the stomach, nor did the incision into it reveal any obvious change in its walls. The attack of peritonitis suggests the possibility of gastric ulcer, but the slight extent of the peritoneal adhesions is against that view, and it is well known that chronic gastritis may lead to acute peritonitis, and that seems to have been the case here.

At the time I saw the patient it was evident that, unless relief was obtained speedily, she would soon sink from chronic starvation. Of the possible operations pylorectomy and gastro-enterostomy were at once rejected: pylorectomy as unnecessary and too severe and dangerous; gastro-enterostomy as less satisfactory than a widening of the narrow pylorus. Of the two methods of obtaining a wider pylorus, pyloroplasty was chosen as safer and more likely to be permanently successful than Loreta's operation of divulsion. Both operations entail incision into the stomach and subsequent suture of the wound; so far their perils are the same. But whilst pyloroplasty consists of a clean cut through the anterior wall of the pylorus, where it is most free from large vessels and under the operator's eye, the effects of divulsion are not seen and may be more or less than the surgeon intends and be inflicted upon important vessels. The statistics of Loreta's operation show cases of death from complete rupture of the pylorus on its posterior aspect and also from hæmorrhage; the "plastic" operation is entirely free from these dangers. A further most important consideration is the question of relapse. Divulsion has been followed by recurrence of the stricture and in many cases the operation has been repeated, and, looking to analogous cases, this is what one would expect. A sudden dilatation of the strictured urethra or rectum is well known to be followed by relapse unless special means are used to maintain the enlargement; all such special means are inapplicable in the case of the stomach. Stretching the pylorus may consist of over-stretching the muscular ring, analogous to stretching the sphincter ani—this may be entirely satisfactory in its result; on the other hand it may effect a tearing and stretching of fibroid or cicatricial tissue—a process known to be very unsatisfactory in many cases. Pyloroplasty, on the other hand, introduces new and presumably healthy tissue into the pyloric ring—tissue with no tendency to contract. This explains its superiority over Loreta's operation In this connexion it is interesting to remember the results obtained by the free division of the palmar fascia in Dupuytren's contraction. Not only is the shortened fascia lengthened, but the indurated tissue softens down and all signs of the malady may disappear. In some cases, too, of stricture of the urethra the complete division of the stricture tissue is followed not only by a widening of the urethra, but by a disappearance of the hardened tissue of the stricture. Indeed, all the evidence shows that division of a stricture (in any mucous canal) is *per se* a more certain method of cure than divulsion. In some situations divulsion or gradual stretching may be preferable on account of greater ease or of the avoidance of particular risks, such as hæmorrhage and septic infection; but for stricture of the pylorus divulsion is both more difficult and more dangerous than its division.

It will be noticed that the patient in the present instance suffered very severely from salicylic acid poisoning through washing out the stomach with a solution of that drug. I would caution others against this procedure. I did it because it is strongly recommended by high authorities, but I believe it to be unnecessary and I certainly shall not resort to it again; if more than a free flushing out of the stomach with warm water is called for, I should recommend the use of a solution of boric acid. It was noteworthy that the external appearance of the pylorus afforded no guide to the condition of its lumen; there was no narrowing or puckering of the part, nothing to indicate the great contraction that existed. In my case this might have led to error. One view was that the symptoms were due to peritoneal adhesions binding down the pylorus; adhesions over the pylorus were found and divided, and had I stopped there the patient would not have obtained any relief from the operation. It is worth notice how little shock was experienced from the operation—much less than I anticipated. This I attribute to the hot-water bed on which the patient lay and to the hot bottles between the thighs and under the arms. External warmth is one of the best means of preventing as well as of combating shock. In prolonged abdominal operations, and especially those connected with the stomach and intestines where shock is sometimes very severe, this means will be found very serviceable. It was remarkable how immediate was the relief from pain that the operation afforded. The dragging and tearing pain, which had never been altogether absent for years, was entirely lost immediately after the operation. Before it the patient could not stand upright with comfort and when sitting always had the feet raised on a high stool; afterwards this difficulty entirely disappeared. And the dyspepsia vanished as quickly and as completely as the pain.

