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

* Read before the Medical Section at the Annual Meeting of the British Medical Association in Edinburgh, August 1875.

cases from which we might hope to arrive at a correct conclusion. Dr. Moxon has called attention to the resemblance between the symptoms of tetany and ergotism, which is certainly very striking. Still, whatever may be its real nature, it is an affection of great interest, considering the likeness it bears in some of its forms to tetanus. What Trousseau describes as the "grave form" will appear to most readers to differ very slightly at all from true tetanus; and yet we cannot suppose that Trousseau was mistaken in the diagnosis. This points to the necessity there is for further observation of tetany; and, therefore, I would urge all who have the opportunity to report any case they may meet with, seeing that by so doing they will add to our knowledge of this affection; and from it, as a stepping stone, we may be enabled to elucidate other allied, and still obscure diseases, the real nature of which can at present only be guessed at.

ABSTRACTS OF

INTRODUCTORY ADDRESSES

DELIVERED AT

THE METROPOLITAN AND PROVINCIAL SCHOOLS,

On OCTOBER 1st, 1875.

ST. MARY'S HOSPITAL.

THE Introductory Lecture was delivered by Dr. RANDALL, Lecturer on Medical Jurisprudence and Hygiene.

Dr. Randall began by stating that, as the advice given to those entering their profession had been well-nigh worn out, and addresses on medical education had been often published, he should begin by touching on a hygienic subject, as a part of State Medicine, before dealing with the ethics and mental discipline of student life. He did not intend to dwell upon the air we breathe, the water we drink, and the food we eat, but on the earth as a receptacle for the dead: perhaps not a pleasant subject, but one exciting much interest and attention at the present time. The productive earth is health-giving and health-destroying, also a purifier and preserver, or antiseptic. After mentioning the health-destroying effects of the earth, and referring to its various conditions under which good and efficient drainage was the only preventative of disease, he proceeded to refer to the purifying action of some kinds of soil which acted by facilitating decay and preventing emanations; and then reviewed in detail the preservative qualities of different kinds of earth, and the modes adopted by some nations for preserving and others for destroying the body. He illustrated the result which dry and sandy soil seemed to have in not permitting decomposition by examples of the dry and calcareous vaults at Toulouse and Dublin, and of bodies found in Peru in a state of preservation, buried in those sandy regions, where the rain never falls, and the sand is rendered so perfectly dry as to cause absorption so rapidly, that putrefaction does not take place. He alluded to the dryness of Upper Egypt, to the localities of the catacombs both in Egypt and Rome, and to the mode of embalming the bodies in Egypt. The BRITISH MEDICAL JOURNAL of September 18th had given an example of the antiseptic power of the earth on bodies found at Greenwich, which had been buried for thirty years. He then explained the result of some experiments in the use of charcoal as proposed by Mr. Haden, and its adaptation to the double wicker coffin when kept above ground. The result was, that three or four inches of charcoal, in the intervening space between the inner and outer baskets, were not sufficient, nor six inches; it was not until twelve inches had been reached that offensive emanations and the evidence of ammonia, carbonic acid, and water charged with organic matter, ceased to be given off. Without disapproving of bodies being placed in wicker baskets so as to come into contact with the earth, he did not advocate Mr. Haden's plan of burying the dead with the known object of their being consumed and exhumed at the end of a certain time, that others might be placed in their stead. Do not our notions run counter to such expedients? Are we not imbued with the principles of inviolability of our graves and cemeteries? Is not the burial ground "God's acre"?

"I like that ancient Saxon phrase, which calls
The burial-ground 'God's acre'. It is just;
It consecrates each grave within its walls,
And breathes a benison o'er the sleeping dust."

