

count of pains and weakness in the left leg. On examination, no local cause was discoverable for the symptoms; the leg was somewhat drawn up, it was perceptibly wasted, being smaller than the other, and sensation slightly impaired. On testing the limb the muscles were found to respond to both the faradic and galvanic currents. He was then ordered the continuous current to be applied daily to front and back of thigh. After the first application he expressed himself as having much relief from the pain, and in a few days it had altogether left him. At the same time the strength returned in the muscles, so that in a few days more he could walk. The current was still applied with a daily improvement in the strength of his leg, so that on July 10th he was walking about, and on the 21st he sufficiently recovered to be able to leave the hospital convalescent and nearly well. Patient took no medicine.

*Case 2.—Paralysis agitans*.—J. B., æt. 40, had been suffering for three years from the paralysis agitans. The complaint commenced in the right hand, afterwards proceeded to the left, and then to the legs, until a general tremor of the whole body took place, including the face, and affecting the speech. He had been under different kinds of treatment, but without any benefit. I wished to try the continuous galvanic current to the spine, and accordingly fifty cells (Cruikshank's) were used for ten days. After the second application the patient, who had previously had very restless nights, obtained refreshing sleep. After four or five applications he began to experience a decided benefit, saying he always felt lighter and steadier directly he had been operated upon. The duration of this improvement lengthened day by day. The patient then left for the country, and has not since been heard of.

*Case 3.—Lead paralysis*.—Mr. S., a gentleman of middle age, was brought to me, on march 11th, 1872, by Dr. Charlton of Fareham, suffering from a most severe form of lead paralysis. His whole frame was attenuated in consequence of the atrophy which his muscular system had undergone; his limbs were very much wasted, and he was proportionately enfeebled. He tottered when he walked, his hands shook, and were so weak that he with difficulty could raise them to his head or button his coat. He resembled, indeed, the condition of a man with progressive muscular atrophy, only in this case it was induced by lead and was not idiopathic.

The history which he gave of his case was as follows:—He lived in Surrey, about twenty miles from London, and had enjoyed good health until June, 1871, when his arms and hands became tremulous, so that very shortly he was obliged to use both hands to raise fluids to his mouth to prevent spilling. He was recommended a change of air and took a trip to Scotland; after being there a month he got considerably better and returned home. In a fortnight all the symptoms reappeared more severe than before. He went away again to Southsea, and there used salt-water baths, when he a second time rapidly improved, and at the end of a month returned home. Shortly afterwards, however, the old symptoms reappeared, when he was advised to consult a London physician.

He was ordered to use galvanism in the form (he stated) of magneto-electric shocks, which did not benefit him, when his doctor, suspecting lead, had his drinking water analysed and found it to be strongly impregnated by lead. He was then, of course, put on a proper course of medicine, desisted from the use of water, and he improved. He had continued the use of the galvanism. He subsequently left London and again went to Southsea.

When I saw him in March he had got into a stationary condition, and was in the state above described; his limbs wasted and with little power in them. I ordered him some small doses of iodide of potassium and quinine, and wished him to use a simple galvanic current rather than electro-magnetism. Finding there would be a difficulty in making use of this at his own house, I advised him to go to Guy's Hospital every morning, and to this he readily assented.

Mr. Sandy, the electrician, tried the effects of the continuous battery current upon him, and also the induced current, with the following results. In the right arm the extensor muscles contracted well by the application of twenty cells of the Daniell's battery. The induced current was applied, as strong as the patient could bear, with scarcely any contraction. In the left arm the muscles contracted well by fifteen cells, and with precisely the same results on the right arm, with the induced or interrupted current. In the legs twenty cells caused good contraction, but scarcely any result was obtained by the interrupted current.

He continued the use of the galvanism to the limbs daily and made visible progress.

On April 18th he had considerably more power of the limbs than he had a month previously, and, on the muscles being tested, it was found that the 'induced' current, which had been powerless before, now excited the extensor muscles of the right arm, so that the hand was raised on a level with the arm. On application of the same strength to the left arm it extended the fingers much more than the right, but the hand was not lifted to the same extent.

The patient persisted in the treatment up to July, during this period gradually improving, and in August he had quite recovered the use of his hands and was following his usual occupation.

*Case 4.—Lead paralysis*.—Margaret C., æt. 47, admitted February 29th, 1872. She has been married and has a large family. Two years ago her husband died, when she was obliged to work for her living. She gained employment in some lead mills, her business being to grind the white lead. For some months past she has been getting thin and feeble, her arms wasted, together with stiffness and pain in the shoulders. Has had slight colic.

*On admission*. She seems to be a small spare woman, anæmic and sallow, looking indeed extremely ill. She is thin, owing to a general wasting of the muscles of the whole body, more in the extremities and especially in the arms. She is too feeble to walk, and therefore obliged to keep her bed. She can scarcely raise her arms from her side, owing to the atrophy and weakness of the muscles; extensor muscles of forearm are extremely wasted, rendering the arm