I have found references to 23 cases of pyloroplasty (including my own case). Of these 16 recovered from the operation, 5 died from it and in 2 the result is not stated in the account I have seen. This gives a mortality at present of just under 25 per cent. Greig Smith states that the general mortality of Loreta's operation is "about 40 per cent." Of the fatal cases 1 died from peritonitis, 1 from collapse, 1 from exhaustion, 1 from gangrene of the lung and 1 from internal hæmorrhage—in this case the surgeon merely stretched the pylorus and then divided it, and the case is of no value in any comparison of the results of divulsion and pyloroplasty. Of the 16 cases that recovered 2 died shortly afterwards (two months and five months) from tubercular disease. Heineke's first patient was known to be well four years after the operation, Mikulicz's second patient was well one year and a half subsequently and Novaro's second patient was well two years later. Most of the other cases have been published at short intervals after the operations. The experience of the operation thus far does not show it to be attended with any peculiar or special danger. The cases referred to were operated upon by Heineke (2) Mikulicz (2), Bardeleben (3), Novaro (6), Lauenstein (2), Senn (2) and one each by Van der Hoeven, Carle, Koehler, Falleroni, Postempski and myself.

# CLINICAL OBSERVATIONS ON HYSTERIA.

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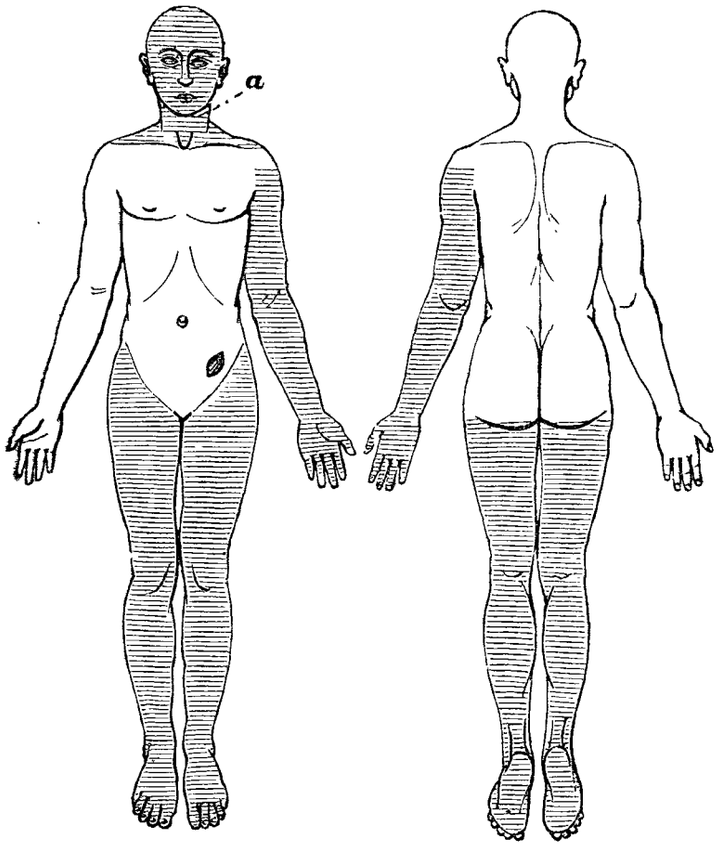
(*Concluded from p. 1127.*)

WITH regard to the cases of which I have notes on the relation of affections of the special senses to cutaneous anæsthesia[1] I may mention that in one case of general tactile anæsthesia tactile sensation was absent over the tongue, but taste was present; and that in another in which anæsthesia was most marked on the right side of the body, but was also present to a less degree on the left, it affected the whole tongue and buccal mucous membrane—taste was lost, there was loss of smell and common sensation (ammonia) in the right nostril, both visual fields were contracted (the right the most), but sensation was lost over the right conjunctiva only. Of fifteen cases of hemianæsthesia, in twelve there was loss of smell and taste, together with loss of common sensation in the nose and tongue respectively on the side of the cutaneous anæsthesia. In one case (right hemianæsthesia) common sensation was lost on the right side of the tongue and of the nose, whilst there was loss of taste over the whole tongue (most marked on the left side) and the sense of smell was absent in the *left* nostril; in another patient smell was absent on the side of the nose corresponding to the cutaneous anæsthesia, but there was no loss of sensation over the nasal mucous membrane; and in a third patient there was loss of sensation over one side of the tongue without any loss of taste. With regard to the eyes in the same fifteen cases and in two additional cases of hemianæsthesia, in five cases the conjunctiva was anæsthetic on the same side only as the anæsthesia and the visual field much more contracted on that side; and in three others there were anæsthesia of both conjunctivæ and contraction of both visual fields, both affections being most marked on the side of the cutaneous anæsthesia. In another six cases the conjunctiva was insensible on the anæsthetic side only, and both fields of vision were contracted, the one on the anæsthetic side the most so; in one there was contraction of both visual fields, the one opposite to the hemianæsthesia being the smallest, whilst the conjunctiva on the same side as the cutaneous anæsthesia was alone insensible; and in another the visual field was contracted on the side of the anæsthesia, whilst the opposite

