abruptly it seems to make the child peculiarly restless and irritable. As to surgical operations, one case became distinctly worse after the removal of tonsils and adenoids, another was unaffected in any way by the same operation, while a third seemed to improve. One case suffering from rather bad phimosis showed no improvement as regards the convulsions after being circumcised.

Conclusion.—From what has been said it seems difficult to avoid the belief that convulsions in infancy associated with reflex causes have a much more serious prognostic significance than is usually supposed, not only as regards the frequency of the convulsions but still more as to the probability of future mental and moral deterioration. The reason why it has been customary to attach so much importance to convulsions of idiopathic origin is twofold: (1) the great *a priori* probability of such a view, and (2) the failure to follow up for any considerable length of time cases of convulsions associated with reflex causes. It is only the latter more humble task which I have been attempting here: at the same time, one might point out that the *a priori* reason is not so formidable as it seems. “*Cessante causa, cessat et effectus*” sounds very conclusive, but, of course, when we speak of rickets, teething, specific fevers, &c., being reflex causes, in strictness of logic they are merely antecedent (or concomitant) conditions, the cause being simply the totality of antecedents among which the intrinsic condition of the brain may possibly be the most important. One might also readily argue that a convulsion, to whatever cause it may be due, must have some effect upon the brain and that the nervous system very easily forms habits, so that the fact of having had one convulsion, however induced, renders it more liable to have another quite apart from any extrinsic cause. However this may be, the fact remains that in 200 cases taken haphazard, carefully investigated and followed up, the prognosis as to the future moral and mental condition of the child does not appear to be any better when the first fit is associated with a reflex cause which can be removed than when it is of idiopathic origin. It will, however, be necessary for our knowledge of the pathogenesis of epilepsy to be much further advanced than it is at present before its precise relationship to infantile convulsions can be determined.

Green-street, W.

THE PROPHYLACTIC USE OF ANTI-DIPHTHERITIC SERUM.

BY WILLIAM W. SHACKLETON, M.D. DUB.

THE following short account of the prophylactic use of anti-diphtheritic serum during an outbreak of diphtheria last autumn in a school containing over 300 boys may be of interest.

On Sept. 7th, 1905, two cases occurred in a junior house (which I will call E House) which had at the time 44 boys resident in it. From that time to the 13th four more cases occurred in this house and one in a senior house. In addition to these a boy in E house was removed and isolated on account of having a nasal discharge in which Klebs-Löffler bacillus was found; this boy was placed amongst the diphtheria cases and by douching a quantity of the membrane was removed from the nasal cavity. Out of 45 boys seven had developed diphtheria. I therefore on the 13th inoculated all the boys remaining (38) in House E with 2000 units of anti-diphtheritic serum supplied by Burroughs and Wellcome. The next morning (the 14th) one case occurred and after that not a single case occurred for five weeks in this house. I examined these boys' throats every day and took swabs therefrom. I found nine boys with the diphtheria bacillus present. These boys I isolated (not putting them, however, with the diphtheria cases) and kept them so until swabs were obtained free from the bacillus. The bacilli were persistently present in one boy's throat for five weeks, at the end of which period he developed small patches of membrane on each tonsil. He had been inoculated on the 13th with his house. This is interesting as tending to support the view generally held that the prophylactic effect of the serum lasts about five weeks.

On the 28th I saw a boy from a senior house who had well-marked membrane on the tonsils and soft palate. The

diphtheria bacillus afterwards was proved to be present. He acknowledged that he had had a sore-throat for two or three days but had kept the fact to himself. I therefore examined all the school (317) and found two cases of diphtheria. On the following day, with the help of my colleague, Mr. G. Francis Smith, and Dr. J. H. Hebb, all the boys in the school (with the exception of E house previously done) were inoculated with 1000 units of anti-diphtheritic serum supplied by the Lister Institute. No more cases occurred amongst the senior boys.

In E house, which was the original focus of infection, one case occurred on Oct. 18th. This case was that of a boy who had come back on Oct. 14th and was not inoculated. He was the only boy in the whole school (except those who had actually developed diphtheria previously to the inoculations) who had not had a prophylactic dose of serum. Amongst the 317 healthy boys inoculated no ill-effects ensued. One boy was kept in bed two days as there was a good deal of pain and swelling in the region of the inoculation. No other boy was absent from the school or unable to play games. Many had slight urticarial rashes. I found that the least painful place to inject was the buttocks. The inoculation of this large number of boys was done in about two and a half hours, thanks to the able assistance of the staff. All that we had to do was to fill the syringes and inject. By having a good supply of needles a sterilised needle was always ready. The skin was previously well scrubbed with soap and antiseptic and covered with a moist dressing, gauze being strapped on immediately after the injection. On the 19th the boys of E house were for a second time inoculated with 1000 units of serum. This I did after the boy who had missed being inoculated developed diphtheria. A month had elapsed since the first inoculation.

To sum up. No case occurred amongst boys belonging to E house after the first inoculation for five weeks, except one, and that on the day following the injection. The case that did occur at the end of five weeks had the Klebs-Löffler bacillus present during the whole of that period. One other case occurred in E house but that was in the case of the only boy who had not received any serum. No case occurred amongst the senior boys after the injection, although three cases had occurred and these were freely mixing with their companions until detected and removed. That no cases did occur and escape detection I am pretty certain, as I made a daily inspection of all the boys' throats for a considerable time. I may add that all the 14 cases of diphtheria did well. With the one exception of the boy at large for two or three days all of them got inoculated within a few hours after the first symptoms of the disease had manifested themselves.

Bushey, Herts.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF FAUCIAL ANGINA WITH FALSE MEMBRANE (NON-DIPHTHERITIC) SIMULATING DIPHTHERIA.

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A WOMAN, aged 38 years, felt her throat uncomfortable on August 5th, 1906. She sought advice on the 6th, when the pharynx was found to be slightly congested and a thin film was observed on the tonsils which, however, were not noticeably enlarged. There was no nasal discharge nor were any glands unduly enlarged. The film on the tonsils was easily removeable without leaving a bleeding surface. These early clinical signs were on the whole against a diagnosis of diphtheria. Cultivations made from a swab showed the presence of cocci and a few wedge-shaped bacilli. On the 7th there was a more pronounced film, a second swab cultivation showing streptococci and other cocci. On the 9th there was definite false membrane of considerable extent and thickness. Large patches were visible on the left tonsil