The advantages in the application of this new style of bandage have proved of such value that I wish to bring it to the notice of the Royal Army Medical Corps officers, whether in hospitals, etc., or in the various fighting zones, where so many head-injuries are brought under their care. They will find it not only of great service but very beneficial to the sufferers. Its advantages are:

1. The simplicity of application.
2. Can be used in any form of head injury, whether severe or otherwise.
3. It can be used either transversely, or longitudinally.
4. It can be put on so quickly, which is such an important matter to the wounded, and at the same time a great help to the surgeon, when dealing with a large number of casualties.
5. It can be applied without causing any undue movement of the head.
6. It does not produce any discomfort to the sufferer when fixed, as there is no constriction or undue pressure over any part covered by it.

The small amount of bandage required should appeal to all at the present time owing to the enormous amount of material saved by its use. Even if the whole head has to be bandaged it takes but little more than half a roller bandage—which means a saving of 400 yards in every 1,000 yards of material used.

SOME CASES OF SO-CALLED FUNCTIONAL PARESIS ARISING OUT OF THE WAR AND THEIR TREATMENT.

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Exact distinction between functional and organic disease is not easy. To say that in cases of functional disorder no pathological lesion can be found is really a confession of ignorance. Doubtless there is some change in the nervous system, but whether the change is a biochemical one, or whether it involves some molecular disturbance in the individual cell, it is, in the present state of our knowledge, impossible to say. Provided that this lack of knowledge is thoroughly appreciated, the distinction between functional and organic disease is a useful one clinically, and this must be the excuse for the title I have chosen.

The causation of such cases has been manifold. The stress and strain of modern warfare; the weariness and exhaustion following the ceaseless vigil of a strenuous campaign; the shock that follows the bursting of high explosive shells; the pain of trench foot or of rheumatism—all have been factors in the production of a series of nervous phenomena, complex
Clinical and other Notes

often in their manifestation as in their origin, which for want of a better term we designate as functional. Possibly there is some predisposition—an other term for the unknown—in the individual concerned.

These phenomena may exhibit themselves in the complete prostration of the patient, the conversion of what was once a "man" into a mere body without guiding control, with co-ordination between the various centres depressed or entirely gone, or in temporary loss of certain functions such as speech or sight, or hearing or voluntary movement. All grades, all combinations may exist. It is with a particular class of case, with loss of power of movement, with functional paresis, that I wish to deal.

It is remarkable that the majority of these cases of functional disturbance are without any external mark of injury. Just as, to me an old-time simile, if a watch is dropped, and the glass broken, the works often escape injury, so it is with these men. The functional disturbances are entirely out of proportion to the external wounds.

The time of onset has varied in my series. Some of the patients have become "paralysed" within a very short time—a few hours or days or weeks—after their original admission to hospital. In other instances the loss of power has been gradual, and has only appeared after a long course of treatment, perhaps, even, of over-treatment. The lapse of months has resulted in the gradual change from the pains of rheumatism, for example, to the symptoms of paralysis. The subjective symptoms have been converted into objective signs. Doubtless it is much easier to deal with this class of case than with that where there are no such objective signs, where there is a breakdown of the nervous system generally, where emotions have taken the place of a forceful will-power, where the grade of neurasthenia or nervous exhaustion is extreme. Discussion of the treatment of the latter class does not come within the scope of this article. I propose to describe briefly a few cases of the former, and to point out the factors, as far as I can, which led to their recovery.

Case 1.—A. H. This patient was a well-built muscular man, aged 38, who had been nearly twelve years in the regular Army. He was out in Flanders in the first winter of the War, and was sent back to England in January, 1915, with a diagnosis of "trench foot." Subsequently "neuritis" had developed with loss of the power of walking. He had been under treatment at a special hospital since March, 1915, without any real improvement. Various baths, electricity, and massage had been tried. The paraplegia, however, still persisted. For months he had been pushed about in a wheeled chair by kind and sympathizing members of the opposite sex. He came under my care on January 11, 1916. He complained of inability to walk and stand unsupported. There was no wasting of any muscles. The reflexes were greatly exaggerated. He was able to transfer himself by a series of jerky movements to a wheeled chair at the bedside, such movements, or attempted movements, being
Clinical and other Notes