[1] For affections of hearing in connexion with cutaneous anæsthesia, see Walton, "Deafness in Hysterical Hemianæsthesia," Brain, vol. i., 1883, p. 458-472.

conjunctiva only was insensible. In another case of hemianæsthesia, in which the loss of sensation did not extend to the face, the conjunctivæ and visual fields were normal though there was unilateral loss of smell and taste. In hemianæsthesia, then, there is generally but not always bilateral contraction of the field of vision, but no anæsthesia of the opposite conjunctiva. In six cases where the anæsthesia was of limited extent the affections of the mucous membranes and special senses varied. Where cutaneous anæsthesia was absent, in three cases both the visual fields were contracted, in one there was loss of smell and slight contraction of the field of vision on one side, and in another there were loss of taste over the anterior part of the tongue, left anosmia, and contraction of the right visual field. Patches of cutaneous hyperæsthesia are not uncommon in hysteria, and the patients are generally aware of their existence. In ten children there was in one a general condition of moderate hyperæsthesia of the whole cutaneous surface, and in another, a patient in the "hysterical state"[2] there was hyperæsthesia over the whole anterior surface of the trunk. These two patients afforded by far the greatest extent of surface

FIG. 5.



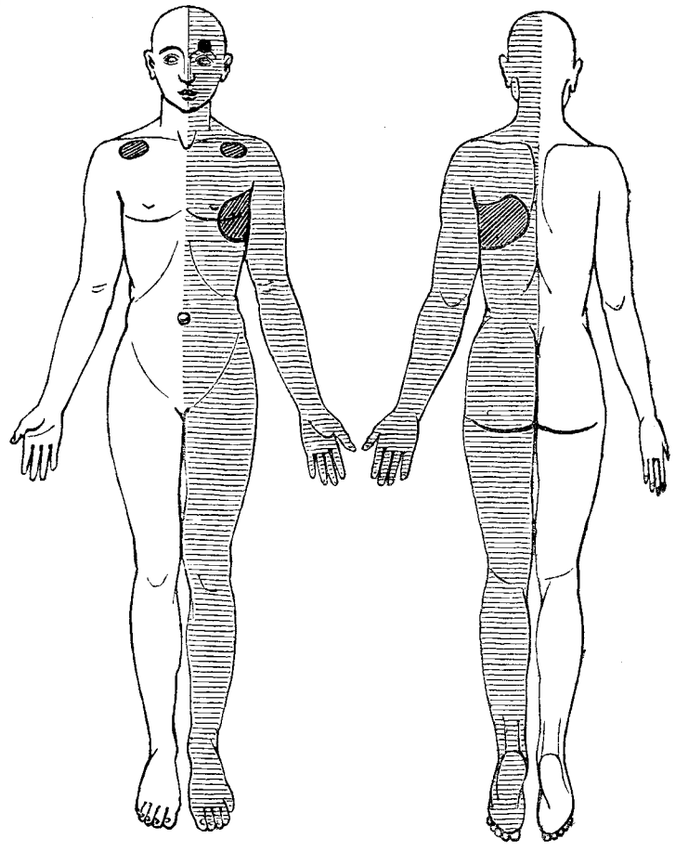

Hysterical paraplegia; hysterical attacks. *a*, Partial anæsthesia; right conjunctiva not affected. Legs: anæsthesia to pain, touch and temperature. Muscles not affected and "muscular sense" also intact.

affected with increased sensibility, in the other cases the areas being small, not exceeding a few inches in diameter and sometimes not being more than one or two inches. Of nine men, two showed hyperæsthetic areas, one just below the angle of the left scapula, and another (monospasm of right hand) over the anterior surface of the right wrist. Of thirty-four women there were patches of hyperæsthesia in sixteen. In five cases there were several such patches scattered over the body. In twelve of these patients there was also more or less cutaneous anæsthesia. In five cases the tender spots were situated over the breasts, and in another five over the ovarian region. Of the so-called "hysterogenic zones" I found three well-marked instances only out of all my cases—one in a man (over the dorsal spine), one in a boy (over the whole abdomen),[3] and another in a woman (over the back). Irritation of the areas gave rise in the boy to a convulsive attack and in the two other patients to a mild attack, consisting of the aura usual in each case, a stage of tonic rigidity and then a brief period of stupor or rather partial loss of consciousness. In seven other women there were tender areas with less defined "hysterogenic" properties, which upon irritation produced a feeling of faintness or some other vague symptom.

