and oftener on one below the eye, but with no further result than a small keloid growth, half an inch long, on the former. As regards the colour, my own impression led me to believe it was slightly paler, but from so constantly seeing the part I was really unable to judge correctly. At the end of the year, after the conclusion of my operations, I took the patient to Mr. Hutchinson, who, it will be remembered, had, previously to my attempt, cauterised the left cheek; he warmly congratulated me on my success on the left cheek, which I had not touched, but remarked that there seemed to be no improvement on the right side of the face, the part on which I had expended all my labours.

CASE II.—Miss F., aged 35, had been treated at the Skin Hospital, Blackfriars, for eczema of the leg, and was sent to me in April 1878 by Mr. Hutchinson to be treated for a port-wine mark, which spread in patches from the nose to the left ear. This case was rather different from the last in the character of the *nævus*. It was more raised, and darker or purple in colour; in fact, it was a venous *nævus*. Ten years previously, she had tried treatment by means of strong acid, but with no improvement. I operated on her thirty-two times in all, six times with ether-spray, and on five occasions applied tincture of iron after the scarification; but, as in the first case, with absolutely no alteration; so that the patient abandoned the method in disgust.

CASE III.—Miss H., aged 16, was sent to me by Mr. Hutchinson in July 1878, with a port-wine mark on the right half of the face. This *nævus* was more arterial in character than that described in Case II, but more raised than in Case I. I selected a small piece about the size of a crown, or rather larger, situated on the malar bone, and operated on it most thoroughly sixteen times, at intervals of a week; but, at the end of that time, the patient refused to go on, as there was not the slightest sign of improvement.

From these cases it will be seen that the operation, as recommended by Mr. Squire, in so far as port-wine marks are concerned, is practically a failure; and I shall not, I hope, be accused of hastiness in coming to this conclusion, when it is considered that I operated in the first case no fewer than one hundred and thirty times. I am sorry to be obliged only to record failures, or in any way disparage a treatment which in Mr. Squire's hands is so efficacious; but it is clearly our duty to publish results, whether they be favourable or not, in order that others who may be induced to try the method may be prevented from giving too positive a prognosis at the commencement of the treatment. However, I trust Mr. Squire may be able to give from his own experience some proofs of his success which will more than counterbalance the unsatisfactory results I have just described; and, at all events, I feel sure, now that attention has been directed to surgical interference, some effectual remedy will be developed for the cure of these unsightly deformities. For my own part, I am not surprised that the method fails in port-wine marks, when their structure is taken into consideration. The whole mass is composed of a minute network of vessels; these vessels divide into numerous branches, all of which unite, so that a complete anastomosis is formed. The consequence is that, when a clean incision is made in any part, the blood finds its way, in consequence of the inflammation, through the other vessels; but, as the wound heals rapidly by first intention, the continuity of the vessel or vessels is restored; the blood returns as before; and the result is, that the vessels in the line of the incision are not destroyed, and therefore there is no alteration in the colour on the surface.

Feeling that this was probably the explanation of the failure, I determined to try multiple linear scarification in cases where larger blood-vessels were apparent, and where the anastomosis was less complete. My first attempt was upon the severer form; that is to say, the later stage of *acne rosacea*. In this disease, the vessels are seen to stand out above the level of the skin, more especially those leading to the affected part. It will be remembered that Hebra recommends destruction of these larger vessels by means of a single scalpel, and the after-application of tincture of iron or nitrate of silver.

I will now give brief notes of three cases in which the treatment by multiple linear scarification was successful after all other means had failed.

