even when in the tropics and covered with blankets. For the past year he had had "cold shivering sensations" down the back and legs. On one occasion, six years after the onset of the disease, his legs underwent most alarming vasomotor and sensory disturbances. While sitting at the breakfast table he noticed a "numb feeling" in the toes, which slowly spread up the legs to midway between the pubes and umbilicus. The lower limbs were absolutely paralysed and, he fancied, anaesthetic. When undressed and placed in bed his legs were seen to be of a diffuse pale bluish colour, "as if mortification had set in," to use his words. The discoloration lasted two days, and on the first day he could not move the legs at all. On several occasions the legs, one or both, had been very swollen, even up as far as the thighs, leaving "pitting" on digital compression. The oedema more or less subsided during the night, but recurred daily for weeks. It was most marked when the perforating ulcers were most active. In fact, he came for treatment on the present occasion on account of inability to walk unaided, with extensive oedema and hyperaemia around a deep ulcer on the sole of the right foot. The presence of deep pus was confidently diagnosed, but in response to fomentations and rest the condition rapidly subsided without any discharge.

A. P., aged 58 years. One of the earliest symptoms was a sudden, extensive, painless, and unaccountable swelling of the whole of the right arm from the wrist to the root of the neck. It was variously diagnosed (phlebitis, acute inflammatory changes, etc.), but gradually subsided under rest. Within a few months thereafter the condition recurred. In half an hour the limb became enormously swollen, and this time of a lemon colour of varying intensity and darker on the outside of the arm. This condition lasted several weeks and then left the shoulder-joint disorganized and dislocated. At times his feet burned and he was obliged to cool them outside the bedclothes. His feet were habitually inclined to swell.

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TWO CASES OF CONGENITAL APHASIA IN CHILDREN.

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THE following cases, illustrating the forms of mental defect known as word-blindness and word-deafness, were met with during the course of medical inspection of the elementary school children. As they seem to be fairly typical examples of these conditions they appear to be worth recording.

CASE I.—Word-blindness.

V. C. (male), aged 12 years, was presented on account of his inability to learn to read. His teacher, who had had the boy under observation during the whole of his school career, believed that, except for the above-mentioned defect, he was of quite average intelligence. Most painstaking efforts had been made to teach him to read; for many years he had had extra tuition at school for this purpose, but with practically no result.

The family and previous history were unimportant and his general appearance presented nothing abnormal. Nutrition was fair. The expression was intelligent, muscular movements co-ordinated and active, and response normal. No obvious stigmata of degeneration were observed. Hearing and vision were normal. He answered questions readily, recognized by name all objects presented to him, but failed to spell the noun denoting a given object. He recognized single letters, but was unable to interpret the written word. Words of one syllable in an infant's reading book baffled him completely. If such a word was spelled aloud, for example, p o t, he said "top"; c a t, he interpreted as "fox." He wrote well from a copy, and had a good eye for form; he drew well from still life. One of his drawings represented an onion in section; below was written "Onion, cut across." When shown the word "onion," he named it correctly, doubtless from association of ideas; the two following words "cut across" he was unable to recognize. He could not write a single word from dictation, but could write his own name correctly, this being obviously mechanical, due to frequent repetition. He was a well-behaved lad, and, in short, except for the condition of word-blindness, was a normal individual. It was proposed that he should join the wood-carving class at the school, and he might possibly develop into a very fair carpenter, as he had an eye for form and considerable manual dexterity.

CASE II.—Word-deafness.

X. Y. (male), aged 8 years, Oriental by birth. The family was English speaking, and had been in this country for about a year. Family and personal history, so far as can be ascertained, had no bearing on the case.

Present Condition.—Fairly well nourished; muscular control was poor; the child jerked and twisted his arms and head con-

tinually. When spoken to he took no notice, and might easily be mistaken for a deaf child. A noise at once attracted his attention, and his teacher, who was an observant woman, was quite sure he was not deaf, as he responded by head movements to sounds made by the other children in the class. He attempted to reproduce the spoken word by lip reading, and succeeded to some extent. His brother, a very intelligent lad, communicated with him largely by signs. When shown an object and told its name he would repeat the word, watching the speaker's lips, but did not retain the memory of the word, even when again shown the object. The palate was very high and narrow; he was a mouth-breather, and post-nasal adenoids were present. His speech was markedly defective and the intonation resembled, in a slight degree, that peculiar to cleft palate (this might be due to the very high palatal arch). As words, however, meant nothing to such a child, he did not attempt to imitate them unless directly made to do so; he therefore did not learn to talk.

This child was doubtless less intelligent than the lad Case I, but possibly more so than the ordinary mental defective. He could probably be trained by lip-reading to understand the spoken word, and some such method would require to be adopted if he were to be taught to hold communication with his fellows.

THE TREATMENT OF RHEUMATIC DISEASES BY VACCINES.

