to be classed with Dr. Ross's case. I therefore bring my case before the readers of the JOURNAL for comparison with this other one, although, in one sense, they cannot be compared, as my case is still living, and, unless she gets another "stroke", is likely to live for years to come.

Mrs. —, aged about 40, travelled, on February 6th, a distance of over 130 miles to stay with a relative in my neighbourhood. In the middle of that night, I was called to see her, and found her in the following condition: quite speechless, though fully conscious; no marked hemiplegia; lower jaw clenched; no cardiac symptoms; radial artery thickened. Next day, the jaw was more opened, and it was then discovered that the tongue was almost powerless, and that deglutition was difficult. She could scrawl her name with her right hand, but she held the pencil badly. There was indication of slight facial palsy on the left side of the mouth. The optic discs were normal. On inquiry from her friends, and on writing to her medical man at home, I ascertained the following history.

She had good health up to a year before, then had slight and transient loss of speech. Her next attack was on one night in January 1881, when she lost her speech for a very short time. Again, a third time, on January 16th, she had partial aphasia, accompanied now with partial left hemiplegia and impaired deglutition; these all coming on gradually in the course of the day. In about a week, she got better of this, and when she arrived here was very nearly recovered. She could talk and walk quite well, and could use her arms, only the left was a little impaired in its movements.

On the third day, February 8th, she could swallow better, and could speak a little. Albumen was found in the urine. On the 9th, she was not so well. On February 11th, Dr. Hilton Fagge saw the patient with me in consultation. At this time, complete facial paralysis was noted. This paralysis remained, as far as voluntary movements were concerned, during the remainder of the time the patient was under my care. On the other hand, *blinking* occurred; and, when amused, the face would be drawn up into an expression of laughter, but never into a smile. When an effort was made to close the eyes, a wide staring only was produced. I noted on this day that the *right* hand had been weaker for a day or two. It was the *left* which had been affected before. On the 19th, she had remained about the same for the last week. On the 24th, she had some power in the right arm, and swallowed better. She had been complaining for some time past of pain in the masseters—probably spasm. When tested with carved letters, she could use them well to form words. On March 21st, the right hand had gained considerable power. She was now able to dress herself. Swallowing had improved, the jaw could be more widely opened, and the pain in the masseters was gone; but there was no marked improvement in the movements of the tongue, and the voice was still absent, as it had been throughout, except on February 8th. There was, as far as I remember, one inarticulate sound for everything, and a slight sound, not sustained, on laughing. It was not clear that speech by letters was quite perfect, for, on trying to spell "cannot" on the letters (before several persons), she spelt "connot". Cutaneous sensibility had been found perfect in the face, but diminished in the right fingers.

Mrs. — now returned to her home, fortunately without any mishap this time, and passed at once under the care of her usual medical attendant, by whose courtesy I am enabled to publish these notes. This gentleman has kindly informed me of the progress of the case. On September 19th, he wrote to me: "Her general health has much improved, and she is able to engage in some of the lighter duties of her home, but she cannot utter a word;" also, "she is able to put the tongue out, which she could not move at will before, and she swallows with less difficulty." I have learned still later that swallowing is now quite easy; there is no power of speech, but some voice.

Now, the symptoms of this case much resemble those of Dr. Ross's; only his had less pronounced symptoms at the time—"loss of facial expression, imperfect articulation, and slight difficulty of deglutition"—while the previous attacks in my case were lighter. Dr. Wilks mentions a case in his book (*op. cit.*) which I well remember in the wards of Guy's Hospital, and which now reminds me of Mrs. —'s case. This woman could not utter a word; but when, apparently, pleased at something said to her, her mouth opened, her face was opened out too into a broad laugh, while one slow inspiratory noise was made. I think this woman eventually went home, and I do not know what became of her. Her case was "cerebral" for a long time before she settled into this state.

Till I saw Dr. Ross's case, I had thought of my own as one of hæmorrhage into the neighbourhood of the medulla. Nevertheless, I was at a loss how to explain the remarkable facts of the facial muscles being quite cut off from the direction of the will, but responding to the stimu-

lus of a humorous idea, and of the blinking. Now, however, I think I have a clue to the solution of that difficulty. If the lesion were of the central ganglia, the facial nuclei would certainly be cut off from the ordinary motor impulses descending from the hemispheres, but would be free to respond to impulses reaching them through the optic nerves and corpora quadrigemina. Thus the blinking would be accounted for; but how about the laughing? Though this is a respiratory act, and is probably directly regulated by the medulla, a stimulus originating above must reach the medulla first. How is this to be accomplished, if the motor tracts be interrupted? Meynert's notion (Stricker's *Histology*, vol. ii) is of a double motor tract, represented by the crusta, formed of fibres from the corpora striata, on the one hand, and by the tegmentum (or rather a portion of it), formed of fibres from the optic thalami, etc., on the other hand. Now, according to the same writer, the corpora striata receive fibres mainly from the anterior part of the brain, while the optic thalami, corpora quadrigemina, and corpora geniculata receive a portion of their fibres at least from the occipital and temporal lobes. Thus, a humorous idea,* taking its origin in the occipital convolutions as the seat of the emotions, may be reflected into this latter group of ganglia, and thence again into the various nuclei of the medulla oblongata, including those of the seventh pair, concerned in the act of laughing. It seems that the central connections of these nuclei are through both the crusta and tegmentum; those connecting the common nucleus of the sixth and seventh passing through the crusta, while those connecting the inferior nucleus of the seventh, as well as some direct central roots of the nerve, pass through the tegmentum.

