family, consisting of man and wife and eight children, all unvaccinated. These I vaccinated without delay, and none contracted the disease, although the division between the two houses was of a very slight nature, being merely a wooden partition.

Again, small-pox existed in a house, one of a row of brick ones. An unvaccinated girl, in the sixth house distant, contracted the disease in the confluent form. Her mother and two sisters consented to be vaccinated, but her father, who said he had been vaccinated in childhood, but whose arms bore only one indistinct and by no means characteristic mark, refused vaccination, soon contracted the disease in a severe form, and both he and his unvaccinated daughter died, the others escaping altogether.

The only unvaccinated person in the third house distant, a boy, aged 10, whose doting foster-parents had refrained from having him vaccinated, for fear, as they said, of injuring his health, but who had anxiously taken every other precaution, contracted small-pox in the confluent form, but recovered, with great disfigurement. All the other inmates of this and the intermediate houses, having been efficiently vaccinated, escaped the disease entirely.

AMPUTATION AT THE HIP-JOINT BY FURNEAUX JORDAN'S METHOD.*

By LEWIS W. MARSHALL, M.D.,
Surgeon to the Children's Hospital, Nottingham.

In the *Lancet* of March 23rd, 1879, a case was published, with remarks, of amputation at the hip-joint by a modified method, by Mr. Jordan. Struck with the simplicity of the operation, and the probability of a much more favourable result than by the performance of the older flap amputation, I have adopted it; and the three cases now shown in the wards at the Children's Hospital, are, with exception of one since dead, those which have occurred in my practice since the date of Mr. Jordan's paper.

The method of operating is as follows:—If incision has been previously practised, the existing incision is prolonged to about the middle of the thigh; the femur enucleated; the soft parts cut through with a circular sweep of the knife, and the femoral artery tied. Mr. Jordan, in his case, controlled the bleeding by a tourniquet on the external iliac; but, as will be shown subsequently, in children's work at least, the fingers on the common femoral have hitherto proved sufficient.

Summarised, my cases stand thus. Four in number; three after failure from incision, and one where that operation was deemed inadmissible on account of the extent of disease in the shaft of the femur. All were, as to their general condition, in such a state, that a fatal termination might be predicted at an early date; and, one, the girl, had a very large and persistent deposit of albumen, lasting up to and beyond the time of her discharge from the hospital. However, I am glad to say, she has for some months been free from any symptom of this kind. Their ages were: two at seven years, one at five years, and one at two years and five months. In all, the fingers were used to compress the common femoral; but in No. 1 E-march's band was applied. This slipping, the fingers were substituted for it. Owing to the change in the means chosen for restraining hæmorrhage, more blood was lost in this case than in any of those afterwards. No more than two vessels were ligatured in any instance, and in some the femoral only. Two drachms would represent the maximum blood-loss. Catgut was the ligature used; the dressing employed being in No. 1 thymol; and in all the others a loose covering of carbolic oil and lint. Drainage was secured by horse-hair. The fatal case occurred three months after the date of operation from visceral lesions.

Mr. Jordan remarks upon his single case that as "compared with the ordinary operation of two flaps, the wound was less severe, the cut surfaces were less extensive, and, in a manner, further removed from the trunk; it was followed by less shock, less hæmorrhage, less opportunity for septic infection. The vessels cut were more easily dealt with. The thigh might be simply cut through with a circular sweep of a few sawing movements. The boneless thigh should be firmly held, and somewhat flattened, if cut across. The muscles may be cut on the same level as the skin, the bone being absent, they retract so strongly that the skin readily covers them; its vitality is less endangered; and a great cellular plane is not opened. The bulk of the soft parts of the thigh, especially near the pelvis, lies at the inner side of the femur. Why put a knife through these parts? It is better to enucleate the femur when it is covered, and cut across the limb where it is smaller and further removed from the trunk. In removing the thigh very low down, the area of the wound is, no doubt, increased; but even then it

would be a much less dangerous wound in character and locality." He goes on to say that the operation is more suitable for those cases in which the soft parts can be freely left. "The surgeon may, if he choose, make the circular sweep before the shaft of the bone is turned out, if precaution against hæmorrhage have been very complete." He also calls attention to the value of the operation as giving safe access and free drainage for any length of time. The principle of the operation is suggested by Mr. Jordan as a valuable one to adopt for amputations in other localities.