*Motor affections.*—A greater or less degree of weakness in the legs is the most common form of the muscular weakness, apart from actual paralysis, which is so frequently found in patients suffering from hysteria. The patients complain of all degrees of this weakness, from slight paresis to complete paraplegia. Three of my cases were affected with hemiplegia, in two coming on after a convulsive seizure; in all three it was on the left side and was attended with left hemianæsthesia, which had the general characters described above. In one there was spasm of the left side of the tongue, so that it was protruded to the right, being curved during protrusion with the concavity towards the right. Sometimes a temporary hemiplegia of some hours' duration is observed after a fit.

The following case illustrates one type of hysterical paraplegia. The patient, a girl of eighteen, had had no previous illness except occasional attacks of hysteria, to which her mother was also subject. She was chlorotic and said that

FIG. 6.



From a patient who suffered three months previously from hysterical paraplegia. Anæsthesia most marked to touch and over face; least over abdomen and back. Black areas are hyperæsthetic.

she could not move her legs. The illness began after a fall on the back, which caused much pain, and since then inability to stand or walk had compelled her to remain in bed except for a day or so for the past three months. On examination there was tenderness over the spinal column, most marked over the lower dorsal and lumbar regions. The tenderness appeared to vary a little both in situation and intensity during the examination. There was slight lateral scoliosis, but no sign of disease of the vertebræ. Whilst lying in bed all movements of the legs were weak and she could not raise her feet off the bed. There was spasmodic contraction of the extensors of the knees, of the calf muscles and of the extensors of the great toes. The spasm could be felt to affect the flexors also and could be overcome by firm pressure. The muscles were well-nourished and firm. The plantar reflex was absent, but the other reflexes were normal. There was absolute anæsthesia below the groin in front and the gluteal fold behind, less complete loss of sensation over the face, neck and left arm, and concentric contraction of the visual fields. The muscular sense was preserved. When supported on each side she could just stand and shuffle along

[2] THE LANCET, Dec. 20th, 1890.
[3] THE LANCET, Dec. 20th, 1890.

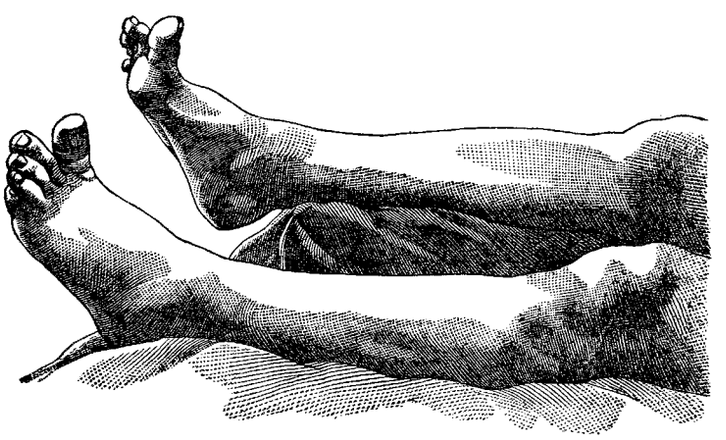
in a feeble way. The electrical reactions were normal, micturition and defæcation being naturally performed. The treatment consisted in tonics, a liberal dietary, a daily shower-bath, and massage and electricity to the affected limbs. She was made to get up and to try to walk. She steadily improved. She soon regained her power of walking, and when she told me she felt sure that she would never lose that power again she was sent home. Three months afterwards she attended as an out-patient, complaining of neuralgic pains in the head; otherwise she was much improved and had no sign of any paralysis. It was now found that the anæsthesia had disappeared from the right leg and right side of the face, but there were well-marked left hemianæsthesia and various areas of hyperæsthesia. (See Fig. 6.) The chief points in the diagnosis were the occurrence of hysterical attacks in the patient and in her mother, the presence of well-marked hysterical stigmata in the shape of anæsthesia, and the characters of the paraplegia, which corresponded to no form of organic disease of the spinal cord. Further, the extensor spasm of the great toe is, I believe, almost characteristic of hysteria. The treatment carried out had for its object the impressing upon the patient by a kind of suggestion in the waking state that she could walk and must make the effort to do so. Some of these patients require to be taught to walk, and do not make any rapid progress until they are literally shown how to carry out the movements of walking. She was also isolated from her friends. Without isolation treatment in such cases is very often futile. Lastly, it is a good plan not to let the patients return home until they are thoroughly convinced that they are permanently cured. When in cases of paraplegia of this type the patient has been in bed for some time the feet, either dropped from paralysis of the extensors (dorsi flexors) or extended from spasm of the calf muscles, may become fixed by adhesions in the position of extension, in which case it is necessary to break down the adhesions.

