole subject may be summed up by saying that there is conclusive evidence that the vast majority of mankind may, by a single properly performed vaccination, be rendered wholly unsusceptible of any subsequent action of the variolous poison; and that, in the minority, whose susceptibility to that infection has not been entirely exhausted by the vaccine process, the small-pox will, with rare exceptions, be so modified that, if all the population were completely vaccinated, i.e., vaccinated in the best way, serious and spreading small-pox would be but little known among us, and entries of fatal small-pox would be all but banished from our death-registers.

ON ULCER OF THE FRÆNUM LINGUÆ IN WHOOPING-COUGH.

By CHRISTOPHER ELLIOTT, B.A., M.D.,

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In a paper read before the Harveian Society, and published in the BRITISH MEDICAL JOURNAL of June 10th, 1876, Dr. Thomas Morton drew attention to a new symptom in whooping-cough. Although there is no mention of ulceration of the frænum linguæ in English text-books of medicine, yet its existence had been recognised previously in France and Germany, and by a few practitioners in our country. Bouchut, in his *Traité des Maladies des Enfants*, mentions having noticed it frequently, and the following paragraph from the English translation of Ziemssen's *Cyclopædia of the Practice of Medicine* (vol. i, page 699) proves that it is well known to our German brethren. "If whooping-cough is severe, we shall not fail to find, in the majority of cases, an ulcer on one or both sides of the frenulum linguæ, less often on the upper surface of the tongue." Steffen, the author of this article, adds further: "the first descriptions of this ulcer come from about 1840".

After reading Dr. Morton's paper, I was much interested in the subject; and owing to an epidemic of whooping-cough breaking out in Bristol soon after the appearance of his paper, an opportunity was afforded me of testing his statement that an ulcer of the frænum linguæ was to be found in 41 per cent. of cases; as it was to me a matter of some surprise that it should have escaped the notice of clinical observers in this

country, when he had met with it thirty-three times in eighty-one cases.

Proceeding in a somewhat similar method to him, I at first examined the under part of the tongue in all manner of cases, afterwards selecting only those of cough, whether arising from a simple catarrh, bronchitis, pneumonia, or phthisis; but in none of these affections did I once find an ulcer of the frænum.

The number of cases of whooping-cough that came under my notice was one hundred and twelve, the majority of which were seen at the Bristol Hospital for Sick Children. The ages of my patients varied from six weeks to eleven years of age; while the proportion of males to females was as forty-four to sixty-eight. Six of these cases were after measles, and two after scarlatina. Fifty-eight were simple uncomplicated cases. Of the rest, thirty-three were complicated with bronchitis, in four of which the bronchitis was the primary affection; one had pneumonia; one empyema; one phthisis and tubercular disease in other organs; three convulsions; one was suffering from cyanosis due to a congenital malformation of the heart; seven had stomatitis; two tonsillitis; two were the subjects of rachitis; one had chicken-pock; and six were suffering from different forms of skin-disease, such as ringworm, itch, and eczema; one had strumous disease of the knee-joint; and one a broken forearm. In only twenty-eight of these cases did I find an ulcer of the frænum linguæ, or exactly in 25 per cent.

On examining these twenty-eight cases by themselves, I found that the ages ranged from ten months to over five years; that ulcers were observed twice in those under one year old, ten times in those under two years, six times in those under three and four years respectively, twice in those under five years, and twice in those under six years of age; so that we may conclude that from one to four years of age is the period of life for their most frequent occurrence. The proportion of males to females was eleven and seventeen respectively. Fourteen, or exactly one-half, had no complication. Of the remainder, seven had stomatitis; four, bronchitis; one, pneumonia; one, phthisis and tubercular disease of the abdomen; one, tonsillitis; one, a broken forearm; and two were the subjects of rachitis. Two died: one of phthisis and one of bronchitis.

The ulcers are of a greyish colour, excavated, and when once seen are readily recognised again. They usually appear between the second and third week of the disease; sometimes they are observed in the very first week, before the malady is suspected, and occasionally they are not seen till the fifth or sixth week. Their duration, too, varies, being generally in proportion to the violence of the attack, and disappearing with the subsidence of the spasmodic stage. Their usual situation is on the anterior aspect of the frænum linguæ, but they are sometimes seen to the right or left of it.

Their origin is most probably follicular, though Steffen attributes them to the tongue being wounded during an attack by being thrust between the teeth at a spot where they are either very much inclined or very prominent. On the other hand, Dr. Morton has found an ulcer in a child who had not yet cut any teeth, whilst I have noticed ulceration of the frænum absent in some of the worst cases, although there is no doubt that when the ulcer exists it may be enlarged by the friction of the tongue against the teeth.

