would seem to show that the increase in the size of the cranium during the last four years depends upon development in the occipital and parietal regions, rather than in the frontal. From the photographs which I exhibit, and also from the diagrams illustrating contours of the head in various directions, which I have made with the aid of flexible wire, it will be seen that there is nothing distinctively pithecoïd in the aspect or conformation of this boy's face or skull. Though his forehead recedes, there is no great flattening of the arch of the cranium; the skull is simply on a small scale. The profile, indeed, has somewhat of a bird-like aspect, and, it is remarked, bears strong resemblance to that of the so-called Aztec children exhibited in this country some twenty years ago.

The etiology of this case is by no means clear. Frederick H. is the son of a Yorkshire coachman; and both father and mother appear to be healthy, intelligent, steady-living people, without (so far as is known) any hereditary or acquired constitutional dyscrasia. He is the third of a family of five, all except himself being intelligent and well-formed. He was born at full time, after a rapid labour, consisting of but three pains; and his mother cannot recall any circumstance attending her pregnancy with him differing, in any respect, from the circumstances of her other pregnancies. It is impossible now to obtain any trustworthy evidence on the subject of premature ossification of sutures in this case, a cause assigned by Virchow for the occurrence of microcephaly.

The case, however, is chiefly remarkable for its mental characteristics. In Bucknill and Tuke, the boy is described as "quarrelsome and unmanageable", and, though comparatively intelligent, of a disposition the reverse of amiable. This is by no means his condition now. As a result, no doubt, of discipline, he is now well conducted and fairly sociable. Though unable to articulate clearly more than a few monosyllabic words, such as "look", "come", "see", etc. (which he uses appropriately), he has evidently a fair degree of understanding. Nothing appears to escape his notice; and, on my morning round, he is in the habit of persistently directing my attention to any new thing (such as a fresh toy or some change of clothing) which has fallen under his observation since he last saw me. At school, he tries to imitate writing on a slate, to match colours, and to join in the drilling exercises of the children. That he is able to carry on a train of reasoning may, I think, be deduced from the following incident. A few Sundays ago, having been kicked by one of his companions when walking in the grounds of the asylum, two hundred yards from the house, he left the nurse and children, and ran as fast as he could to the room in which I am in the habit of seeing patients; and, ejaculating "Look, look!", would not rest till I had examined his leg, and accompanied him to investigate the circumstances of his injury.

CASE II.—Albert —, a boy aged 7, has been under observation only since November last. He is a rickety, knock-kneed child, 34½ inches high, 30 lbs. in weight; and, on account of the feebleness of his legs, at present not very active in his movements. His head-measurements are as follows:

Circumference	...	...	...	14½ inches.
From root of nose to spine of occiput	(tape)	...	9½	"
Ditto	ditto	(callipers)	4½	"
" ear to ear over vertex (tape)	...	...	10	"
" ear to ear (callipers)	...	...	3½	"
" ear to middle of forehead	...	...	4	"
" ear to middle of occiput	...	...	4½	"

Though the circumference of the head of this case is not so large by three-eighths of an inch as that first described, the microcephaly is less striking at the first glance. The superciliary ridges are more prominent than in the first case; but the forehead, though low, recedes somewhat less rapidly. The cranium itself is well vaulted. Like Frederick, this boy has a large lustrous eye and well formed features; and his mental characteristics are not dissimilar. He speaks but rarely, but, according to his mother's statement, is not devoid of the power of articulation, having, under the influence of excitement, used even dissyllabic words, e.g., "Jesus Christ". I cannot personally vouch for his ability to make any but simple ejaculatory sounds; but he certainly makes efforts at school to imitate the words he hears. He is, like Frederick, very inquisitive and observant, and is able to point out when they are named most of the garments he wears. He is, as Frederick used to be, rather quarrelsome and masterful; and was stated, on admission, to be at times dangerously violent.