The next case is one of a rarer variety of hysterical paraplegia. The patient was a boy aged twelve without any family tendency to nervous disease. For about two weeks previously to my visit he had suffered from headache, giddiness and convulsive attacks which were attended with loss of consciousness and followed by a period of delirium. He had fallen several times in the fits but had never hurt himself. The onset of the illness was sudden and took place after some over-excitement. When seen on Dec. 24th, 1891, he was a healthy-looking boy; he could move his legs freely when lying in bed, but walked very feebly, dragging his left leg. There was no other paralysis, affection of sensation, nor of the special senses present and there was no sign of organic disease. Under the treatment suggested the boy at first improved, but subsequently he relapsed and lost all power of walking. On Feb. 9th, 1892, he was carried to the hospital as he could not walk. When placed on his feet he did not fall, but could not stand still, constantly shifting his feet. He could not walk, run or stand still, but on being placed on his feet went round and round the ward about twelve times, when he was stopped and put in a chair. He moved with a curious, quick, dancing step, in which the feet were brought rather forcibly to the floor. The movement is difficult to describe, but one of the nurses said the step was known in country dances as the "monkey hornpipe." Whether the eyes were closed or open seemed to make no difference to him. There were no other signs of nervous disease. The next day he was still entirely unable to walk or run, but could get along very well by jumping with his feet close together or by going on all fours, and was able to hop down the ward and back. In a few days he recovered the power of walking and running. This case seemed to correspond to the affection described by M. Blocq under the term of "Abasie-astasie,"[4] of which cases have since been described by Charcot,[5] Pitres[6] and other observers.

A striking feature of many of the cases, as in the one described above, is the loss of certain of the complex coördinated acts of locomotion and not of others. Thus the patient may be able to hop or jump, and yet be unable to walk or run. Just as under ordinary circumstances a man may be able to leap or dance, and yet never have learned to swim, so in this affection some of the coördinated acts already acquired appear to be forgotten or lost for a time. Each of these complex movements requires elaborate muscular coördination and is probably effected by a special nervous mechanism. Further, the greater frequency of the affection in childhood is on this supposition to be expected, for in the child the nervous mechanism has not acquired that degree of stability which frequent repetition of the movement ensures in the adult. The paths for nervous impulses are not so definitely marked out, and there is less resistance to irradiation of impulses along other channels than in the adult.

It may be worth while to point out here that, as in hysterical hemiplegia, so in paraplegia and monoplegia a cutaneous hemianæsthesia may be present. This hemianæsthesia may either coexist with loss of sensation over both lower extremities in paraplegia, or over the paralysed limb in monoplegia, or in other cases may be the only defect of sensation noted. Generally speaking, in such cases the anæsthesia is most profound over the affected limbs. The hemianæsthesia may be perfectly unilateral or absent over certain parts of the side affected. Thus in the first case of paraplegia given above there was loss of sensation over the left arm (incomplete hemianæsthesia) as well as over the legs; in a case of monoplegia of the right leg there was partial loss of sensation over the whole right side; so that a correspondence in the accompanying sensory affection can be traced in hysterical motor paralysis, whether this be of hemiplegic, paraplegic or monoplegic type, and may be taken as an indication that the same region of the central nervous system is involved in each form of hysterical paralysis, although clinically they appear to be so different; and, further, the character of both sensory and motor affections points to the cerebral cortex as the seat of the disturbance. Mention has been made above of a form of hysterical contraction of the great toes in the position of extension which is sometimes met with in hysterical paraplegia. Fig. 7 was taken from a photograph of a boy who suffered from (hysterical) flaccid paraplegia after a fall on

FIG. 7.



the back. This spasm has been described and figured by M. Gilles de la Tourette.[7]

The following remarkably persistent contraction of the left hand seemed, from all the circumstances of the case, to be of functional nature. (See Fig. 8.) The patient was a middle-aged woman. Thirteen years previously the left fore-finger was amputated for diseased bone and ten years ago she dislocated the left wrist. These injuries with the consequent deformity may have been instrumental in determining or suggesting the seat of the contraction. The left hand and arm had been weak and painful and the finger-nails dark in colour for some time, and she had also suffered from "fainting" fits. Contraction came on gradually in the fingers, and there was some general wasting of the arm muscles; sensation was unaffected. On examination the fingers of the left hand were contracted in position of flexion at all joints, the tips of the fingers and nails being forced against the skin of the palm, which was slightly ulcerated at the points of contact, and lay between the thenar and hypothenar eminences, which were hard and prominent. The hand deviated towards the ulnar side, with the wrist flexed and pronated. The tendons of the flexor carpi radialis and palmaris brevis were prominent. She could slightly extend the thumb, but could move none of the fingers: passive movement of them was painful. The muscles of the forearm and hand all reacted to both forms of electrical current and showed slight general wasting

[4] Sur une Affection caractérisée par l'Astasie et par l'Abasie: Archives de Neurologie, vol. xv., 1888.