CASE I.—J. M., aged 29, had been a lighterman, and from exposure to the weather had suffered for eight years from severe *acne rosacea* of the nose. Extremes of temperature caused him much pain, and eventually he had to adopt an indoor occupation. He was under care for two years and a half at the Blackfriars Skin Hospital, during this time using various remedies with little or no benefit. Last summer, through the courtesy of Mr. Tay, I began to treat the condition by scarification. I operated upon him in all twenty-six times, at intervals varying from a week to a fortnight or longer. After the first few operations, there was marked improvement; and when I last saw him, a short time since, the disease was practically cured; there were no vessels to be seen, no perceptible heat to the touch, no redness, and no pain from exposure to

heat or cold. As in the cases of port-wine mark, I dispensed with the use of ether, as the pain was comparatively slight, owing to the rapidity with which the operation was performed. There is no necessity to waste time in describing the various details of the operation; it will be sufficient for my purpose to say that it was done in a manner similar to what I have before mentioned, with the one exception that I encouraged bleeding, sometimes to the amount of one ounce or more. After it had stopped, the nose was carefully sponged with cold water, and the patient allowed to go home.

CASE II.—J. H., aged 23, also under Mr. Tay's care at the Blackfriars Hospital (to whom I am indebted for the opportunity of trying the treatment), a draper's assistant, had suffered from *acne* since sixteen; during the last two years, the nose had become considerably worse, both as regards size and colour. It was swollen and red, mostly at the tip, with large inflamed *acne* spots scattered here and there. There were dilated vessels around the spots. Mr. Tay expressed the opinion that *acne lupus* would probably be a better name than *acne rosacea*, in consequence of the severity of the disease in so young a person. I operated twelve or thirteen times, very thoroughly on each occasion—the result being a total disappearance of all redness. The *acne* spots were touched from time to time with acid nitrate of mercury.

CASE III.—C. F., aged 28, was sent to me by my friend Dr. Sangster, who has kindly furnished me with the following notes. She was a dressmaker by occupation, working twelve hours a day, much crippled by rickets. She menstruated first at fifteen, and had always been regular. She suffered from dyspepsia. When first seen, the nose was swollen and fiery red, except at the end, which was blue and cold to the touch. Congested capillaries could be seen. The redness extended along the cheeks to the angles of the mouth. The skin over the affected region was thick and papular. The above described condition commenced six or seven years ago as a flushing after meals. The disease improved somewhat under medicinal treatment, but the nose still remained red and swollen. I scarified ten times, on every occasion in a different direction. After the tenth operation, the nose resumed its normal size, and was pale in colour.

There is another disease similar in some respects to this severe stage of *acne rosacea*, *lupus erythematosus*, which I believe can be cured in many cases by the same treatment. I have, indeed, seen real improvement even in a short period effected by Dr. Besnier, at the St. Louis Hospital in Paris; and, though I myself am unable at present to record any complete successes, yet I hope to be able to do so at some future period.

It will be seen, from what I have said, that scarification deserves more notice, as a remedy in certain forms of skin-disease, than has yet been bestowed upon it. In so far as concerns the new application of it to port-wine marks, suggested by Mr. Squire, I have found it to be practically valueless, owing to the length of time required to produce any visible alteration or improvement; nevertheless, in the other diseases I have just mentioned, his system of multiple linear scarification shows an advance on the old method of operating with a single scalpel, advocated by Hebra and Volkman.

ON THE APPLICATION OF THE ELECTRO-MAGNET FOR THE CURE OF ANÆSTHESIA.

By JULIUS DRESCHFELD, M.D., M.R.C.P.,

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SINCE the appearance of Professor Charcot's investigations on hystero-epilepsy, the electro-magnet has become a recognised therapeutic agent for cases of *anæsthesia* due to other causes than hysteria; and the important fact that the cure it effects in the non-hysterical forms is of permanent nature, is being verified by many independent observers. Its remarkable effects in *anæsthesia* due to lead-poisoning, and in *anæsthesia* due to organic cerebral lesions, have been the subject of separate publications by Debove, Proust, etc., in France; and in many of the Paris hospitals the electro-magnet forms an important item of the medical *armamentarium*. I am not aware that any observations on this subject have as yet appeared in the literature of this country;* and, with the view of drawing attention to this subject and inducing further trials, I beg to be allowed to give briefly the results of my own observations, especially as two of the three cases which I wish to relate are in themselves of rare occurrence and clinical interest.

* Since this was written, a case of hystero-epilepsy in which the electro-magnet was applied, has been reported by Dr. Stone in the *Medical Times and Gazette* July 14th, 1880.