The history of this boy is as follows. He is the youngest child of a family of eight; the other seven children, five of whom now survive, having been free from bodily and mental defect. There is a history of consanguinity between the parents' families, the father having been the mother's second cousin, and there had been instances of mental weakness and of phthisis in previous generations. During her

pregnancy with this child (who was born after the full period of gestation), the mother was in delicate health, much depressed in mind, and in the middle of pregnancy much affected by the shock of seeing one of her children fall violently on his head. This shock has been suggested by her as the cause of Albert's idiocy; but amongst all the circumstances just detailed there is not much ground for surprise that the child should be an idiot. Why he should be a microcephale is another question. One would not suppose that the rickety diathesis, of which the boy presents in his long bones unquestionable symptoms, is one in which premature ossification of the cranial sutures would be met with. Is it possible that the maternal shock referred to may have been an element in determining the abnormal conformation of the skull? I am aware that mothers' statements on these matters are to be received with very considerable caution; but I think they are not to be indiscriminately rejected.

I will not attempt to enter upon any general disquisition upon microcephaly. Suffice it to remark that the two cases just described do not lend any support to Vogt's theory of the pithecoïd characteristics of microcephales.

CASE OF PARALYSIS OF THE SERRATUS MAGNUS.*

By SAMUEL WOODMAN, F.R.C.S.,
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THE recorded cases of paralysis of the serratus magnus muscle are not numerous, and in very few is the paralysis clearly complete. I have, therefore, thought it worth while to publish the following well-marked case.

Francis E., aged 39, after fifteen years in the service of the Trinity Corporation as seaman, was in November 1873 promoted to be lamp-lighter in a temporary ship, the lamps of which (eighteen in number), with reflectors and apparatus, were placed so high above the platform on which he stood, that *all the work was above the shoulder*. In six months after his appointment—i. e., about May 1874—he felt a weakness in his shoulder. At first, he says, "there was a dead sleepy feeling came down over the shoulder-blade"; and he had a difficulty in raising his arm. In the July following (about a year ago), in coming down the hollow mast of his light vessel, he missed his footing and fell twenty or more feet, bringing himself up by throwing out his elbows as breaks. He does not consider that he injured himself by this accident, nor that it had any effect in increasing the affection of the shoulder. The abnormal sensations soon disappeared, but the "weakness" increased, and it is now many months since he has been able to raise the arm above the shoulder. He did not seek medical advice, but continued to do his work, using the left arm instead of the right; but, on returning home early in May last, after being two months on board his vessel, his wife for the first time noticed that his shoulder was "out", and he came at once to me.

On examination, it was found that the usual signs of paralysis of the serratus magnus were present; but the points particularly noticeable were the bulging of the ribs and the raising of the whole of the affected side (the right). In a state of rest, the tip of the right shoulder was an inch and a half higher than the left; and, in the anterior inferior triangle of the neck, the sharp superior angle of the scapula could be seen and felt projecting only an inch and a quarter from the clavicle. The lower angle of the scapula on the affected side was two and a half inches above and an inch and three-quarters nearer to the spine than that of the sound side. It projected one inch from the surface; and, on raising the arm forwards, it started out an inch and seven-eighths from the side. He was able to raise the arm so that the elbow was within two inches of the level of the nipple, but could raise it no higher. On lifting the left arm to an equal height, the measurement at a point corresponding to the acromial process of the sound side was three inches and three-quarters higher on the right than on the left side. The outline of the neck was formed by the levator anguli scapulae, which was much hypertrophied. The spine was considerably curved towards the affected side, but still the girth of the chest was two inches more on that side than on the other. The serrations of the muscles were very plain on the left side, but were not visible on the right. With the exception of this muscle, there was no loss of power whatever in the arm or shoulder; and, when his arm was once raised, he could hold on or pull as strongly as ever.