[5] Leçons du Mardi, 1889.

[6] Leçons Cliniques sur l'Hystérie et l'Hypnotisme, 1891.

[7] Superposition des Troubles de la Sensibilité des Spasmes de la Face: Nouvelle Iconographie de la Salpêtrière, p. 126, 1889.

from disuse only. Superficial and deep reflexes, cutaneous sensibility, and special senses were everywhere normal. This contraction had lasted two years. She refused to enter the hospital in order that the hand might be examined under chloroform and did not attend again.

One of my patients, a girl aged fifteen years and a half, suffered from spasm of the right orbicularis oculi (pseudo-

FIG. 8.

paralytic ptosis), which came on after the extraction of a right upper molar tooth. The right eyebrow lay at a lower level than the left (distinction from paralytic ptosis: Charcot[8]); both eyelids could be felt to be spasmodically contracted. Frequently muscular spasm is associated with, or rather follows, pains in a joint (hysterical arthralgia).

A boy aged fourteen fell from a chair, striking his back. His illness began with pain, weakness and stiffness in the left hip, which slowly affected the knees and the other hip-joint. Grief at his mother's death from paraplegia about the same time aggravated his symptoms. When I saw him the pain was gone except in the knees, but he could not bend the thighs. In walking the thighs and legs were kept rigidly extended by muscular spasm, the lower extremities advanced by circumduction and the feet raised a little whilst being brought forward by bending of the trunk to the opposite side. On examination the thighs were rigid in extension and adduction, attempts to separate them or to flex the hip causing much pain. When the patient was lying down the legs and pelvis could be raised together like a rigid bar by lifting up the heels, and when let go they fell all in a piece. He could only sit on a chair by resting his buttocks on the edge of the seat and arching his body backwards. Standing with his feet together, however, he could jump off the ground to the height of about a foot. There was no sign of any disease of the joints or of organic nervous diseases. Reflexes and sensation were normal. He finally recovered after many forms of treatment had been tried during isolation in the hospital, but slight spasm did not entirely disappear for five months.

Another boy had spasmodic contraction of the shoulder and elbow muscles, coming on after a caning on the hand at school, and one woman suffered from rigid spasm of the spinal muscles, so that the body was bent over to the right, and there was marked curvature of the spine towards that side.

The diagnosis from organic disease in these spasmodic affections is often much aided by the attitudes and gait of the sufferers. In the foregoing cases of paralysis and spasm the frequent occurrence of some antecedent injury in the neighbourhood of the part subsequently affected will have been noticed.

Hysterical rhythmical spasms and tremor may be classified for clinical purposes, according to their distribution, into (1) general, including "hysterical chorea," (2) hemiplegic and (3) monoplegic or localised, the latter including spasmodic movements of a whole limb or part of it, or of individual muscles. The character of the movements themselves, the fact that they often first appear after a convulsive attack, their hemiplegic distribution in some instances and the presence in many cases of hemianæsthesia and unilateral affection of the special senses would seem to point to the cortex as the seat of the functional disturbance. An instance of hysterical chorea occurred in a boy aged fourteen, who had suffered six months previously from aphonia and pain in the stomach. The present illness was of one month's duration. On admission he appeared to be nervous and there were involuntary purposeless movements in all his limbs, most marked on the right side; they were increased by observation and were occasionally violent. When sitting in a chair he would suddenly be jerked out of it, his body being swayed backwards and forwards and his arms agitated by strong muscular contractions; after a time he would suddenly spring back on to the chair. When in bed sudden contractions of the muscles occurred by which his body was moved from one side to the other and his limbs were forcibly jerked about. He could feed himself, but on two or three occasions he had upset his food. The movements ceased during sleep. He was given a shower bath every night and morning, with general faradaism and tonics internally, and was discharged cured on Dec. 29th. On Jan. 29th following he returned with a relapse of his complaint and was readmitted. He was well-nourished and looked healthy. At this time the spasms consisted of very rapid contractions of the muscles, obscurely rhythmical in character, several—from ten to twelve—shocks rapidly succeeding each other, followed by slower and stronger ones, with occasionally an intermission of from two to three seconds' duration. The muscular contractions exactly resembled those which follow isolated faradaic shocks and occurred about two or three times to the second. At first the contractions were confined to the triceps muscle on each side, with an occasional contraction of the biceps, but in the course of examination they spread to the other muscles of the forearms and to the shoulders (shrugging movements); the left forearm was spasmodically supinated and carried behind the buttock and the left foot was strongly adducted. The spasms were not increased by voluntary movements and ceased during sleep. There was no rigidity or persistent muscular spasm; the muscles of the face and eyes were unaffected. The pharyngeal reflex was absent and there was some loss of sensibility over the pharynx and conjunctivæ, otherwise sensation was everywhere normal and there were no other signs of nervous disease. The spasms stopped shortly after admission and there was no subsequent relapse. The chief differences from ordinary chorea in the second attack were the localisation of the spasms and their remarkably sudden, shocklike character, which has caused the name of "electrical chorea" to be given to this affection. One may add the influence of the treatment adopted, which would probably have aggravated true chorea.

