depends on the relative production of a haemolysin or a neurotoxin. We would suggest a similar genesis in many instances of rheumatoid arthritis by means of a toxin with a special affinity for synovial membrane.

However, it must always be remembered that the whole metabolism is upset, and further work is required to investigate other possible factors responsible for the production of the clinical changes observed. Many observers have assigned importance to the isolation of various strains of streptococci from the stools, but the results are so far very variable and no reliable conclusions can be drawn. It is possible that the factor of achlorhydria may have some influence in determining this state of affairs, in view of the work of Billings⁷ and his collaborators on the variability of streptococcal strains in different media.

We wish to thank Dr. Munro, pathologist at the Royal Mineral Water Hospital, Bath, who was responsible for the blood counts and gastric analyses mentioned above.

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A LARGE RENAL CALCULUS.

BY

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LARGE stones of the kidney are not common; in this case the calculus weighed 1 lb. 3½ oz., and it is of interest that the symptoms were very mild and that operative treatment was successful.

The drawings by Mr. Thornton Shiells show well the shape of the calculus (Fig. 1) and the left kidney removed with it (Fig. 2). The main mass of the calculus lay in the dilated renal pelvis; the short branches occupied five of the much damaged calyces. The outlet from the renal pelvis is small, and below that the ureter is seen to be greatly dilated and its wall much thickened. The small calculus partially blocked the left ureter at its lower end close to the bladder.

FIG. 1.—Calculus.

FIG. 2.—Kidney with dilated pelvis.

Dr. H. E. Archer has kindly analysed the calculi and reports as follows:

Renal Calculus.—Weight 1 lb. 3½ oz. (555 grams). Samples taken at five points between the external surface and the centre show a composition, almost constant, of ammonium magnesium phosphate and a little calcium phosphate. The superficial layers also contain a little calcium carbonate. The branches consist of ammonium magnesium phosphate.

Ureteric Calculus.—Weight 2.8 grams. The composition is similar.

The patient was a man, aged 58, who was under my care at St. Peter's Hospital. From youth until he was 35 years old he was in the merchant service, then he retired and lived in Plaistow. For the last twenty-three years his urine has always been dark, sometimes as dark as port, and occasionally he had passed clots of blood. For the last five years his urine had smelt foul. For two years he had occasionally had pain in the left groin but never any renal or vesical pain. A fortnight before admission for the first time he suffered from frequency of micturition, with fever and rigors.

There was no family history of stone. His previous health had been excellent, except for malaria when 21 years old, and acute appendicitis requiring operation five years ago, and gout in one toe three years ago.

On examination the left kidney was easily palpable and obviously greatly enlarged and a little tender. It was freely mobile. His urine was very foul, alkaline, and contained albumin and pus with coliform bacilli and cocci. Cystoscopy showed marked cystitis and an enlargement of the prostate, which could also be felt per rectum. The orifice of the left ureter was inflamed; the efflux was unduly frequent and decidedly purulent. The right ureter was healthy and its efflux clear. X rays showed a large shadow in the left renal region.

The left kidney was explored through the usual incision in the loin, and the kidney containing its calculus was excised and also the greater part of the ureter and the small calculus in it.

Healing was slightly delayed by some suppuration in the scar. Two months later the enlarged prostate was enucleated suprapubically, and he has made an excellent recovery from both operations.

TREATMENT OF URTICARIA WITH COLLOSOL MANGANESE.

BY

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In a large skin clinic a considerable percentage of cases of urticaria, which are most intractable to treatment, are encountered. Although the pathology of urticaria is by no means definitely understood, I think we may reasonably assume that it is due to the action of an irritant on the vessels at the point where the cutaneous lesions make their appearance. This irritant, be it a toxin or protein, may reach the vessels from an external source or from the blood stream. As an illustration of the former I may cite the urticarial rash caused by nettles; the rash in this case is produced by an irritant from the plant reaching the blood and lymphatic vessels through the skin. As an example of the latter, the urticaria following the ingestion of certain shellfish may be taken; here the toxin or protein would appear to reach the blood stream through the intestinal canal.