My chief object in bringing these cases before the meeting is to call attention to (judging from the number of cases published and the reports of the meetings of the Clinical and other Societies in London) the somewhat tardy manner in which this method has been adopted by the profession. Holding forth the advantages it has, as compared with the double flap operation, more particularly with respect to blood-loss and the shock sustained, rendering handling *per rectum* perfectly unnecessary, the gluteal vessels being untouched, I am at a loss to explain why, when Dr. Stokes of Dublin related his cases by the older method at the Clinical Society on April 23rd, that no question was raised by any member present as to the operation performed. In the subsequent discussion, great stress was laid on the anxiety with which amputation at the hip-joint was undertaken, on account of the bleeding from the posterior flap, and the respective values of abdominal tourniquets and Davy's lever were freely discussed, the latter appliance being much extolled. That it may be, and probably is, of great service in the flap operation, one can quite see; but surely it is undesirable to pursue such a course when everything else is in favour of a choice of methods of operating such as render this procedure absolutely unnecessary. The cases shown to you to-day prove, I think, clearly the advantage of Mr. Jordan's operation, because in not a single instance should I have cared to have removed the limb by other means; in fact, in publishing my first two cases, I remarked that No. 1 had, I believed, suffered to some extent by delay on account of my shrinking from an operation which necessitated so much hæmorrhage and shock. The method I am now advocating had not at that time been brought forward; I had therefore no choice but to operate by the double flap.

Although of secondary importance, operations at the hip-joint being usually undertaken principally for the saving of life, I may point out that the stump left by Jordan's method is in every way all we could wish for. Limp, flaccid, and flabby at first—in fact, unsightly—it soon contracts, and, long before the old sinuses and abscess-cavities have healed, has assumed a shape not to be despised, and, in my judgment, as capable of bearing support as any other.

By giving to us this plan of removing the limb (a modification as it is, I think, of Dieffenbach's), Mr. Jordan, we must admit, has conferred a boon on the patients and an addition to surgery. More lives will be saved by the removal of useless and harmful limbs, fewer deaths will result than by other operations, and the risk of prolonged suffering ending in lardaceous disease will be lessened, if, as I feel it must, the utility of this measure be eventually recognised.

REMARKS UPON THE STAGES OF INFECTIVENESS OF MEASLES.

By T. FREDERICK PEARSE, M.D., LIPHOOK, HANTS.

THE following cases are particularly instructive as well as interesting, from the exact as well as reliable data which were able to be obtained. Two brothers, C. and H., returned home for their holidays on Friday, April 21st. Exactly a week before they "broke up", a boy returned to school from the Isle of Wight, where he had been about a fortnight for a change after an attack of measles. The convalescent was a day boarder, but played about with the other boys, and is said to have been wearing the same clothes in which he went away ill. A few days before the "break up", another boy was separated from the rest of the school with a so-called "cold". Three days after the return home of the two brothers, viz., on Monday, April 24th, the eldest of the two was taken poorly, but with no very definite symptoms beyond those of a "cold" until Friday, the 28th. On the afternoon of that day, his face was noticed to be "blotchy", and he showed a few red spots about the neck. There being a younger son at home who had not been to school on account of his health, the parents promptly separated him from his two brothers to another part of the house. Up to this time, the second boy who had been to school appeared quite well. A rash, however, of an unmistakable character was recognised on the following day (29th). These two boys passed through a typical, though favourable, attack of measles. The crisis in each case occurred on the night of the sixth day of the disease; and, after the rash had been visible

* Read before the Midland Branch.

for forty-eight hours—the temperature falling from 102.8° to 100.6° in the case of the eldest boy, and from 103.2° to 98.4° in that of the second son. The case of the eldest boy seemed to be about twelve hours earlier than that of his brother. Meanwhile, the youngest son, who had been separated at a different part of the house, continued in his usual health, and was sent away on Tuesday, May 2nd, to Brighton. The other two boys continued to progress very favourably.