CASE I. *Hysterical Anæsthesia affecting both Sides of the Body and also the Special Sense Organs.*—Ann H., widow, aged 43, came to see me on November 20th, 1879, complaining of excessive weakness in both upper and lower extremities, which had been coming on for some months. Examination showed loss of power in both upper and lower extremities, with complete anæsthesia of the whole body; also contracted vision in both eyes, with achromatopsia of the left eye; loss of smell and taste on both sides, and deafness of both ears. There was no ovarian tenderness. A few days after the first visit, I had an opportunity of showing the patient to my colleagues Drs. Leech and Ross, and to Mr. Cullingworth, who satisfied themselves as to the genuineness of the observations. With the view, therefore, of systematic treatment, the patient was admitted into the infirmary on November 28th, 1879.

As the case, owing to the bilateral nature of the affection, is of very rare occurrence, I may be excused for giving a fuller abstract from the notes taken by Messrs. Challiner and J. K. Milne than I otherwise should have done.

Previous History.—The patient was mother of six children, all healthy. She had herself always enjoyed good health, but for the last two years had undergone many troubles, owing to the lingering illness of her husband, whom she constantly nursed up to his death, which took place five months ago, and which caused her much mental distress. She found herself becoming very weak; and occasionally, in walking, her legs would give way and cause her to fall. She likewise noticed numbness of her limbs.

Present Condition.—The patient looked fairly well nourished. The organs of the chest and abdomen were perfectly normal. There was no ovarian tenderness. The tongue was clean; the appetite good, but she could not taste her food; bowels regular; menstruation normal. Muscular power was diminished in both upper and lower extremities, but more on the left than on the right side. Tactile sensibility was considerably diminished all over the body, particularly over the feet, legs, arms, chest, face (except the nose and chin), and scalp. The tips of the fingers, outer parts of the thigh, nose, and chin, were sensible to touch. Sense for pain was completely abolished over the whole body except the tips of the fingers. Pricks made with a needle did not bleed except on the finger-tips. Sense for temperature was quite lost in the lower extremities, trunk, and face. The patient could distinguish heat from cold on the forehead, in the axilla, and on the arms. Muscular sense was abolished from both upper and lower extremities. The mucous membranes were sensible to touch, but not to pain.

Special Sense Organs.—**Vision.** The field of vision was very much contracted on both sides, but more on the left. Central vision was normal in both eyes. There was no colour-blindness in the right eye; but with the left eye the patient could only distinguish red. She mistook blue for green; mauve she called black. The optic discs, pupils, and oculo-motor muscles were normal. **Hearing.** She was deaf on both sides; more so on the right than the left. (The patient had suffered from right-sided deafness for years, but could hear well with her left ear previously to her attack.) **Taste** was completely absent from both sides. **Smell** was very much diminished on both sides, especially on the left.

The first series of experiments consisted in the application of different metals to the anæsthetic skin, with the well known results. Gold and silver were found active; copper and iron inactive. It was interesting to observe that, with the return of sensibility over the whole body after the application of gold, the left achromatopsic eye became normal, while the right eye became colour-blind. This was the only transfert observed. Internally, the patient was treated with chloride of gold (five minims).

On December 4th, the electro-magnet was used for the first time. One pole was applied to the outer side of the right leg. The apparatus was so arranged that the current could be made and broken without the patient being made aware of it. Careful examination of the patient, previous to the application of the electro-magnet, showed that the anæsthesia was as perfect as on the first day; the achromatopsia, however, had disappeared, and the muscular power had a little increased. Five minutes after the application of the electro-magnet, the sensibility was returning on the inner side of the right leg; in ten minutes, it had extended considerably; and, after twenty-five minutes, the whole of the right and left side, with the exception of the head, was acutely sensitive to the touch, except the upper part of the face and the whole of the scalp. The points pricked (except one in anæsthetic scalp) bled now freely. The special sense organs underwent no change during the passage of the current. Soon after the removal of the electro-magnet, the anæsthesia returned.