It is the experience of every dermatologist that often cases are met with for which no cause can be assigned. It was owing to this experience that I was induced to try collosol manganese in the treatment of urticaria. Metals given in a colloid state increase oxidation and stimulate the protein colloidal particles in the serum, resulting in the dispersion of these particles so that the surface exposed to the invading particles becomes greater. The increased activity of the protein particles in the tissue and fluid has a destructive action on the invading protein or toxin.

It was with this theory in mind that I decided to try collosol manganese in some obscure cases of urticaria. The following four cases are given to illustrate the effect.

CASE I.

A woman, aged 27, unmarried, had suffered from daily attacks of "nettle rash" for twelve months. When I first saw her the face, arms, legs, chest, and neck were thickly covered with flat wheals varying in size from a coffee bean to a five-shilling piece. There was intense itching and burning. I gave her 0.5 c.cm. collosol manganese by intramuscular injections. On returning at the end of a week she reported that the rash had been much better and the burning and itching sensation decidedly diminished. I gave another 0.5 c.cm., and she again reported an improvement at the end of the second week. I gave her four more injections (1 c.cm., 1.5 c.cm., 1.5 c.cm., and 2 c.cm.) at weekly intervals, and at the end of six weeks of treatment she was quite free of her trouble. Six months afterwards she had a slight recurrence, and

I gave her two injections (1.5 c.cm. and 2 c.cm.) at an interval of seven days. The rash disappeared and she has been quite free since.

CASE II.

A married woman, aged 24, had suffered from regular attacks of urticaria all over the body, but more pronounced where the clothing was tight (waist, etc.), for nine months. When I first saw her she had a typical urticarial rash on the legs, arms, chest, and round the waist, and at that time any scratching or irritation brought out fresh wheals. She was in a highly excited and nervous condition. I gave her 0.5 c.cm. colloidal manganese by intramuscular injection. On her return at the end of a week she was much better and reported that the rash had only appeared on two occasions during the interval. I gave her another injection of 0.5 c.cm. At the end of the second week she was decidedly better. I gave her four more injections (1 c.cm., 1.5 c.cm., 1.5 c.cm., and 2 c.cm.) at weekly intervals, and at the end of six weeks the symptoms had entirely disappeared. Twelve months after the completion of the treatment she reported herself as being quite well.

CASE III.

A married woman, aged 29. This case was more intractable; after six injections as above described the symptoms still continued, but with less violence. I gave her four more injections (1.5 c.cm.) at intervals of two weeks, and at the end of eight weeks there was no evidence of the rash. After an interval of fourteen months she writes to say that there has been no recurrence.

CASE IV.

A man, aged 48, had been troubled with "nettle rash" for several months. I gave him four weekly injections (1 c.cm., 1 c.cm., 1.5 c.cm., 1.5 c.cm.) by intramuscular injection. At the end of the fourth week he was quite free and the treatment was discontinued.

Since treating the above cases several others have received the same treatment with marked success, but sufficient time has not yet elapsed to include them in statistics.

VACCINATION PROPAGANDA AND THE MEDICAL PROFESSION.

BY

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THERE have been several suggestions recently that the "conscience clause" of the 1898 Vaccination Act should be repealed and compulsory vaccination enforced more uncompromisingly. A suggestion has also been made by a correspondent of the *BRITISH MEDICAL JOURNAL* (July 21st, p. 130) that an active propaganda in favour of vaccination should be launched, with the special object of depicting the horrors of small-pox graphically on mural posters.

It is doubtful if the provaccinist "die-hards" who favour these suggestions quite appreciate what a change has taken place as regards the "vaccination question" during recent years. Whether we like it or not we have got to face the fact that the logic of events has told heavily against the provaccinist position (in some of its aspects at least) and in favour of the antivaccinists.