The application of the induced current caused no contraction of the

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muscles, as it has done in cases where the paralysis has depended on neurosis of the long thoracic nerve only; but I believe that in this patient the nervous power derived from the branches of the intercostal nerves, as well as that from the long thoracic, has been exhausted by great overaction of the muscle; and that atrophy of the muscle has accompanied it.

The bulging and elevation of the side are, I think, caused by the efforts, repeated many times daily, to indirectly raise the arm a little higher by raising the side; and the muscles whose action causes it are the scaleni. The long thoracic nerve may be in this way subjected to unusual pressure, which must tend to aggravate the affection and to retard the recovery.

He has been treated by the daily application of faradisation and cold douches: his arm has been kept in a sling; and he has taken large doses of quinine and strychnia. Contrary to expectation, in two months very considerable improvement has taken place. How far this will extend remains to be seen.

ON TETANY.*

By JOHN HADDON, M.A., M.D., Eccles, Manchester.

THE history of the affection known by the name of "Tetany" is of very recent date as regards this country. In 1869, I met with a well marked case; but it was not until March 1870, when a second case came under my notice, that I found an excellent description of the symptoms in Trousseau's *Clinical Lectures*, and learned, for the first time, that the affection was already well known and named in France. It seems strange that our French neighbours should have seen so much of this affection, when in England it was unknown; and one is tempted to conclude that it had not been met with in this country. This conclusion, however, I fear would not be correct; and I am inclined to believe that, had Trousseau's lectures not been published, English medical literature might to this day have been silent on the subject of "tetany".

And here I cannot help remarking how necessary it is that each member of the profession when he meets with any disease or symptoms of which he cannot find any description in medical literature, should, as a duty, place his observations before the faculty in one of the many periodicals which we possess. Were this done, I feel confident that we would soon require new text-books; and perhaps our increased knowledge, instead of adding to the bulk of such books, would very considerably reduce the formidable dimensions which they threaten to assume.

However, probably the first notice of tetany in English medical literature was made by Dr. Moxon in *Guy's Hospital Reports* for 1870. The second notice of it is by Dr. Wilks in the *BRITISH MEDICAL JOURNAL*, June 10th, 1870. The next notice of tetany occurs in the *Edinburgh Medical Journal* for August 1870, where I recorded three cases which came under my observation. A fourth notice of this affection is published in the *BRITISH MEDICAL JOURNAL* of August 6th, 1870, by Dr. Broadbent; and the last which I have seen was by the late Dr. Currie Ritchie, in the same *JOURNAL*, on October 1st, 1870.

Thus, judging from the cases of "tetany" recorded in 1870, and remembering that Trousseau's lectures had been published but a short time before, I think the inference is warranted that the affection is not new in this country; and that we fail to find records of it earlier solely because it had not previously been described in our literature, and had no place in our nomenclature of disease. From March 1870, I saw no case until March 1875, when I met with two more, the particulars of which I shall now give with all possible brevity.

CASE I.—Mrs. T., aged 39, was married when twenty-five years of age, and had six children, the youngest being four years old. She had one abortion before the youngest was born, and two since, the last having occurred about six months ago. For the last two years, she had suffered from menorrhagia; and, during the past twelve months, she had had diarrhoea to the extent of five or six motions daily. About Christmas 1874, she was very sick, and had excessive diarrhoea, with great pain in the head; and at this time she states that her hands felt powerless. Menstruation, having continued for three weeks, ceased on March 5th, 1875. On March 8th, she had pain shooting from the back to the front of her head, and her thumbs felt stiff. In the afternoon of the same day, about three o'clock, she had an attack of tetany in the hands. On March 9th, at 1 A.M., she had another more violent attack, the feet being also affected. On March 9th, when I saw her about