accompanied by palpitation, tremors, flushing, and sweating. He was told plainly at the outset that he had now recovered from his "neuritis," and that his condition was simply hysterical. He was not allowed to support himself with the aid of crutch or stick, and the wheeled chair was forbidden. With some difficulty he was persuaded to endeavour to stand alone. At first his efforts only resulted in his flopping on to the bed or floor, and were accompanied by intense psychic phenomena, followed by a period of exhaustion, when he would lie on his bed, taking no notice of his surroundings. In a few days, however, he began to shuffle along the floor, and he was then made to work a stationary bicycle. Improvement rapidly followed, and on January 29 he left the hospital apparently quite well. He expressed himself as very grateful for everything that had been done for him, and naively remarked that though at first he considered the treatment rather cruel, it had been subsequently fully justified by the results attained. Duration of stay in hospital was just under three weeks.

Case 2.—G. S., aged 21. This patient sustained a gunshot wound on the left side of the neck in May, 1915. Wound of entrance only. Exit wound not seen. X-rays failed to locate any foreign body. He lost the use of his legs when he had been in hospital a short time. Subsequent treatment—baths, massage, electricity, etc., had failed to bring about any improvement and the patient said he was getting worse.

On admission to the 2nd Northern General Hospital on January 11, 1916, there were no signs of any organic disease. His wound was soundly healed and the scar supple. Attempted movements were accompanied by the usual hysterical phenomena and tears would readily come into the eyes. He was rather a delicate looking lad and appeared a nervous wreck, though he said he was most anxious to get well. The situation was explained to him and exercises were at once commenced. Massage and electricity were discontinued, and treatment was begun on the lines of the previous case. Improvement was very rapid and at the end of ten days the patient left the hospital walking perfectly well.

Case 3.—G. B., aged 24. This patient was admitted on November 29, 1915, complaining that he was suffering from "neuritis and frost bite," He had been in England since February, 1915, and treated at various hospitals with baths, electricity, etc. He asserted that he was unable to walk without acute pain and shuffled along the ward with the aid of two stout sticks; the gift of a sympathizing friend. On being told that there was now nothing whatever the matter with him, the patient soon began to walk without the aid of his sticks, which he was not permitted to use. Improvement was rapid. A course of physical exercises was given him and on December 13, 1915, the patient left the hospital carrying his pack and with his sticks under his arm.

Clinical and other Notes

On admission the patient complained of inability to walk in the erect posture. He moved about the ward with his body bent forward from the hips at an angle of about 30°. There were no signs of any injury or organic disease. When he was made to stand with his back to the wall and gently forced into the upright position tremors at once began in the limbs. He was told that there was nothing the matter with his back and was made to practise standing upright against the wall. This combined with a little chaff soon produced the desired result, and he left the hospital within a fortnight fully recovered.

Case 5.—G. N., aged 24. This patient was admitted under my care on January 27, 1916. He had been in England since March, 1915. The original condition was one of rheumatism. He now complained of inability to straighten himself or to walk without the aid of artificial support. His gait was a curious lopsided shuffle. His stick was taken away and he was made to perform vigorous exercises. After a considerable amount of persuasion and trouble he was induced to walk quite normally and he left the hospital at the end of one month.

Case 6.—J. K., aged 27. This patient met with an accident in France in April, 1915, in which he was said to have sustained “contusion of the spine.” He lost the use of his legs and also sensation in the lower limbs after he had been in hospital a few days. He had to be catheterized on several occasions. He was sent back to England in May and was a patient in various hospitals. He came under my care on January 24, 1916. He was improving but sensation was still impaired. There was marked spinal hyperesthesia. He was subject to fits of depression and only went out in a bath chair when so inclined. He had been given a spinal jacket. His appetite was capricious and he was sleeping very badly. On examination it was found that there was no wasting of any muscles or pathological alteration in the reflexes. There was some impairment of sensation in both legs in the stocking area. He had been helped in and out of bed. The opinion was formed that the condition was hysterical and the patient himself confessed that he thought “it had something to do with his nerves.”

He was at once made to get out of bed and try to walk without the aid of crutches or sticks. At first he would only move about by holding on to the ward furniture, but in a few days he walked alone. His gait for a while was awkward, doubtless from want of practice, but this awkwardness soon wore off, and on February 10 he was able to run. In another week he went on furlough perfectly well.