Infantile vaccination reached its maximum in this country in 1881, when the vaccination figure, expressed as a percentage of the births, was 86.6. Since then it has fallen continuously until in 1921 it was only 38.3. Ever since this decline set in we, as a profession, have taken almost every opportunity, in season and out of season, to warn the public of what we sincerely believed would be the inevitable consequences of this neglect of vaccination—namely, an increase, and a serious increase, in small-pox mortality. When the "conscience clause" was proposed, as a result of the Royal Commission's report, we opposed it for all we were worth. We said it would result in a further neglect of vaccination, and we declined to accept any responsibility for the consequences. At that time we may be said to have "shot our bolt," and the bolt has failed. The "conscience clause" was passed, a further and serious decrease in vaccination followed, but instead of any increase in small-pox mortality it has continued to fall. It is true there was a slight increase for a couple of years, in 1902-3, but since then it has not merely fallen—it has collapsed. For the past seventeen years in this country small-pox mortality has been a negligible quantity. It has caused fewer deaths than almost any other zymotic disease. Even chicken-pox, most despised of zymotics, has caused

1,277 deaths in the sixteen years 1906-20, against only 223 from small-pox, and if we deduct small-pox deaths in vaccinated subjects the contrast would be still more striking. Why, even the registered deaths from vaccinia amounted to 165, and it has recently been admitted, in answer to a question in Parliament, that by no means all the deaths due to sepsis following vaccination are debited by the Registrar-General to vaccinia.

The medical profession has kept saying: "Only wait! Have a little patience and Nemesis will surely come!" But the years pass and Nemesis does not come. Ten years after the city of Leicester, in spite of all medical warnings, had openly set the Vaccination Acts at defiance, an epidemic of small-pox did occur (in 1893), but it was a damp squib, not at all what had been prophesied. Ten years later, in 1903, came another epidemic; again it was a damp squib—certainly not Nemesis. For the past eighteen years there has not been a single death from small-pox in Leicester. And now comes Gloucester, a city almost as notorious as a centre of antivaccination as Leicester. No one will deny that every effort was exerted to make the most of the recent Gloucester epidemic. Everything that press publicity could do to magnify the seriousness of the outbreak and bring home to the public the heinousness of neglecting vaccination was done. Yet instead of a dreadful object lesson the cases have been so extremely, almost absurdly, mild that great difficulty was experienced in persuading the people that this really was small-pox, of the horrors of which they had heard so much. One little baby, six weeks old, was the only victim who has succumbed to it. Surely it is a case of the mountain in labour!

The most regrettable thing about the epidemic, from the medical point of view, is that there ought never to have been an epidemic at all, but for the unfortunate failure of members of our own profession to recognize the true nature of the disease. Once it was recognized and modern measures of prevention, particularly isolation in hospital, put in operation, the outbreak quickly subsided. Yet this is the time when the die-hards would agitate for provaccinist legislation and embark on propaganda. Surely we must show some sense of proportion if we would retain the respect and confidence of the public, which looks to us for advice and guidance.

I recognize and admit, in spite of the fact that small-pox mortality has been declining in this country for the past fifty years, that at some future time it may return. So may that of any other zymotic disease that has disappeared or is disappearing since the advent of the sanitary era. But happily in the case of small-pox we possess a "talisman" which we do not possess in the case of any other disease. I refer, of course, to recent vaccination, to be performed if the need for it should ever arise, and which for me robs small-pox of much of the terror which it seems to inspire in so many other medical men.

To prevent misapprehension let me say that it is not vaccination which is at fault to-day, but rather, as I suggest, our method of using and applying it. The power of vaccination to confer temporary immunity against small-pox upon the individual is still as certain to-day as any fact in the whole field of medicine. But I venture also to say that the case for compulsory infant vaccination as a measure for protecting the community has never been weaker. I suggest that it rests on a very shaky foundation, and that it is only a question of time before this country will follow the example of the State of New York and see the wisdom of entirely abolishing compulsory vaccination. Those who believe in infant vaccination will still be able to have their children vaccinated, and those who object to vaccination will please themselves. When that time comes this unhappy controversy, which has aroused so many bad passions, wasted so much printer's ink, taken up so much valuable time of the Minister of Health in answering questions in Parliament, and done more than anything else to bring our profession into disrepute, will no doubt die a natural death from inanition. Prejudice against and opposition to vaccination will follow suit from lack of food to feed on, and if and when virulent small-pox returns and the need for recent vaccination arises, it will be far easier, I submit, to persuade people to be vaccinated.