On December 6th, the electro-magnet was again applied, with no current passing. For more than one hour, there was no effect. After

the electro-magnet had remained near the anæsthetic leg for two hours, there was slight, but very perceptible, return of sensibility on the outer side of the leg. This unexpected result was afterwards easily explained, as it was found that the electro-magnet had been used for a considerable length of time in the physical laboratory of Owens College, and the iron had retained enough magnetism to magnetise a needle, even if no current passed; and thus the simple application of the magnet, when not in contact with the battery, sufficed to bring back the sensibility, though it did so very slowly, and only after being applied for a long time.

The magnetic experiments were now continued almost daily for an hour, and the patient at the same time began markedly to improve, so that, after a few days, the sensibility had returned, and remained permanently in both upper and lower extremities and trunk. The scalp was still anæsthetic, and the special sense-organs (excepting the achromatopsia) were in the same state as on admission.

On December 15th, the electro-magnet was applied to the scalp with very decided effect, so that, fifteen minutes after the application, the whole skin of the head became sensitive, and the points touched bled freely. The special senses also underwent improvement during the application. The improvement continued, though the sensibility was somewhat diminished, even after the removal of the electro-magnet, which was only once more applied (on December 17th) and again to the head.

The patient now rapidly improved, and was well enough to be discharged on December 24th. She found herself well enough to follow her work; her muscular power had increased; the sensibility had returned over the whole of the body; the field of vision had improved; smell and taste had become normal; and the hearing on the left side was much better. She continued to take the chloride of gold internally during the whole of her stay in the hospital, and persisted with its use some time after her discharge. I have seen the patient repeatedly since, and she has remained perfectly well.

CASE II. *Partial Epilepsy, most probably of Syphilitic Nature: Anæsthesia.*—Matthew C., labourer, aged 25, married, came to the out-patients' room on February 6th of this year. The patient had had gonorrhoea, but did not admit having had any other venereal disease. Except periodical nocturnal headaches, he had enjoyed good health till three weeks before admission, when, while at work, he had an epileptic fit (ushered in by loss of consciousness, and accompanied, according to the evidence of some fellow-labourers, by tonic and clonic spasms); since then, he had had numerous attacks of partial epilepsy, characterised by clonic contractions of the right arm and right side of the face, lasting only a short time and not accompanied by any loss of consciousness. The attacks had become of late so frequent that he was obliged to give up his work. Whilst in the out-patient room, the patient had one of these attacks; it commenced with muscular weakness in the right arm, lasting a minute or two, followed by tremor, going on to clonic movements in the right hand, arm, right side of the face, and then passing down and affecting the right leg slightly; after a few seconds, the movements subsided, and the patient felt quite well again. Fifteen grains of iodide of potassium, three times daily, were prescribed.

February 13th. There was no great change in the epileptic attacks; the headache was much better. The dose of iodide was increased to twenty grains.

February 20th. The attacks had been much less numerous, but the patient had been prevented from working by numbness of his right arm, which had now lasted several days. On examination, it was found that the whole of the right arm, the upper right half of the trunk, and right side of the face, were insensible to tactile impressions and to pain, but not to heat and cold. There was no affection of any special sense organs. The ophthalmoscopic examination showed both fundi oculi normal. In the presence of some students and of Dr. Wilkinson, one of the assistant medical officers of the Infirmary, the electro-magnet was applied to the right forearm. Fifteen minutes after the application, the whole of the anæsthetic side became normally sensitive; no transfert was noticed except on one point of the left forearm, symmetrical with the point of application of the electro-magnet on the right forearm; even this, however, was of very transient character.

February 24th. There had been no return of the anæsthesia; the epileptic attacks occurred now at rarer intervals; there was very little pain in the head; but the patient suffered occasionally from vertigo. The antisyphilitic treatment was continued.

February 27th. The epileptic attacks had ceased.

March 12th. There had been no further attacks since February 24th. The patient complained of occasional headache and vertigo; sensibility was normal. He now ceased attending, but continued to take the iodide of potassium for some time longer, and was asked to present himself if any change occurred. I have, however, heard nothing more of him since.

