

only partial success,—I think it is but justice to place the happy result to the score of the great improvement you have introduced, by the division, more particularly, of the levator palati muscle. By that division the adverse action of the muscles is greatly diminished, and the flaps are cut in such a manner that they fall by their own weight almost *flat* over the tongue, instead of being held up tightly in an arched form by the upper surface of the soft palate; and I cannot help thinking, that when well performed, and in favourable cases, the success of this operation will be, for the future, the rule instead of the exception. I tried every variety of complicated instruments on the subject, before the operation, but can testify that the very simple means you use and have described to me are incomparably easier of application, and more effective, than any I have seen.”

Both of the gentlemen who treated these cases, politely afforded me an opportunity of seeing the patients; and in each, I felt satisfied that my views had had justice done to them.

CASE XXIII. Mr. Skey, of St. Bartholomew's Hospital, has informed me of a successful example occurring in his private practice.

CASE XXIV. Mr. Shaw, of the Middlesex Hospital, tried the method in a case which came under his care in that institution. The proceeding was unsuccessful,—a result at which I was not astonished; for the condition of the parts was by no means favourable for any operation.

Thus, then, it will be observed, that out of twenty-four cases, in which the practice recommended by me has been put into execution, it has proved of advantage in twenty-one. Many of these were most unfavourable instances; and, in three of the successful cases, the ordinary operations had already failed.

16, George Street, Hanover Square, Jan. 1849.

AN ACCOUNT OF SOME EXPERIMENTS ON THE REMEDIAL ACTION OF ELECTRICITY.

By H. BENCE JONES, M.D., F.R.S., Physician to St. George's Hospital.

THE report on the Treatment of Diseases by Electricity in the Guy's Hospital Reports for 1841, by Dr. Golding Bird, is so full, and the lectures which he delivered at the College of Physicians in 1847, represent his results as so favourable, that I have many doubts whether the opposite estimate of its value, to which my own experiments have led me, may not be owing, either to some defect in the mode of applying the remedy, or, which is more probable, to a too limited experience of its effects.

Whatever the cause of the difference may be, a short statement of the results, which were obtained in St. George's hospital, may assist other experimentors in arriving at the truth regarding the influence of electricity in the cure of disease.

In 1843, Dr. Seymour, who had great confidence in the value of electricity as a remedial agent, applied to the weekly board of St. George's hospital, to appoint one of the senior pupils to take charge of the electrical apparatus, and of the application thereof. This had hitherto been for years left entirely to the care of the surgery-man. Dr. Thomas

Chambers and I were appointed; and, as I was anxious to make some experiments on this subject, we agreed to record the most interesting cases, and to apply the electricity ourselves for a year.

At first a plate machine and Leyden jar were used; but, for at least two-thirds of the cases, the magneto-galvanic apparatus, made by Kemp, of Edinburgh, was alone employed.

The patients were electrified according to the orders of the physicians or surgeons, some daily, some thrice, some twice a week. The galvanic electricity was usually continued from six to ten minutes, rarely to fifteen minutes, according as the patients could bear its application.

The number of the cases thought fit to be recorded were twenty-three. Those may be thus arranged:

Diseases.	Number of cases.	Results.
Paraplegia	3 cases.	3 no benefit.
Hemiplegia	6 cases.	4 no benefit. 2 slight benefit.
Lead Palsy	3 cases.	3 good.
Wasting of the Deltoid	2 cases.	2 no benefit.
Paralysis of one arm or hand.	6 cases.	3 no benefit. 2 slight benefit. 1 rapid gain.
Chorea	1 case.	1 slight gain.
Pain in the Sacrum	1 case.	1 no benefit.
Paralysis of the Bladder....	1 case.	1 slight benefit.
	23 cases.	13 no benefit. 6 slight benefit. 4 good gain.

Closer examination of these cases will not make the influence of electricity appear at all more favourable.

I. CASES WHICH IMPROVED.

The history of the patient who improved most rapidly, was as follows: A cabman, forty-five years old, left the hospital five weeks previously, using a crutch, having had his leg broken. A few days after he went out, he perceived a tingling deadness in the fingers, and in ten days he had lost the use of the wrist and fingers, so far as to be unable to put on his hat, or tie his handkerchief. He had now left off his crutch for ten days, but without any benefit. His health is quite good.