It is now that the chief feature in these cases presents itself. On Saturday, May 6th, the youngest son, who had been sent away to Brighton, was attacked with symptoms of a cold and cough, associated with loss of appetite and feverishness. He was fetched home on the following day. On the 8th, his temperature was 101.4°, with the above symptoms more marked, and a rash of a "pimply" character on the back of the neck. During the night of the 10th, a marked rash, having all the characters of true measles, and resembling that of the other two sons, was developed, with delirium, diarrhoea, and oppressed breathing. The next morning, his temperature was 103°. He has since passed through the attack, but at one time showed threatening symptoms from the character of his breathing.

Upon the infectiveness of measles, Niemeyer says, "When is measles infectious? With our present knowledge, we should say it is most infectious while the eruption is out; that it is probably not infectious in the stage of desquamation, while numerous cases speak of its being so in the prodromal stage. The popular opinion that measles is most catching in the desquamative stage arises from inattention to the period of incubation. A child infected by its brother or sister breaks out with the disease while the latter is desquamating, it is true, but was infected while the exanthema was at its height, or perhaps even before the eruption. The probability of infection during the prodromal stage is supplied by the wonderful spread of measles through schools. Great care is usually taken to keep out of the school any children who have not passed through the desquamative stage, as well as those having any suspicious exanthema, but children with catarrh and cough are allowed to sit on the seat with well children."

The data of my cases are sufficiently accurate to prove—First. That measles is infectious when the stage of desquamation has apparently passed (the two eldest boys having caught the disease from a boy who had measles more than a fortnight before). Secondly. That measles is infectious before the rash appears (the third boy having been separated from his brothers directly the rash was observed on the face of his eldest brother). Thirdly. That the period of incubation of measles is about ten days. This was exactly the time which elapsed between the return of the convalescent to the school and the first symptoms in the eldest boy, and it was rather less than that period which elapsed between the separation of the eldest and youngest boy, and the development of undoubted symptoms in the latter. This last calculation (see dates) suggests that the youngest boy caught the disease from his eldest brother the day before the appearance of any rash.

If these opinions should prove to be true, the difficulties in arresting an epidemic of measles will be unusually great. The last conclusion is a point upon which the attention of medical officers of health might be more particularly directed.

Other questions also suggest themselves from a consideration of these cases. Do infectious diseases differ in their character or severity according to the stage of the disease in which the infection is propagated? Is measles, when caught during the prodromal stage, more severe than when propagated at another period? Do the investigations of Pasteur suggest that there may be a difference in this respect?

The treatment adopted in the above cases consisted in the strict use of disinfectants—carbolic acid being used about the room, and for a suspended sheet at each doorway—and a solution of thymol for sponging the body night and morning. Internally, sulphite of soda in ten grain doses was given thrice daily.

BEQUESTS.—Mr. James Bourne, of Stoke, bequeathed £1,000 to the Royal Albert Hospital at Devenport, and, in the event of his widow failing to exercise a certain power of appointment, £4,000 additional, and £500 to the Seamen's Hospital (*Dreadnought*) at Greenwich. —Mr. William Henry Le Bas, of Wilton Crescent, bequeathed £100 to the Brompton Hospital for Consumption and Diseases of the Chest, and £100 to the City of London Hospital for Diseases of the Chest. —Miss Mary Ann Barbara Holburne bequeathed £100 to the Royal United Hospital, and £100 to the Mineral Water Hospital both at Bath.

