would propose, by suitable adjectives, to discriminate its different forms. For clinical purposes these latter present us with most important peculiarities of character.

We may perhaps conveniently recognise three principal divisions, under each of which several groups may in the future be arranged:

DIVISION I.—Herpetiform morphœa; the patches being arranged on the pattern of herpes in streaks or bands, and, however extensively bilateral, seldom or never with exact symmetry.

DIVISION II.—Acroteric morphœa, in which, although the whole skin may suffer more or less, the beginning and the greatest severity of the disease are almost invariably at the extremities. No location in streaks, symmetry always marked, and Raynaud's phenomena not unusual. This form is met with almost solely in adult women, and shows no tendency to spontaneous cure.

DIVISION III.—Hide-bound conditions of skin, in which the subcutaneous tissue rather than the skin itself is implicated. In this division are to be placed for the present certain cases which differ more or less definitely from both the preceding, and concerning the exact relations of which it is very difficult to speak. There are no ivory patches, nor are the extremities preferentially affected.

These woodcuts show the state of the foot in the Liverpool case of morphœa affecting the saphena nerves. They are copied from drawings lent by Dr. Hugh Jones

In illustration of Divisions II and III I have before me some very interesting and important cases. They must, how-

ever, for the present be left aside, as it is the purpose of the present paper to deal only with the herpetiform class.

(To be continued.)

A CASE OF TETANY TREATED BY THYROID-EXTRACT.

By BYROM BRAMWELL, M.D., F.R.C.P. EDIN.,
Assistant Physician to the Edinburgh Royal Infirmary, etc.

ABOUT a year ago I was asked by Professor Annandale to see a patient in whom tetany had developed after removal of the thyroid gland. The case was being treated with small doses of thyroid extract. The spasms were very severe, and the small doses of thyroid extract had not produced any apparent benefit. Professor Annandale's object in asking me to see the patient was to ascertain what quantity of the thyroid extract it was advisable to give in such a case. I advised that the remedy should be pushed in much larger doses. This was done. In the course of a short time the tetany and other serious symptoms disappeared, and the patient made a rapid and complete recovery.

Now, it is well known that after complete removal of the thyroid gland tetany not infrequently develops, and that the patients in whom this form of tetany is developed often die. Gowers, for example, says: "When the whole thyroid is removed tetany supervenes in about one-sixth of the cases. This is the average of a series of cases reported by various surgeons, which have varied from 7 in 70 (Wölfler) to 12 in 53 (Billroth). All the patients have been young females still in the developmental period of life. The symptoms of tetany set in during the first ten days after the operation. It does not follow partial extirpation. It has been observed in association with atrophy of the thyroid and myxœdema. This remarkable relationship to thyroidectomy will be considered further in connection with the pathology of the disease." And, in speaking of the pathology of the disease, he says (p. 707): "The frequent occurrence of the disease after excision of the thyroid gland is a pathological fact of great importance but not yet of clear significance, although most observers consider that a toxic mechanism is the probable explanation. The malady has been thought to be the first result of the process which leads to myxœdema and the 'cachexia strumipriva,' and to be due to the accumulation in the blood of some material, as mucin, which it is the function of the thyroid to change. With the admission of the possibility of this we must at present be content."

My own view of the pathology is that this operative tetany, as it may be called, is merely one manifestation of acute myxœdema, and that it is the result of the arrested thyroid secretion. The fact that this form of tetany, which, if left to itself, is apt to terminate fatally, can be arrested and cured, as Professor Annandale's case shows, by the administration of thyroid extract confirms this view. And here I should state that it is not the tetany which is fatal, but the acute myxœdema—that is, the arrested thyroid secretion—of which the tetany is only one manifestation.

The striking and prompt benefit which was produced in Professor Annandale's case made a profound impression upon my mind, and I said to myself mentally, "If arrest of the thyroid secretion can produce operative tetany, and if the administration of thyroid extract can cure operative tetany, may it not be the fact that ordinary (idiopathic) tetany is due to a deficient thyroid secretion, and that ordinary (idiopathic) tetany can be cured by the administration of thyroid extract?" I mentally determined to try the remedy in the first case of idiopathic tetany which came under my notice.