To be electrified three times a week in the left arm.

After one application of the electricity, he was able to tie his handkerchief, and the numbness of the hand was much diminished. He came only once more to be electrified, after which he continued to improve rapidly without any remedy.

Of the three cases of lead palsy that improved, one received benefit from electricity, after rest had been fully tried without effect. Another had the influence of the electrical treatment tested in the following way:—

He had lost the power over both hands for three months. The right hand was the worst. The left hand was put on a splint for a month, while, at the same time, the right was galvanized every other day. At the end of the month, the right hand was still the worst, but the difference between the two hands was not so great as formerly. The splint was then left off the left hand. When it had been off ten days, he stated that the right hand was more improved than the left; he was then able to use both hands in dressing, and to feed himself with the right one, which alone was still electrified. In another fortnight, he left the house, having taken the balsam of Peru during the two months he was an in-patient.

In this case, the worst hand, being electrified, gained in power more rapidly than the best hand, which was kept on a splint; and when both were free, and one electrified, that one most quickly improved.

The six cases that improved slightly, present little worthy of notice. The improvement was so slight, that it was very doubtful whether it were owing to the treatment.

One of the cases of loss of power of the arm is worth mentioning, as in it the power of the shock to produce ecchymosis was very distinctly shewn.

A woman, twenty-six years old, thirteen months previous to her admission, fell on the left hand. The hand soon after swelled, and in three or four days she was unable to raise it. She gradually got much better, but some dead bone was removed from the palm of the hand.

For the last four months she has been losing power in her arm. She is now unable to lift her arm at all, and the hand is swelled. The catemenia are regular, and her health is tolerably good.

Galvanic electricity was used to the fore-arm and wrist: for the first few days she thought she had more power over the fingers, but was still quite unable to lift the arm. More powerful treatment was used, but considerable œdema and ecchymosis of the fore-arm and wrist rendered it necessary to discontinue the galvanism. It was a month before the ecchymosis was removed. The œdema continued. As she still declared that the galvanism had benefited her, it was resumed, and in four days the ecchymosis was again produced. The treatment was continued, with less power, for three weeks, when she left the hospital but little improved.

II. CASES WHICH DID NOT IMPROVE.

The cases in which no benefit was derived from the electricity, formed much the largest class; and, in some of these cases, I was much disappointed in finding no gain at all from the treatment. The following case shows that little benefit must be expected from electricity in hastening the recovery of power after hemiplegia.

A conductor of an omnibus, 30 years old, had pain in the head for a month, chiefly over the eyes, and indistinctness of sight for two weeks; when suddenly, without any loss of consciousness at first, he became palsied on the right side, seventeen weeks before his admission into the hospital. Shortly after the palsy came on, he says he was stupified; and that the mouth was at first drawn to the right side. When admitted, he was improving. Galvanism was ordered to be applied to the muscles of the arm, and from the cervical plexus to the extremities of the fingers. He was electrified every day for twenty-five days, with five exceptions. During this time, the leg which was not electrified became stronger, and he was able to walk far better than on his admission. The arm was not at all better when he left the house than it was when he was admitted.

I regret that the experiments which were made do not bear at all on the question at issue between Dr. Marshall Hall and Dr. Todd. The magneto-electrical power was used as strong as it could be borne by the patient; and the motion of the muscles was only observed as a test of the degree of power that could be applied. The two following cases of paraplegia shew that, when the greatest power was employed, the paralyzed limbs were not thrown into action.

Elizabeth Gray, æt. 13, whose general health was very good, had had paralysis of the lower limbs since she was sixteen months old, chiefly affecting the right leg. Sensation did not appear to be at all diminished. She was ordered to be electrified three times a-week, the right leg only being acted on, in order to test the treatment. At the end of a month, no benefit having been obtained, both legs were electrified. At the end of two months no benefit resulted, the utmost force of the machine being unable to produce any motion in the muscles of the right leg. The health was quite good. At the end of the third month she left the hospital, without having received any benefit. Tincture of cantharides, and ergot of rye, were each administered in full doses; the first for a month, the latter for a fortnight, without any appreciable effect.