Case 7.—T. G., aged 25. This patient was admitted with a six months’ history of paralysis of the left arm following a trifling injury. The arm hung loosely at his side and the palm sweated freely. There was skin anæsthesia of the whole arm including the shoulder. The muscles reacted normally to both currents and the condition was clearly functional. Varied courses of treatment had already been tried. The
situation was explained to him and every effort made to induce him to move his arm. The limb was held in many positions and supported in them until some involuntary contraction occurred. He was then shown that his muscles were working. Improvement at once began. Physical exercises were given him, dumb-bells, etc. He was made to use the heavy floor polisher, and in a little more than a month the patient was practically well and went on furlough preparatory to return to duty. Sensation returned as use of the arm was regained. The personal super-intendence of the exercises given the patient was, as in the other cases, a potent factor in the man's recovery. Although this case seemed to be on the border land of malingering, the patient could not wholly be described as a malingerer. When he was kicking a football about with a number of other men and unaware that he was being watched, if he stumbled his right hand shot out automatically and at first not his left. He had lost the use of his left arm and had to be re-educated.

Case 8.—W. G., aged 23. This patient came under my care on March 14, 1916, with the following history: In the early months of 1915 he had an attack of "rheumatic fever" in which there was some swelling of multiple joints and, temperature. The heart was not affected. He was sent back to England on furlough. Before returning to France he complained of pains in the limbs and shortness of breath. He was in consequence admitted to a hospital in England for observation. As no improvement was shown he was sent to a special hospital for a course of baths and electricity. There he remained from August, 1915, to March, 1916. Treatment of a most varied kind was given him—D'Arsonval baths, cataphoresis, electric treatment, massage, etc. Finally he was admitted into the 2nd Northern General Hospital, with a view to being discharged as permanently unfit. When I first saw him he walked or rather shuffled along only with the aid of two crutches. The least exertion brought on most violent tremors, palpitation and sweating. He expressed a wish to take poison if he could not be cured. I told him that his cure would be both rapid and certain. His crutches were taken away and he was at once made to try to walk up and down the ward. At first he had to be supported and he fell on several occasions. In spite of the falls the exercises were continued. All massage was stopped and no drug of any kind was given. As in other cases, his first efforts left him much exhausted but the next day he could stand alone, and in another twenty-four hours he walked by himself. His improvement was thenceforward very rapid and his genuine exertions on his own behalf were much encouraged by the other patients in the ward who took the liveliest interest in the man's recovery. On March 23 he was able to double, and on April 7 he returned to duty, looking a smart and well set-up soldier, in every respect different from the caricature of a man that he presented on his first admission.
The treatment of these cases is based upon the following principles:

(1) It must be clearly established that the condition is functional and not organic. Of course it is well known to all neurologists that even in cases of definite organic disease there are frequently superimposed symptoms of a functional nature. In such a disease as insular sclerosis, for example, the onset may be preceded or accompanied by functional manifestations. Since the outset of the War it is notorious that the difficulties of distinguishing between functional and organic disease in many cases have been great. Laminectomy has been performed for the relief of supposed spinal pressure and nothing has been found. Post-mortem observations in other instances have failed to reveal naked eye evidence of pathological change where such was unhappily believed to exist. The patient in Case 6 of my series was considered by a surgeon of eminence to have sustained definite injury to the spine. I do not intend to underestimate the difficulties of a diagnosis. As I have said again and again, they are very great. But I do wish to insist on this point. It is far better to label a case as N.Y.D. than to attach an inscription which may not be correct but at any rate is likely to have the effect of alarming the patient and thereby retarding his recovery. As patients are being continually hurried from station to base and from base hospital to England and in England from general to auxiliary hospital and ticketed as they pass, it is not unnatural that those in charge should attempt some diagnosis or classification. With surgical cases for the most part the difficulty does not present itself. Gunshot wound of the leg, with or without fracture, for example, is simple and does not alarm the patient. It tells him exactly what he knows himself and no more. But in medical cases, especially in those we are considering, where a clear diagnosis is very far from being easy, where the symptoms manifest themselves as a disturbance of function or in a series of subjective sensations, the patient is often unnecessarily alarmed by being labelled with a name that suggests a formidable if not incurable disease. Too often is V.D.H. written as the result of a hasty interpretation of a bruit that does not mean organic disease of the heart. Even D.A.H. although it may imply little that is serious to the medical man, exercises a disturbing influence upon the mind of the patient. He cannot, as a layman, be expected to appreciate the significance of a mere functional disorder as such. What he does believe is that there is something the matter with his heart. If he has a weak heart, how is it likely that he will be restored to the fighting line again? At the very outset, when he first comes under medical observation and treatment, instead of hope he is given the suggestio morbi. Again, such a diagnosis as "neuritis" to cover the vague indefinite pains, real enough to the patient no doubt, that follow on so many conditions of disease or exhaustion in the present campaign, cannot be sufficiently condemned. In normal times at popular spas the diagnosis may be a source of gratification to the individual who seeks the
"cure" and of relief to the harrassed physician who is asked to name the complaint. But during this War again and again I have seen pain labelled as due to neuritis, when there is not the slightest suggestion clinically of any inflammation. The *suggestion falsi* has merely resulted in the suppressio—of a cure. A man is suffering from the results of exposure and hard work in the trenches. Perhaps his recovery is slow. The pains continue. "Neuritis" is diagnosed and the title is attached to the bed-board. The patient begins to think he has an incurable disease and the downward path is begun. *Facitis descensus Averno.*