The following are instances of hemiplegic and monoplegic types:—

A girl aged eighteen complained of constant spasmodic movements of the right side, which only ceased during sleep. They consisted of (1) flexion of the forearm at the elbow; (2) flexion of the fingers, the thumb being fixed upon the palm under the fingers; followed by (3) extension of the forearm. At other times the hand was alternately pronated and supinated. Movements of extension of the leg with dorsiflexion of the foot alternated with those of the arm. There were also incoördination of voluntary movements in the arm and leg and occasional twitching of the right side of the mouth. She had right hemianæsthesia (not profound), contraction of the visual fields, loss of sensation over the right conjunctiva and right-sided anosmia and ageustia. She was cured a few days after admission.

Another girl, who had previously suffered from paralysis of the right arm, right hemianæsthesia and aphonia, suffered from distinctly rhythmical alternating flexion and extension of the right forearm, wrist and fingers. She also recovered quickly, and, speaking generally, these cases are more amenable to treatment than those of fixed spasm.

Functional affections of the muscular mechanism of the respiratory tract are not uncommon. They may affect inspiration or expiration alone or both together, with or without involvement of the laryngeal muscles. Attacks of violent and long-continued yawning, sighing and hiccough occur. Occasionally patients appear with simply increased

[8] Archives de Neurologie, May and June, 1891.

rapidity of the respiratory movements. There are from thirty to forty or even sixty respirations in a minute, and this may be maintained for a long time. In some cases there is no local cause, the larynx, lungs and heart being perfectly sound. In others the respiratory disturbance is excited by a slight bronchial catarrh, this being altogether out of proportion to the extreme rapidity of respiration and insufficient under ordinary circumstances to cause any disturbance of the respiratory rate.

One of my patients, a girl aged nine, suffered from inspiratory spasm which came on after a fright. At regular intervals there was a contraction of the diaphragm, which gave rise to a deep sob and was accompanied by slight associated movements of the mouth and the nares. The spasms occurred quite regularly twenty-four times a minute; they were painless. The mother stated that, except during sleep, they had never ceased for four months. The child had latterly become weak and languid, was listless and disinclined for any exertion. There was no anæsthesia or hyperæsthesia. The case shows the importance of isolation in treatment of such affections, for the spasms ceased on the day following her admission into the hospital.

Hysterical cough generally consists of a loud, hard, noisy or barking cough, either constantly repeated or paroxysmal. The different varieties are indescribable, but in one remarkable case in a child aged twelve each spasm of "cough" consisted of a loud noise, repeated spasmodically four or five times with expiration, and partly of an articulatory noise made in the throat, harsh, rasping or sawing in character, and so loud as to be heard over the whole house. The attacks essentially consisted of one long inspiration followed by four or five expirations. The child held her hand before her mouth and did not appear distressed for breath, nor did she change colour. Whether these functional affections of the muscles of phonation and respiration should be strictly called hysterical is doubtful. In some respects they would seem to come under the category of hysteria, but in others to be more properly classed under the so-called habit-spasms. Spasm of the adductors of the vocal cords seems to be rare in hysteria.[9]

Tremors of different kinds may occur in hysteria, and may be general or affect one limb only.[10] In the following four cases the tremor was marked and was not increased on voluntary movement. In several other patients there was fine tremor of the hands when they were extended, but this was attributed to neurasthenia and is met with under so many conditions that no special stress was laid on it.