On March 20th, 1895, Dr. Young, of Dundee, wrote me as follows: "Would it be too much trouble to tell me if anything more might be done for the little fellow W., who was in your ward suffering from tetany last April? He has been taking large doses of bromide of potassium without any effect, and, although fairly well during last summer, he is now much as he was when you saw him."

The patient, a boy aged 8, was under my care in the Edinburgh Royal Infirmary from April 5th to 25th, 1894. The

case was a highly typical and characteristic one. The disease was of some six months' duration. The spasms were very frequent and severe; they affected the muscles of the hands and feet, arms and legs, chest and larynx. The pain which resulted from the spasm was so great that the patient frequently cried out. The temperature was subnormal. Cold induced and aggravated the spasms. There were no indications of rickets.

During his stay in hospital he was treated with bromide of potassium and chloral hydrate, and was kept in bed and protected from cold. Under this treatment he improved considerably, and was sent home relieved but not well.

During the summer of 1894 he remained fairly well, but, as Dr. Young's letter states, a relapse occurred and the spasms again became severe during the past winter and great frost of the present year.

And here let me say that the fact that cold seems to aggravate the spasms and to produce relapses, and that the disease is much more frequent in winter and in spring than in summer or autumn, is another important point of relationship between tetany and myxœdema. Everyone knows that cold predisposes to the production of myxœdema. Professor Victor Horsley's experiments illustrate this most forcibly. He excised, for example, the thyroid gland of a sheep; it remained well until it was shorn; it then manifested the symptoms of acute myxœdema and died. Further, in cases of myxœdema and sporadic cretinism, the symptoms are almost always aggravated by cold and relieved by heat. In some cases of tetany, too (my experience of the disease is insufficient to allow me to make a more definite statement on this point), as in almost all cases of myxœdema and sporadic cretinism, the temperature is subnormal.

In reply to Dr. Young's letter, I advised him to try the internal administration of thyroid extract; and I explained to him my reasons for recommending this plan of treatment. These reasons were as follows:—

1. Total extirpation of the thyroid gland is followed in a considerable proportion of cases by the development of tetany. This form of tetany is often fatal.

2. In some cases at all events (as Professor Annandale's case shows) this operative tetany can be promptly arrested and cured by the internal administration of thyroid extract.

3. Operative tetany is in all probability merely a manifestation (symptom) of acute myxœdema and due to arrested thyroid secretion.

4. Idiopathic tetany, like idiopathic myxœdema, seems to be induced and aggravated by cold.

5. It is not improbable, therefore, that idiopathic tetany may be the result of defective thyroid secretion.

6. If this is so it is probable that idiopathic tetany can, like idiopathic myxœdema, be cured by the administration of thyroid extract.

In my letter to Dr. Young I asked him to let me know in the course of two or three weeks what the result of the treatment was. On April 11th, 1895, he wrote me as follows:

It is now three weeks since the little fellow W. began to take thyroid extract, and the success seems almost phenomenal. His spasms have quite ceased and he is much brighter and more active. He has been taking three tabloids (Burroughs, Wellcome and Co.) for the last fortnight. Shall we continue the thyroid still? His parents wish me to say how very much obliged they are for your kindness in suggesting this "wonderful cure."

On receipt of this letter I again wrote Dr. Young asking him to give me in his own words a further statement of the case. On April 16th he wrote me as follows:

I am glad to be able to give you the particulars you wish regarding the tetany case.

J. W., aged 9 years, has suffered from tetany since November, 1893. In 1890 he suffered from a very severe attack of whooping-cough. In 1892 he had an attack of influenza with bronchitis. In July, 1893, he was knocked down by swinging jute. His parents are healthy; his father exhibits unilateral sweating. He has two sisters alive and healthy; a sister died at the age of 13 from pernicious anemia. The disease (the tetany) was excited by cold, and always worse in cold weather. He rarely missed a day without an attack; the spasms were very severe, affecting the arms and legs and the muscles of the chest and larynx (laryngismus). Between the attacks he complained of pain in the wrists and ankles. He also suffered from headache, breathlessness, and palpitation on the least exertion. Before the thyroid treatment was commenced his mental activity was much impaired; he had no desire to look at pictures, or to go out or play. His temper was wicked; he was easily angered, and would attack other children. The tetany has been treated by the usual drugs, arsenic, chloral, antipyrin, bromides (15 to 45 gr. daily), cod liver oil, etc., but without marked improvement. In May, 1894, he had an

attack of pneumonia, preceded by a convulsion; for some weeks after this attack the spasms were less severe.