(2) In the second place the full confidence of the patient must be obtained from the outset. This, perhaps, sounds a mere truism. Still it is surprising sometimes how little has been done to secure this attitude of mind. Confidence does not come all at once, not necessarily at the first or second visit. But it will come if the medical man devotes a sufficiency of time and patience to his task, even in the face of great exasperation. It is not enough to tell a man that he is going to be cured. He must be shown that such a cure is possible. However we may regard these functional cases, even supposing there is an element of malingering, though in my experience this is certainly not frequent, we must all agree that the state of mind is not normal. These men have become as little children and as little children they must be re-educated. They must be taught how to execute simple movements and from simple how to pass on to more complicated actions. I have found it useful on occasions to explain some elementary anatomical fact and even to make use of a simple diagram. One should be careful not to be in too much of a hurry. Let the exercises be gradually extended. Once improvement has begun it is as a rule rapid. The patient has regained his confidence in himself. With this return of confidence he becomes less self-centred and more responsive to treatment. I have said these patients are as children and as children they respond to encouragement, to censure, to praise or blame rightly bestowed.

(3) Drugs are seldom of any avail with the possible exception of an occasional tonic. To dose these men with bromides or the like, as unfortunately is only too often the case, seems to me in the highest degree unscientific. Baths, electricity and massage are in my opinion nearly always useless if not actually harmful. One of my patients complained to me, and I think justly, that "all his manliness had been rubbed out of him." The patient must learn to help himself. His recovery must be active and not passive. On the other hand, I have had very considerable help from the Zander system of mechanical exercises. The ingenuity of these machines interests the patients and they soon realize that it is they who are working them and setting them in motion. They must be watched and encouraged when it is their hour of treatment. Indeed, one has to insist again here that it is the personal factor in the superintendence of these patients that counts for so much.
(4) I think these patients recover much more quickly if they are judiciously interspersed in the general wards. I owe a great deal to the unconscious influence exercised by other men in the ward upon these men. I say unconscious because though they took the greatest interest in these cases they did not know how much they were really helping me. It is nearly always possible to obtain an N.C.O. in the ward to drill these men. I remember one man in particular, an old regular soldier of thirty years' service with a long string of ribbons across his tunic, who though bedridden with bronchitis, regularly held his class each morning in the ward before I went my rounds and duly presented me with his daily report. One man announced to his fellow patients on admission that he was suffering from a paralysed arm. He was given three days in which to get well by an interested spectator. As a matter of fact he recovered within twenty-four hours. The patients, too, stimulate each other. I heard one man telling another, who had sunk back on his bed a trembling, tottering creature, that what he wanted was more confidence, quite oblivious of the fact that he had been just such another a few days previously.

What has become of these men I have not been able to find out. Some have gone back to the trenches perfectly recovered. Some doubtless have not again reached the standard of the A Class. But it is true to say that when they left hospital they left it as men fitted at least to be of some use to their country. Much will depend upon the kind of work they are called on to do. At any rate they returned to duty, fit to play a man's part it may be in their original unit, or it may be in the workshop or at the base. Even if they are unable to stand the strain of military life they are able to make useful citizens in civil life, to be a source of profit to the State rather than a helpless drag upon themselves and an additional burden to the finances of the country. There are many who have been discharged from the service as pensioners who, I believe, had sufficient patience been taken with them on the lines I have tried to indicate, would now be handling rifle or tool instead of cumbering the lists of those harassed individuals whose duty it is to guard the interests of our discharged or disabled soldiers.