BY

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THE extremely interesting article on the treatment of rheumatoid arthritis in the BRITISH MEDICAL JOURNAL by Drs. Bannatyne and Lindsay tempts me to place on record a few cases which have yielded to the same line of treatment with extremely satisfactory results.

While Resident Medical Officer to the Royal Hospital for Incurables, Dublin, some years ago, where there are always a very large number of chronic rheumatic cases, I was first struck with the peculiar sapraemic appearance of most of these patients, and in some of them it was possible to trace in the history the onset of the disease following upon some distinct infection, or subsequent to a chronic suppuration.

From experience with a large number of cases I believe the focus of infection can at times be ascertained, and although a few are probably due to a specific micro-organism, many cases are due to a general sapraemia following from a localized seat of infection.

Many cases have come under my notice where the focus of infection has been found microscopically to contain chiefly streptococci. In some cases even where no seat of infection—such as bad teeth, leucorrhoea, intestinal putrefaction, and colitis—could be found, I have used the anti-streptococcic vaccines with success. So many of these cases responded with such remarkable results that I think their use is justified in all doubtful cases.

Even in a case of acute articular rheumatism following on an attack of gonorrhoea with subsequent gleet, I have had success by the employment of antistreptococcic vaccines, where the injection of gonorrhoeal vaccines had failed. Examination of the discharge in many cases of gleet, indeed, will reveal the presence of streptococci when gonococci are absent.

Appended are notes on a few of these cases; they are not chosen only because the results of treatment have been to effect a complete cure, but because these patients have given me permission to publish their cases, and are willing to show themselves, and to state their own histories to any medical men who care to see them.

CASE I.

T. O., male, aged 38, hotel porter, consulted me in 1906, with a view to my using my influence on his behalf in the Royal Hospital for Incurables, where he was seeking election. At this time he was practically a cripple, being only able to walk a short way at a time on crutches. He was suffering considerable pain in almost every joint. The knees and ankles were greatly swollen, stiff, and extremely painful. His wrists were swollen and distorted; the neck was also stiff, and he was unable to raise his arms.

The case was a typical one of rheumatoid arthritis. He had had from three to four months' treatment in two of our city hospitals, and was eventually discharged, as he states himself, as incurable.

The evening temperature averaged 99.4°. He was thin and had some sweating at night, and there was considerable wasting of the limb muscles. There was no albuminuria or heart disease.

He was inoculated with antistreptococcic serum every fourth day for three weeks, and every sixth day for a further six weeks. After the third inoculation he improved; the pain began to leave him, and he could walk with sticks instead of crutches, and after the ninth inoculation he was able to walk with one stick, had no pain except in the feet, but was stiff in the legs and neck. He continued to make a rapid recovery, and since then he has been quite well. I saw him only a few weeks ago carrying a large sack of potatoes.

There was no history of any hereditary rheumatic trouble.

CASE II.

F. L., aged 34, female, unmarried, consulted me in October, 1909.

She stated that eight years previously she had an attack of acute rheumatism affecting chiefly her joints. She attributed the attack to cold resulting from her having to sleep in a room heated by hot pipes, where she was at business in a millinery establishment in Edinburgh. She apparently recovered, and after six months she returned to Dublin, where her home is, and for almost twelve months she was able to work, although she still had what she describes as twinges of rheumatism, especially in the left arm. After this time, however, she was seized with a very bad attack of acute rheumatism especially affecting her knee-joints, which were extremely painful. She then went to Harrogate for three weeks' treatment, but without any success. From this time on she was a constant sufferer, and her joints became swollen, stiff, and painful, and she became helpless. She had electrical and medical treatment on and off for two years, which relieved her, but only for a time.

In October, 1909, she came to me, and was inoculated twice a week for six weeks, and afterwards once a week for a further six weeks with antistreptococcic vaccines.

Almost immediately she began to improve, and after thirteen inoculations practically all pain and swelling in the joints had gone. The left ankle-joint, however, was still very much swollen and deformed, and after an interval of two months the vaccines were again continued. Eventually the ankle resumed its normal proportions, all pain disappeared, and in July, 1910, the treatment was discontinued as she was quite well. Since July last she has had no trace whatever of the disease, and she can now walk and run as well as ever she did.

I have seen her during the last few weeks, and she states that she is in better health now than she has been for many years. There was no history of any hereditary rheumatism.

CASE III.

M. A. H., female, aged 42, had suffered from rheumatoid arthritis for nearly eight years. It began quite suddenly with acute pain, heat, and swelling in the left wrist, which spread within a few weeks to her knees, ankle-joints, and shoulders.

She had medicinal treatment for two or three years without receiving any permanent relief. She then got considerable relief from electric light baths and high-frequency currents, and for six months after a prolonged course of this treatment she was much better.