THE Hay-Fever Association, which recently held its annual meeting in New Hampshire, has twenty-seven vice-presidents distributed through all the states of the Union. It has two committees, one on "Scientific Facts", the other on "Proposed Remedies".

BRITISH MEDICAL ASSOCIATION.

FIFTIETH ANNUAL MEETING.

PROCEEDINGS OF SECTIONS.

ON BONE-SETTING.

Being an Introduction to a Discussion in the Section of Surgery at the Annual Meeting of the British Medical Association in Worcester, August 9th, 1882.

By HOWARD MARSH, F.R.C.S.,

Assistant-Surgeon to, and Lecturer on Anatomy at, St. Bartholomew's Hospital.

FOR some years, the value of manipulative movement as a method of treatment has attracted an increasing amount of attention. This has been, partly, because those who have used it in the ordinary course of practice have found it successful in a variety of cases. But it has also been due, in part, to the circumstance that it has become the fashion with many of the public to place themselves in the hands of bone-setters, with the effect that, while some, as I shall presently show, are either cajoled or injured, others undoubtedly receive some benefit. Both these results have led surgeons, alike in the interest of those who consult them and in respect to their own position, to look carefully into what passes under the name of bone-setting.

It will be remembered that, in 1867, Sir James Paget gave a clinical lecture on the Cases that Bone-setters Cure, which was afterwards embodied in his volume of *Clinical Lectures and Essays*; while, in 1871, Dr. Wharton Hood issued, in a separate form, some lectures which had originally appeared in the *Lancet* on this subject. To Mr. Banks of Liverpool, Dr. Spender of Bath, Mr. Cross of Clifton, and others, we are indebted for instructive contributions. As to what I have now to say, I know there are many here who will find little of novelty in it. I am, however, happy to rely on their readiness to supply, in the ensuing discussion, the omissions which they will not fail to detect in my paper.

Bone-setters are a very miscellaneous group, who resemble each other mainly in the negative point, that they have never studied either anatomy, pathology, or surgery. Some are blacksmiths on the Cumberland hills, or shepherds in the sequestered valleys of Wales. Practitioners of this kind, standing in the same relation to surgery that herbalists bear to medicine, have existed, in these remote districts, from immemorial times. They belong to the same order which in bygone days included fortune-tellers, ring-charmers, and the workers of all kinds of village miracles. At the other end of the scale are practitioners of a less unsophisticated stamp. Residing in large towns, they equip themselves with the names of the principal bones and muscles, and with a few stock medical phrases; they procure a skeleton, on which they undertake to show patients the precise nature of their complaints; they employ anaesthetics freely, and make full use of daily passive movements, rubbing and shampooing; while, in spinal cases, they often put on Sayre's plaster-jacket. These individuals, however, are in the same position as the most homely of their order, in this important particular—that diagnosis, properly so called, forms no part of their system. Indeed, diagnosis and their method are two things that are incompatible. At present, the bone-setter's programme is both concise and logical. In every case alike he asserts that a bone is out, and that he can put it in. Now, the second clause of this formula postulates the first. But let him once enter upon diagnosis—let him once find, not that a bone is out, but that the case is one of tumour, or paralysis, and he has cut the ground from under his own feet. No. Beyond the assertion that a bone is out, or some similar phrase, he never goes. If pressed for particulars, he cuts the knot by saying, "I can cure you—what more do you want?" Old Mr. Hutton of Watford used to say, "Don't bother me with anatomy—I know nothing about it." A patient, therefore, who consults a bone-setter is simply playing a game of hazard. His fate depends on what is the matter with him. If he has a stiff ankle after a sprain, he will very likely be cured. If he has a strumous joint, he will be more or less injured; while if he has a bunion, or a node on his tibia, he will find himself neither better nor worse for his venture.

Our ordinary experience of bone-setters' practice illustrates all this. For my own part, I have known several cases in which they have done good; while, on the other hand, the following instances have come under my own observation. One lady, aged 60, had a bursa at large