It has been asked, of what use is this symptom? In the first place, it enables us to say with confidence that a patient is suffering from whooping-cough, although we have not the opportunity of hearing the characteristic whoop. Secondly, it enables us to predict with certainty the onset of an attack, even when the little patient has nothing more than an ordinary hard cough. Thirdly, it prevents us from falling into error, and leads us early to adopt the proper remedies. This was impressed on my mind by the first case which came under me at the Children's Hospital, where a little girl between four and five years old had been brought because she complained of "a sore under her tongue". I was not told she had whooping-cough; and if I had not been aware of the relationship of ulcer of the frænum linguæ to that disease, I should have very likely adopted measures for the cure of the ulcer only.

In the relationship existing between ulceration of the frænum and whooping-cough, it seems to me that we have a case analogous to that of herpes labialis and pneumonia. We do not know the cause of their frequent coexistence, but we are all familiar with it, so that when we see a patient with a dusky countenance, a coated tongue, breathing rapidly, and having an herpetic eruption about the mouth, our suspicions are immediately aroused, and we have them confirmed after a physical examination of the chest. Thus, it has appeared to me, we may view ulceration of the frænum linguæ, not as the *foens et origo mali*, but as an accompaniment of whooping-cough, and one which is useful for the purposes of a correct and ready diagnosis.

OBSTETRIC MEMORANDA.

DROPSY OF THE AMNION.

THE following case may prove of interest, when taken in connection with the debate at the Obstetrical Society, recently reported in the JOURNAL.

Some weeks since, I was asked by a medical man of this town to a consultation, in a case of some cystic disease complicating pregnancy. The patient, E. M., aged 46, had been married for about twenty years. She had borne many children, the last being born dead at full time and dropsical all over. When I saw her, she was seven months pregnant; the abdomen was very much distended, but symmetrical, and had the appearance of nine months' gestation. The umbilicus was considerably nearer the ensiform cartilage than the pubes, and was obliterated, if not pouched. Most marked fluctuation was obtainable over the whole of the front of the abdomen, as high as the sternum, but very little from flank to flank. The front of the abdomen was absolutely dull on percussion, dullness reaching upwards to about midway between the umbilicus and ensiform; but in each flank there was distinct resonance. The position of dullness remained the same on change of posture. Nothing could be made out on auscultation, beyond a very slight *bruit* over the right iliac fossa, synchronous with the maternal pulse. The lungs and heart were normal. The general condition of the patient was bad. She was feverish; pulse quick (120); and respiration hurried. There was marked prostration. There was no general or local oedema, nor could any history of such be obtained. Urine passed freely and voluntarily, was rather high-coloured, and free from albumen. The bowels had been opened freely after the exhibition of aperients. The patient said that the early months of pregnancy had been passed as usual; but for about four weeks (and especially the last week), the abdominal distension had increased very rapidly and caused a very great deal of pain.

The diagnosis appeared to lie between dropsy of the amnion and ovarian disease complicating pregnancy; and on taking into consideration the dropsy of the previous child, the very rapid distension of the abdomen, and its almost perfect symmetry, together with the fact that a few months before there was no sign of ovarian tumour present, I was led to diagnose the former. On making a vaginal examination, the os was low down, very soft and patulous; in fact, labour had commenced. This being so, the case passed out of my hands into that of the medical man in attendance. By him I am informed that labour went on rapidly. A dead dropsical child was born in about fourteen hours; and its birth was preceded by the escape of an immense amount of liquor amnii.

By the kindness of the medical man, I saw the case again, when the abdomen and pelvis were evidently perfectly free from the trace of any tumour, and beyond a little local peritonitis, the patient was doing well. She made a fair recovery. The explanation of the case appears to me to lie in some disease of the placenta, which prevented the due return of blood from the foetus. The excess of amniotic fluid may have been derived from the foetus, or, what is more probable, by transudation through the amniotic covering of the umbilical cord, or through the amniotic layer of the placenta. No syphilitic history could be made out.

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CURIOSITIES OF EXPERIENCE IN OBSTETRIC PRACTICE DURING FIFTY YEARS.

AT the earnest solicitation of several medical friends, I am induced to give an account of the result of over 5,500 cases that have been attended by myself in private practice. My objection to doing so before has now been overcome on seeing the address delivered by Dr. A. H. McClintock, published in the JOURNAL on August 10th, in which he refers to the published statements of several practitioners of high position in the practice of obstetrics.

The total number of cases set forth by those accoucheurs being 10,818, with a fatal result to 103 women, I venture to think that I have reason to be satisfied with the success that has attended my practice; and, as I have watched in every instance the termination of each case, the result and record may be fully relied on. Of the 5,500 cases, only 22 have proved fatal, of which 4 were in the last stage of phthisis. Instruments were used in 22 cases, either alone or with the aid of others. I have met with only 2 cases of placenta prævia. There have occurred 95 cases of twin births. On five occasions, I have delivered