CASE III. *Left Hemiparesis, with Involuntary Movements of Arm*

and Leg; Left Hemianæsthesia; Left Hemianopsia: Mental Disturbances.—The patient was seen by me for the first time on April 3rd of this year, at the Convalescent Hospital at Cheadle. For the notes, I am indebted to Mr. Stanwell, resident clinical clerk at the Cheadle Hospital.

History.—A. H., aged 40, a joiner, married, with no history of syphilis, gout, rheumatism, or alcoholic excess, had been ill for two years, and unable to work during the last eighteen months, suffering from giddiness, headache, double vision, with numbness, weakness, and trembling of the left side. He had not suffered from vomiting; the bladder and rectum had not been affected. A week before admission, he had, one morning before rising, three fits, which, according to his wife's account, were of distinctly epileptic character; his memory had recently become impaired, and he suffered from occasional attacks of violent headache, associated with febrile symptoms.

State on Admission.—The patient was strongly built, sallow, fairly nourished; he had an anxious expression and a hesitating manner; the left side of the forehead was relatively smooth, whilst the right was habitually wrinkled; the left palpebral fissure was slightly the larger (he could, however, close the left eye). The left angle of the mouth was rather lower than the right; the movements of the muscles on the left side of the face were less extensive. The left upper limb was colder and paler, and the left forearm measured a quarter of an inch less in circumference, than the right. The grip of the left hand was weaker, and the whole limb was involuntarily and frequently jerked about. These spasmodic movements affected the forearm and arm, but not the hand or the fingers; they were increased by effort or attention, and especially when any movement was attempted by the right hand (as in writing), or by any reflex excitement of the right side (such as tickling the right foot). The movements ceased during sleep. The left leg was weaker than the right; it felt cooler, and measured somewhat less in circumference, than the right; it also was the seat of involuntary spasmodic movements, less in extent, but of the same character as in the left arm, and equally increased by exciting reflex contractions. The patient could walk, but dragged the left leg in walking. The tendon-reflex was considerably increased on the right side in both the upper and the lower extremity. The electric contractility was normal on both sides.

Sensation.—There was total left hemianæsthesia, exact in extent both before and behind; the sensibility to contact, to pain, and to temperature, was much diminished. The muscular sense was normal on the left side, and the patient distinguished well different weights on the supported left hand; he could stand and walk with closed eyes. The pin-prick on the left side bled the same as on the right. The pupils were equal and active. There was no nystagmus or ocular palsy, but there was exact and total left hemianopsia of each field of vision. The central vision was normal; the fundi were normal; the veins of the fundus were large, and in the left eye somewhat tortuous. Smell and taste were normal. The tick of a watch was heard only when the watch was in contact with either ear (the deafness was, however, of old date). His urine was normal.

Progress.—During the first week of his stay in the hospital, the condition of the patient remained the same; he had an attack of frontal headache, which was very violent, and accompanied by anorexia and a rise of temperature to 101°, lasting two days.

On April 24th, I tried the effects of the electro-magnet in the presence of Drs. Noble and Lindemann, who were good enough to see the patient with me. The magnet was applied to the left arm; on trying the sensibility about an hour after its application, it was found that sensibility had returned to the left side of the head and neck, but not to any other of the anæsthetic parts. The night after the application, the patient had again a violent attack of headache, with rise of temperature. The anæsthesia gradually returned to the left side of the head and neck, and for a time the repeated applications of the electro-magnet were not followed by any results, nor did the headache return. The mental condition of the patient gradually grew worse; he got up at night, and wandered about the wards, and he was, therefore, removed to the infirmary on May 26th. The electro-magnet was now daily applied for an hour; and, though the general condition grew gradually worse, the anæsthesia improved.

A few days ago (June 10th), Dr. Noble was kind enough to see the patient again with me; and, comparing his condition with that on April 24th, it was noted that the patient's mental condition had grown worse (he had immoderate fits of laughing, his memory was impaired, and he attempted to get up at night and wander about the wards); the hemianopsia was still the same, the loss of power on the left side had increased, while the spasmodic involuntary movements had diminished, and could not be so easily produced by reflex stimulation; his anæsthesia, however, had improved; he now felt the needle-pricks acutely on the left side, though not so acutely as on the right.