10 A.M., I found her in bed. She was well nourished, and apparently a strong woman, but suffered from slight deafness. Her face was flushed, and she had an excited anxious aspect. The tongue was natural, she had no appetite, and was very thirsty. The bowels had been moved several times in the morning. The urine was abundant. She complained of great pain shooting from the back of the neck to the forehead, and some pain in the arms. She was perspiring freely. The muscles of the arms were rigid, and hard to the touch; and the thumbs were stiff and incurved. Her pulse was 80; and, with the exception of the pain in her head, she felt tolerably comfortable. I gave her one grain of opium, and prescribed half-drachm doses of bromide of potassium every hour. She remained very comfortable till 2.30 P.M., when she had the first dose of her medicine; and, in a very few minutes afterwards, she had another seizure. Having been sent for, I found her perspiring profusely, with a temperature of 97.4. Her arms and hands were alone affected. The arms were drawn out from the sides, the forearms flexed on the arms, the hand drawn towards the ulnar side of the forearm, the fingers flexed, and the pulp of the thumb rigidly fixed against the front of the forefinger. The head still ached, but her great trouble was pain in the arms. Her breathing appeared to be affected, as if she had a tightness across the chest. She had an aspect of great anxiety; and, looking first at one arm and then at the other, complaining of the pain, she trembled all over, and declared she could not live long unless she was relieved. The muscles of the arms felt hard and rigid, like ropes; and a marked fibrillary quivering could be distinctly seen in the ball of the little finger. Straightening the flexed parts, and rubbing them, gave her relief. In about half an hour, she began to improve, and soon was tolerably comfortable, although the hardness of the arms and incurving of the thumbs still remained. She had another slight attack at 6 P.M., and a still slighter one at 8 P.M., which was the last. At night, her temperature was 98.8 deg. Next day, March 10th, having passed a good night, she felt quite well, with the exception of some pain at the bottom of the back, and pain in the arms when they were touched. She was able to be up at night; and, next day, was about her usual household work.

I examined the urine of March 10th, and found it to be of specific gravity 1.017, with a copious deposit of urates. Acid caused much and long effervescence, and it contained one-fifth of albumen. On March 15th, it contained one-thirtieth of albumen; and since then I have not seen her.

CASE II.—Mrs. G., aged 45, was married when twenty-eight years of age, and had had seven children, the youngest being eleven years old. She had generally been a very healthy woman. Menstruation was always normal, and ceased twelve months ago. During the past two years, she had had diarrhoea more or less; sometimes having as many as twelve motions during the day, and as many in the night. The motions were very liquid, and small in quantity. There was no discharge *per vaginam*. She had pain in the abdomen, and in the small of the back. In the end of April 1875, she suffered from severe headache; at the same time, the bowels were excessively relaxed, and she had severe cramps in the hands and feet. On asking her to describe the cramps, she gave me a very good account of an attack of tetany. About the time of this attack, she noticed some spots on her skin, which is psoriasis. About the middle of March, when I saw her, she had a return of the tetany symptoms in the hands and arms. She took bromide of potassium, and was soon relieved. There was no albumen in the urine. She had spent much on medicine without any relief from the diarrhoea, which was caused by a constriction in the rectum; this having been dilated, the bowels acted regularly, and she considered herself well.

From the account I have given of these cases, some idea may be formed of the character of the affection, but no description can give you a correct idea of what you would observe by witnessing an attack. Trousseau gives a very full account of the symptoms in his *Clinical Lectures*. After following its history in France, he goes on to state that he at first thought the disease was special to nurses; and though he somewhat changed his opinion, still he says it must be admitted that nursing is its most frequent and active cause. It has also been supposed that menstruation, the puerperal state, pregnancy, and diarrhoea, are causes of tetany.

In one of the cases which I have related, menstruation had ceased; but diarrhoea, if we may call it such, existed, although, to speak correctly, it was really constipation.

In the other case, there were both diarrhoea and menorrhagia; and, in addition, albuminuria also.

Thus, in the one case, there was, as we may suppose, a retention in the system of what should have been excreted; while, in the other, there was a drain upon the system through the bowels, the kidneys, and the uterus. Upon what may be the real cause or true nature of tetany, we need not now speculate, since we have not a sufficient number of

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