Ann Tolman, æt. 40, a very hysterical ladies' maid, admitted May 17, 1843. On July 27, I received the following account: She says that she awoke about four months ago, having been quite well previously, with loss of the use of the legs, arms, and muscles of the neck. Her hands and feet were so tender, that she could hardly bear them to be washed. The loss of power, and increase of sensibility, were worse at first in the hands than in the feet. She has recovered the use of the neck and the hands, so as to work a little with the needle. She has very little power of motion of the legs; the right one is rather more moveable than the left. There is some loss of sensation in the legs; for when she does not see it, they can be touched without her feeling it; but she screams when she sees that any attempt is made to touch her or move her. She says it does not hurt her when the legs are touched, but "it makes her feel a sort of terror, and then she screams."

The legs are both flexed, and strongly contracted, and the feet turned down; but she says that, at one time, they were quite straight, and so stiff, that she could not bend them. They cannot now be straightened.

On the first day, the electricity was applied from the thighs to the toes; and it appeared to make no impression whatever, even when full power was used. That is, I could not make out that there was any difference, whether the sponges, by which contact with the body was made, were attached to the machine or not. Attached, or unattached, she complained excessively of the pressure of the sponges, whether pressed lightly or firmly; but she did not at all complain of any more pain when the electricity was applied, and there was no starting of the limbs as contact was made and broken. In the right leg alone, a little quivering of the muscles, during the treatment, could be seen.

The second day the electricity was passed from the spine to the toes; high up in the neck, and low down on the sacrum. Still I could not satisfy myself that she felt anything of the electricity, although she complained excessively of the pressure.

When the electricity was applied to the arm, she felt it; and the movement of the limb also showed that she did so, beyond mistake.

For five weeks the electricity was continued. The power of the arms increased without their being electrified, and the power of the legs was also rather better; but I do not believe that this was due to the electricity. In consequence of some misconduct she was then sent out of the house.

These are the most interesting of the cases I observed. At the end

of eleven months, I reported to the weekly board the unsatisfactory conclusion of the experiments we had made. During that period, I am certain that the remedy was fairly tried on a small number of patients. If it had been more fully tried, I might, perhaps, have formed a higher estimate of the influence of galvanism in the cure of disease. But in twenty-three of the recorded cases, there was only one slight case, in which the improvement from the treatment was rapid; and only three others, in which I was satisfied that benefit was slowly derived from it. These three were all cases of paralysis from lead.

ON LARYNGOTOMY, AND TRACHEOTOMY, IN ACUTE AFFECTIONS OF THE LARYNX.

By **PRESCOTT HEWETT, Esq.**, Assistant-Surgeon to St. George's Hospital, and Lecturer on Anatomy.

IN Acute Affections of the Larynx, the surgeon is sometimes suddenly called upon to make an opening into some part of the air-passages, in order to relieve the urgent dyspnoea which has supervened.

Laying aside all considerations about the medical treatment of these cases, my intention is to examine solely the merits of the two operations, Laryngotomy and Tracheotomy, by which it is usually sought to afford this relief.

Of the two operations, that in the trachea is the one selected by most surgeons of the present day. In the following observations, however, I shall endeavour to prove that, not only is this preference not founded on just grounds, but that it would be advisable, in such cases, to make the opening in the crico-thyroid region.

Acute affections of the larynx, terminating in effusion, present, it is well known, a very great difference in the adult and in the child; the effusion, in the former, taking place by far most frequently in the sub-mucous tissue; whereas, in the latter, it is usually poured out on the free surface of the mucous membrane. In these cases, in the adult, the effusion is purely laryngeal; in the child, it is, most frequently, not only laryngeal, but also tracheal.

This marked difference in the localities of the effusion, at these two periods of life, at once points out two great divisions, in which the surgical treatment will necessarily be very different. My intention is to confine, for the present, these remarks to one of the divisions only, that of the adult period.

Effusions in the sub-mucous tissue of the larynx, it matters not of what kind, or how produced, are strictly limited to the parts above the rima glottidis. This fact, already pointed out by several pathologists, has not, I think, been sufficiently dwelt upon by practical surgeons.

That the effusion is thus invariably limited to this region, may be proved by morbid anatomy, by experiments, and by the anatomical structure of the parts. In the following cases, especial notice was paid to the limits of the disease, at the post-mortem examinations, some of which were made several years ago.