The thyroid treatment was commenced on March 22nd, 1895. For the first three days he took one tabloid (Burroughs, Wellcome and Co.) a day; for the next three days two tabloids daily, and then three tabloids daily, in accordance with your recommendation. At the end of three weeks (on April 13th) the thyroid treatment was stopped as you advised.

There was no marked change until the three tabloids were given; since then the symptoms have gradually passed off. Since then there have been no spasms, no crowing, no pain, no breathlessness, no headache, and no palpitation. He is going out every day, is much brighter, and, his mother says, in every way a "different boy." There have never been any symptoms of thyroidism.

On May 15th Dr. Young again wrote me as follows:

The tetany case is still doing well. There has been no return of the spasms, and the mental condition seems very much better. He is now at school, and is interested in his tasks, and has lost that stupid look which he previously had. He is altogether a "different boy," his mother says.

Such is the result of the treatment in this case. Now, under ordinary circumstances I would not think of drawing any definite therapeutic conclusions from the results of treatment in a single case. But the circumstances of this case are not ordinary. The administration of the remedy was advised with a definite therapeutic object, based upon a definite line of reasoning and upon undoubted clinical and pathological facts. (See above.) The remarkable success of the treatment seems to corroborate that reasoning, and seems to show that in some cases at least idiopathic, like operative, tetany is due to defective thyroid secretion, and can be arrested and cured by the administration of thyroid extract.

My object in publishing the case and directing attention to the subject at this early stage of my investigations is to obtain information from the experience of other and independent observers. I see very few cases of tetany, and if I were to wait until I had had personal opportunities of treating a sufficient number of cases to justify me in forming a definite opinion as to the value of the treatment, I might have to wait much longer than I would wish. I am anxious, therefore, to have the co-operation of other observers. I look forward with some degree of confidence to the results, for the prompt success which resulted from the treatment in Dr. Young's case seems to be such a striking confirmation of the reasoning on which the administration of the remedy was recommended that it is difficult to believe that in it the disappearance of the symptoms was a mere coincidence or accident.

It is highly probable, I think, that the thyroid extract will be found to be a valuable remedy in some other cases of tetany. I do not say in all cases, for it is possible that the clinical condition which we term tetany may, like the clinical condition which we term an epileptiform convulsion for example, be due to a variety of different causes; hence it does not follow that because thyroid extract can cure operative tetany (as Professor Annandale's case shows), and some cases of idiopathic tetany (as Dr. Young's case seems to show), that it will cure all cases of idiopathic tetany.

Idiopathic tetany is a comparatively common condition in young children, but is rare in older children and in adults. It is possible that the infantile and the older cases may be due to different conditions, and that thyroid extract may cure the older cases but may be useless in the infantile cases. Whether this is so or not can only be determined by direct observation and therapeutic research.

Infantile tetany is in the vast majority of cases associated with rickets. Like laryngismus stridulus it is merely a manifestation of rickets, and it is important to remember that it is usually very amenable to treatment, easily cured by appropriate feeding, milk, fresh air, tonics, cod-liver oil, the syrup of the phosphates, lacto-phosphate of lime, bromide of potassium, and chloral hydrate. Further, in many cases it tends to get well of itself. These facts must be kept in mind in drawing conclusions as to the effects of the thyroid extract in the treatment of this, the ordinary infantile form of tetany.

I am anxious then to know whether (a) the ordinary infantile form and (b) the rarer adult form of tetany can be arrested and cured by the administration of thyroid extract.

If it should prove to be the case that the ordinary form of infantile tetany is arrested by the administration of thyroid extract, it will, I think, be reasonable to conclude that it, like operative tetany, is due to deficiency of the thyroid secretion. But, further, if the ordinary form of infantile

tetany, which seems merely to be a manifestation of rickets, can be cured and arrested by the administration of thyroid extract, it will be very interesting and important to note the effect which thyroid extract (or, preferably, perhaps, thymus extract) has in cases of rickets and laryngismus stridulus.