If a cemetery be filled, is it not preferable to have a new one rather than that the ground should be disturbed and turned up? Let us remain where we have been placed; let that mould with which we are

mixed, and a part of which we form, remain quiescent, and not be made to form a fresh mould to imbibe the emanations and to purify the exhalations of that putrid body which will be put in our stead. In the words of the late Rev. Canon Dale: "For all must feel that an unbroken sod beneath the canopy of heaven is better, far better, than a pyramid which enterprise can penetrate, or a catacomb which curiosity can explore." And, further, to quote his words: "Grant that in less than a century even this wide space be fully occupied, yet the shady grove, the quiet walk, the graceful tree, the budding rose, the springing flower, yea, even the worn grey stone, will be profitable and pleasant to the living." The lecturer then referred to the proposal for burning our bodies called "cremation" as a heathen and pagan custom, which could not be approved of in a Christian country; the present proposal of burning the dead in reverberatory furnaces or near gas-works is something more than disagreeable; it appears revolting and almost brutalising. This dismal annihilation taught by the pagans has in it something so unsuited to the wants of a Christian world, that it takes us back to the ages when those barbarous customs were in vogue; as unsuitable to us as to have our bodies exposed on the summits of the "Towers of Silence", there to be devoured by the ravenous birds of the air, or to be thrown into the sacred Ganges a prey to the rapacious reptiles. The lecturer lastly referred to the great age of Egyptian mummies, one having been unrolled by Mr. Pettigrew, which he dates as being 1,430 years before Christ, or twenty-one years after the death of Moses; hence 3,305 years old: an historical wonder, which seems to make past things appear closer, and is one of the things that are like magnifying lenses, through which we can look at past times and bring them nearer.

Dr. Randall then addressed himself to those who were studying the profession, and more especially to those who were commencing. He exhorted them to consider well and reflect upon the exertions which would be required of them, and the amount of labour which was before them; they ought, with a determined mind, to fix their line of conduct, and repeat, "To be or not to be? that is the question!" Their answer should be a ready and quick one: "To be"—what those who have brought them up and nurtured them expect them to be; what their teachers desire them to be; what their school, for its honour and reputation, demands them to be; and what their conscience tells them to be—diligent, hard-working, attentive, and determined students. He reminded them that they had passed the school of their boyhood, and were now entering that of their manhood, and that the strict discipline of the school of their youth having ceased, they were now comparatively free agents, and their moral and mental discipline, regularity and orderly conduct, rested with themselves. Lecturers and tutors had been appointed to teach them, to assist, guide, advise, and encourage them; provision for studying and becoming acquainted with disease had been made for them. He said: The trench has been mapped out and dug; it is for you to lay the foundation, to lay a substantial and lasting one; to fill up this trench and raise it by degrees to a superstructure, a temple of knowledge, which, it is true, will take a period of four years to build, an apparently long time; therefore, the more likely to be well and firmly built, and well furnished. He pointed out to young beginners the necessity of making a good start with anatomy, histology, and chemistry, and the advantages of a thorough knowledge of each subject. He exhorted them in their moments of despondency and anxiety—for the most conscientious students were often the most anxious—to remember that determination and perseverance were more necessary for success than great talent or ability. After strongly recommending the study of anatomy, which he said required attention, observation, and memory, he reverted to chemistry and natural philosophy. He believed that chemistry had of late years been neglected, and he said: Chemistry has now become a most important element in your education, pray do not neglect it; without it you cannot study physiology advantageously, nor pathology, nor the principles upon which the treatment of many diseases is based. Under the present system of appointments, many or most of you may be coming sanitary officers, or have something to do with sanitation; without you assiduously go through a regular course of the elements and theories of that science, you will not comprehend its complications, or be able to cope with future difficulties. He advised the study of the laws of light, heat, and electricity, as this branch of physics had become a powerful factor in the treatment, diagnosis, and prognosis of disease. He illustrated this by different instruments now much used, including the microscope and clinical thermometer, which was an instrument as replete with safe diagnosis and prognosis as the stethoscope. Again, electricity and galvanism, as therapeutical agents, have made rapid strides in the last few years. The beneficial effects of these as remedies for the relief of pain, and the restoring of a paralysed limb to use and feeling, or as stimulants, tonics, and sedatives;