The symptoms in this case are so typical and well marked, that there can be hardly any doubt that we have to do here with an organic lesion (most likely tumour, with softening of the surrounding parts), implicating the thalamus, the posterior third of the internal capsule, and the optic tract on the right side of the brain. (Similar cases, with *post mortem* accounts, have been published by Gowers, Hughlings Jackson, Hirschberg, myself, and others.)

I have no desire to lengthen this communication by a detailed review of the cases given, or by theorising on the probable mode of action of the electro-magnet. I merely wish to corroborate the results already obtained by other observers. The immediate effect of the electro-magnet in all the three cases was very striking; and, while in the third case there can be no doubt of the presence of an organic lesion, and while the second case closely resembles cases of circumscribed meningeal syphilitic inflammation, the method of application in the first case was so conducted, that there could be no deception on the part of the patient. It is quite possible that, in the second case, the prolonged administration of the iodide of potassium would have cured the anæsthesia; and that, in the third case, the gradual diminution of the anæsthesia might have taken place, as it does sometimes in these cases, without the help of the electro-magnet; but, from a physiological point of view, the sudden effect produced by the magnet is certainly interesting.

I have tried the electro-magnet in two cases of progressive muscular atrophy accompanied by analgesia, without anæsthesia, one of which was very much improved by subcutaneous galvanisation, according to Dr. Morgan's method (*Lancet*, 1879), but in both, the magnet failed to give any results. Equally negative results were obtained in lesions of peripheral sensory nerves; and it seems, therefore, that the electro-magnet is only of use in cerebral cases, and it would thus be of diagnostic help in doubtful cases.

The effects of the magnet are, perhaps, best explained by assuming ready anastomoses between the several channels along which peripheral sensory impressions are conducted to the cerebral centres. For a further exposition of this view, I refer the reader to Debove's monograph. I merely wish to add that, after Vulpian's observations (*De l'Influence de la Faradisation Localisée*, etc), localised faradisation acts exactly like the electro-magnet.

ON MOVEMENT AS A THERAPEUTIC AGENT.

By JOHN K. SPENDER, M.D. Lond., Bath.

THE therapeutic doctrine of Rest has had so many prophets and bards, that it may seem daring to ask the question, whether it has not been pushed a little too far, or always used with discretion. The service done in this matter by the late Mr. Hilton cannot be overvalued, because, before 1861 (or thereabouts), there was no distinct appreciation of the physiological reasons of rest. It had been often applied without precision, and still more often in a halting and imperfect way. The enthusiasm which was the fruit of Mr. Hilton's teaching carried us almost out of the domain of pure unemotional science. The theory was not new, but it was put in the most attractive guise. Rest is first cousin to sleep; and if sleep can refresh and restore the healthy body, why may not rest undo some of the bad doings of disease? My present argument is not to disparage rest, but to plead for its more rational application. A remedy may be too benign, too quiet, almost too agreeable. It may be potent to subdue the slow workings of an insidious malady, but the healthy nutritional forces of the body require stir and exercise, anything but too much rest. Herein lies the danger—the real danger—that rest may not be left off at the proper time, and normal movement begun. I venture to ask, therefore, whether the therapeutic pendulum of rest has not swung rather too far.

It is indeed remarkable that there was no formulated doctrine of either rest or movement until within the last twenty years. As therapeutic agents, the words are not found in the index of Dr. J. Mason Good's *Study of Medicine* (1840); nor in that of Dr. Copland's *Dictionary of Practical Medicine* (1858); nor in that of Dr. J. Hughes Bennett's *Principles and Practice of Medicine* (1859). There is no index to South's *Translation of Chelius' Surgery* (1847), but I can find no allusion to the subject in this really grand work. It is admitted that, in an empirical sense, rest and movement have been employed since medicine became an art; but the scientific grounds for either the one or the other were not always clearly grasped or opportunely carried out. The boundaries between the conditions which demand such opposite lines of treatment are sometimes not easily traced. How are we always to know when local symptoms have become so quiescent, that it is safe to undo the fetters of immobility and restraint, and tell a lame man that he may try to walk, or let a crippled hand