In thinking over the results of Dr. Young's case several other interesting therapeutic questions have suggested themselves to my mind; but it is useless to theorise or to publish these suggestions until we have further facts.

I repeat that my object in publishing this isolated case is to direct the attention of other physicians to the subject. In the first place, I wish to know whether idiopathic tetany—both the infantile and adult forms—can be cured by the administration of thyroid extract. I hope those members of the profession who happen to have well-marked cases of tetany under observation will try the effect of the remedy and will publish their results.

In conclusion, I have to thank Dr. Young for so kindly placing the case at my disposal.

A CASE OF ACROMEGALY WITH WERNICKE'S DIFFERENTIAL SYMPTOM.

By J. LYNN THOMAS, F.R.C.S. ENG.,
Assistant Surgeon to the Cardiff Infirmary.

THIS case is under the care of Dr. J. D. Williams, of Cardiff, and before it came under his observation the patient was diagnosed as suffering from dropsy and imbecility.

B. K., aged 18, was a strong healthy girl until six years before she came under treatment, when she is reported to have had an attack of Bright's disease. Up to that time she was a bright, intelligent, and very promising child. About four years before she came under treatment she had violent pains in both temples, lost self-control, sang and whistled at odd times, and afterwards her parents noticed her to be dull, forgetful, and to have lost control over the sphincters. She has suffered a great deal at times from temporal and occipital headaches, lassitude, and *tedium vite*. Her eyesight began to fail three years and a-half before she came under treatment, and the large size of her hands attracted the mother's attention about the same time.

It is unnecessary to enter into a detailed description of her general appearance, as it tallies in most aspects with the classical reports of other cases. She has large hands, large feet, large lower jaw, large nasal and laryngeal cartilages. She is 5 feet 9 inches in height, and her voice is rather masculine in type. The circumference of the skull is 23 inches. The thyroid gland is enlarged. There is no evidence of the existence of a thymus gland. The character of the body, including the mammae, is masculine. She has dorsal kyphosis, as is fairly well shown in the photograph. She has never menstruated.

Last January she had excruciating pain along both inferior dental nerves, and she could not smell iodoform and eau de Cologne; but ammonia and other olfactory stimulants of the fifth nerve she could smell.

THE CONDITION OF THE EYES LAST JANUARY.

The following notes made in January, 1895, are very interesting compared with her present condition. She had a slight alternating internal strabismus. The palpebral fissures were equal. The pupils were equal, and their movements harmonious in the sun and shade.

The movements of the eyes were normal in all directions. The right eye was totally blind, and when the left eye was shaded the pupil dilated, and its reaction to light reflected on the retina was *nil*. The left eye was hemianopic on the left or temporal side, and the optic atrophy was not so marked as in the right eye. Like many other patients with defective eyesight, she was surprised to find that her right eye was totally blind. By throwing a pencil of light obliquely on the functionless half of the left retina, there was no contraction of the pupil, therein indicating lesion of the "tract."

By throwing a pencil of light obliquely on the functional

half of the left retina, both pupils contracted "consensually," indicating in my opinion that the lesion is in great probability anterior to the anterior quadrigeminal bodies as the connecting fibres of the centre for "consensual movements" of the pupils is located presumably immediately underneath this region. From reports of the *post-mortem* examination of cases of acromegaly in which the pituitary body was found enlarged, I think that there is very little doubt that the eye symptoms and the anosmia are due to a similar cause in this case.

CONDITION OF EYES ON APRIL 29TH, 1895.

The left eye is *in statu quo*; the right eye is now hemianopic on the temporal side. So that now we can further localise the cause to a lesion of the decussating fibres of the optic chiasma.

In January Dr. Williams and I put the patient on arsenic and antipyrin, but lately she has been taking iodide of potassium, and Dr. Williams thinks the latter has done the most good; but still, owing to the intense periodical headaches she suffers from, we propose to remove a parallelogram of the skull.

SIR PETER EADE, M.D., has been elected Member of Norwich, in the place of the late Lieutenant-Colonel Bignold. Sir Peter has filled the office twice previously.

¹ Read before the South Wales and Monmouthshire Branch of the British Medical Association at Cardiff.