In November, 1909, however, she consulted me. At that time she was in an extremely weak and wretched condition, almost cachectic in appearance. She could walk a little only with the aid of sticks, and had to be lifted in and out of a cab.

I found all the joints were more or less swollen and painful, the muscles were thin and weak, and the knee-joints were distorted and stiff. The temperature in the evening was between 99° and 101° at that time, and the heart sounds were extremely feeble. There was no albuminuria. Her teeth were in a very bad state, and the gums were soft, with pus exuding from them. This pus, on examination, proved to contain chiefly streptococci, and a vaccine was prepared. She was too weak at that time to have her teeth extracted, but after ten inoculations she improved a great deal in health, and the joints became less painful, and she could move them a little.

The teeth and carious stumps were then removed, and after a further ten inoculations she lost all pain and could walk with only one stick. She continued to improve, and I saw her in October last, when she reported herself quite well, and able to walk perfectly freely without pain.

In this case the disease appears to have followed upon an infection from the teeth, which had been in an extremely bad condition for upwards of ten years. I have had other cases almost identical with the above in which the pus from the teeth was apparently the focus of infection, causing rheumatism in many forms, but especially rheumatoid arthritis.

CASE IV.

Mrs. O'B., aged 37, came to me in 1908, suffering from what appeared to be the typical symptoms of a progressive rheumatoid arthritis. Her general health was bad. She was yellow and sallow looking; almost all her joints were more or less affected, especially the knees, which were very large, and contained a lot of fluid. Her teeth were very bad, and she was swallowing a considerable amount of pus from the gums. She also had a purulent leucorrhoeal discharge from a chronic endometritis.

This case I consider probably the most remarkable as, almost as soon as the teeth were extracted and a curetting of the uterus had taken place, the patient improved, and within a comparatively short time, without any further treatment except tonics, the rheumatoid condition dis-

appeared and she became quite well. No vaccines were used, but it seems that the sources of infection were removed in time. I have seen this patient lately, and she is perfectly well and extremely active.

CASE V.

H. G. H., male, aged 34, consulted me in August, 1909. He was suffering from severe pains in the small of his back and along the left sciatic nerve; also in the knees, which were swollen, painful, and hot. He had been treated in the country with medicine, but although he apparently improved, still he never got quite well. He was walking with great difficulty when I first saw him, but he looked fairly healthy and strong, although his temperature in the evening rose a little and the pains had prevented him from sleeping. His history elicited the fact that he had had gonorrhoea six months previously, and was at this time suffering from chronic gleet.

An examination of the discharge failed to find any gonococci, and I inoculated him with antistreptococcic vaccines—in all, ten injections—when he made a complete recovery; and I hear this winter he has been hunting continuously and is quite free from all traces of rheumatism. I should mention that at the same time I treated the gleet by the passing of cold silver sounds and gradually dilating the urethra thereby.

SOME OBSERVATIONS UPON THE DEEP TEMPERATURE OF THE HUMAN BODY AT REST AND AFTER MUSCULAR EXERTION.

BY

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THE following observations are perhaps of interest inasmuch as, while records of the determination of the body temperature of persons suffering from some diseased conditions are very numerous, careful determinations of the temperature of the normal individual throughout the 24 hours are few in number. Pembrey, for example, writing on the subject of the body temperature in the present edition of Schäfer's *Textbook of Physiology*, states that "the observations upon the normal temperature between midnight and morning are so few that it is impossible to give the mean temperature of a day of 24 hours." Systematic observations as to the effect of muscular exertion upon the normal body temperature are even more scanty. In the sanatorium treatment of pulmonary tuberculosis exact information with regard to the variations of the body temperature is most necessary, and for the regulation of the exercise of consumptive patients the effect on the temperature of prescribed amounts of exercise is one of the chief guides. It was the absence of normal standards or controls with which to compare temperature observations made upon tuberculous patients that prompted our inquiry.

Method of Observation.

We first made some preliminary observations as to the relative value of determinations made in the axilla, mouth, urine, and rectum, as representing the deep temperature of the body. We concluded from these observations that determinations made in the rectum give the most accurate records, and that, after the rectum, determinations made respectively in the urine, mouth, and axilla, are the most reliable in the order named. We found that when the body is at rest the temperature of the rectum is a little higher than the temperature of other parts of the body. Our observations showed that—

The average excess of the rectal temperature over the urine temperature is 0.23° F.

The average excess of the rectal temperature over the mouth temperature is 0.9° F.

The average excess of the rectal temperature over the axilla temperature is 1° F.

Immediately after exercise the difference between the temperature record taken in the various ways is much more marked. For example, after a sharp walk we found—

The average excess of the rectal temperature over the urine temperature to be 0.66 F.

The average excess of the rectal temperature over the mouth temperature to be 1.8° F.

The average excess of the rectal temperature over the axilla temperature to be 2° F.