In the first patient, a servant girl aged twenty-four, the tremor was markedly increased by voluntary movements, but differed from that of disseminated sclerosis in continuing (1) during rest and (2) after the object of any given voluntary movement had been achieved. The illness began with headache, general weakness, giddiness, nocturnal hallucinations, followed later by two convulsive attacks, after which tremor of the legs came on and prevented her from walking. On admission she was healthy in appearance, but looked anxious. She could not stand unsupported and when lying down could not lift her legs off the bed or bend her knees, but could move her toes a little. The arms were also weak, but all the muscles were well-nourished and firm, without undue rigidity. Plantar reflexes were absent; the other reflexes were normal. Whilst lying down a constant oscillating to and fro tremor affected both arms and when she sat up extended to the muscles sustaining the head and neck and in less degree to those of the trunk. The tremor was amplified by voluntary movement; in drinking she spilled the fluid from the violence of the movements; further, when the desired object of any action had been attained the tremor still continued. Clonic spasm affected the leg muscles on standing, so that if not supported she fell; there was a coarse tremor of the tongue and constant nictitating spasm of the eyelids; there was no nystagmus, or any difficulty in speaking or swallowing. Slight inward strabismus of the left eye had existed from childhood. Tactile sensation was lost over the whole cutaneous surface, and there was in addition analgesia over the legs alone. Taste was deficient and there was right anosmia. It is sufficient to say that the tremor gradually decreased and finally disappeared sixteen days after admission.

A girl aged eleven had suffered from weakness, depression of spirits, night terrors, somnambulism and headaches for six months and from tremor of the limbs for two. Four brothers and sisters had died from convulsions in infancy. She was anæmic and thin, but highly intelligent. A fine, rapid, oscillating tremor affected both arms and legs and was most marked in the arms. When she used her arms there was also tremor of the head and neck. The trembling was more marked if she became agitated and only disappeared during sleep. There was no sign of organic disease and with a bromide draught at night and general tonic treatment she recovered in a few weeks. In another girl, aged fifteen, a fine, rather jerky, slow tremor was limited to the arms, was present during rest and not increased by movement.

In the case of a healthy young farm labourer aged twenty-two the tremor bore a curious resemblance to that of a commencing case of paralysis agitans. It had appeared without any assignable cause and had lasted for two years, gradually getting worse. When he came to the hospital there was no sign of any lesion of the nervous centres or peripheral nerves. The tremor was limited to the right hand and forearm and consisted of a fine rapid to-and-fro movement of the hand and forearm, with movements of the thumb and fingers like that of paralysis agitans, and the hand was maintained by slight muscular spasm in the position assumed for holding a pen. The right hand and arm were weaker than the left. The tremor continued during rest and was unaffected by movement. There were no other signs of disease, and after faradaism of the limb daily for one week he completely recovered. A case was shown at the Medical Society of London by Dr. Ormerod[11] of a woman aged twenty-nine, who had tremor of the hands and tonic contraction of the flexors of the fingers and toes. The tremor developed after a fit and had existed over six months. Before the contractions the fingers shook and had somewhat the appearance of paralysis agitans.

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[9] See a case in Brit. Med. Jour., vol. i. 1891, p. 1173.

[10] For M. Charcot's classification of hysterical tremors see Clinique des Maladies du Système Nerveux, 1892, p. 56.

[11] Brit. Med. Jour., vol. ii. 1887, p. 1216.

# ANKYLOSIS OF THE JAW:

## RESECTION OF JOINT ON ONE SIDE, COMPLETE RELIEF RESULTING.

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THE operation to be described is practically the same as that advocated many years ago by Professor Humphry of Cambridge and which has been successfully performed by himself and others since, notably in two most interesting cases published by Mr. F. Page[1] of Newcastle; but in spite of the excellent results obtained in these cases, and to judge by what has been uttered and written, there seems still to be considerable doubt as to which of the several operations for ankylosis of the jaw is really the best. In the hope of helping in the solution of the question the following case is recorded.

A young lady aged fifteen was sent to me from New Zealand by my friend Mr. Anderson of Christchurch in October, 1891, with a request that I should, if possible, relieve her by operation of a condition of ankylosis of the jaw which was causing her serious inconvenience. When five years old she had fallen down a staircase about fifteen feet and hurt in some way the left side of the jaw, which, however, was said not to have been fractured. Stiffness and pain were felt in the joint for some time and then passed off and no more was thought of the injury until comparatively recently, when relatives who had not seen her for some time were struck by the deformity of her jaw and the whole left side of the face. The latter appeared much smaller than the right side, and the chin was tilted to the left, as was evidenced not only externally but by the lower incisor teeth, which were at least a quarter of an inch to the left of their fellows in the upper jaw. Besides this, the movements of the jaw were becoming limited, and at the time Mr. Anderson wrote, in July, 1891, the incisor teeth could only be separated about a quarter of an inch. When I first saw the patient, in October, 1891, the teeth could hardly be forced apart even a quarter of an inch, and there was no lateral movement. A photograph (from which Fig. 1 was engraved) taken at this time shows the maximum amount.

[1] Brit. Med. Jour., vol. ii. 1887, p. 1277, and vol. i. 1889, p. 651.