One has been accustomed to think of deglutition as so perfectly reflex an act, that surprise is, at first sight, felt at having to associate its impairment with cerebral lesion; but we must remember that, in neither Dr. Ross's case nor my own, was the act deeply involved; and it was probably affected only through paralysis of the tongue, which would hamper only the first or voluntary stage of deglutition. In Dr. Ross's case, the streak of degenerated fibres was traced into the inner border of the pyramid, and then "appeared to bend back in the median raphe to reach the bulbar nuclei of the opposite side". This is the course taken by the central fibres of the hypoglossal nerve. Then the paralysis of the spinal accessory nerve, causing the aphonia in my case, could just as well be accounted for by an unusual central lesion—and we are now contemplating unusual lesions—as the paralysis of the hypoglossal nerve. Lastly, the previous attacks which I have described would receive a more probable explanation—more in accordance with experience—from the idea of central lesions than from that of repeated accidents in the medullary region.

On the other hand, if one tried to associate the symptoms in Mrs. —'s case with a lesion, or rather a series of lesions, in the neighbourhood of the medulla oblongata, the amount of disorganisation in that all-important part of the nervous fabric would be so great as to be incompatible, one would think, with the maintenance of life.

Thus, to my mind, at present, the balance of evidence is in favour of central lesions in this remarkable case. But the subject stands in need of elucidation.

ON AN "EPILEPTIC" CONDITION OF THE CENTRES WHICH CONTROL THE NUTRITION OF THE BODY.

By W. MUSSEN YOUNG, M.D.,

Assistant Medical Officer, Suffolk County Asylum.

A GREAT extension has been made of late of the class of cases which are recognised as entitled to a place under the generic heading "epilepsy". Formerly this designation was applied only to those cases in which there had existed a train of symptoms so marked and severe in character as to justify the popular appellation of "falling sickness". In order to constitute an epileptic fit, it was deemed necessary that there should be observed distinct loss of consciousness, foaming at the mouth, tonic, followed by clonic, spasms of the entire voluntary muscular system; in fact, all the symptoms which, taken collectively, are now known as *haut mal*. But it has been for some time generally admitted that in epilepsy, as in everything else, there are degrees of severity, and that it could no more be expected that every attack should be of this severe character, than that all cases of small-pox should be of the confluent form. Accordingly, attention has been directed to a class which had previously attracted little notice, owing to the slight disturbance which they cause when compared with the struggle for life which is witnessed in a seizure of the more severe type. In this class—*petit mal*—would be included cases in which the symptoms are so slight as

* One should, perhaps, rather say, the cerebral process of a humorous idea.

to pass unnoticed by a casual observer, and in which the patient himself would be conscious of only a momentary feeling of giddiness. But, although the manifestations of these two different classes are so widely divergent, clinical observation establishes their close affinity beyond doubt. Very frequently the milder variety is merely the preliminary stage of what may ultimately prove to be the most severe and intractable form of the disease; in which case the one is simply the gradual and natural development of the other. This points to the conclusion, that the same specific pathological condition underlies both, the only difference being one of degree.

But the widening of the meaning of the term epilepsy has lately proceeded in another direction than that of degree. If it be taken for granted, as it undoubtedly must, that there is some pathological condition, be it circulatory or otherwise, affecting the cerebral motor area in such a manner as to produce the phenomena observed in sensori-motor epilepsy, it will not be a stretch of the imagination to suppose that the other cerebral centres are liable to become deranged in a precisely similar fashion. The manifestations of these perversions of function of different areas would, of course, vary according to that part of the system over which the area affected might preside. It would be as illogical to suppose that similar pathological conditions of different areas should be manifested by the same effects, as it would be to expect that irritation of the optic nerve should affect the sense of sound. Dr. Maudsley and other recent authorities insist that, in cases of "masked epilepsy", a transitory attack of furious mania may take the place of muscular convulsions. It is fair to attribute these convulsive seizures of ungovernable impulse to a condition of the highest centres, analogous to that which obtains in the motor area during an attack of ordinary epilepsy, so that this variety might rightly be designated epilepsy of volition. If, then, both the motor and volitional centres are liable to become affected in this way, it may be assumed that the centres presiding over the nutrition of the body are subject, wholly or in part, to similar pathological changes.

The following notes of cases are recorded with the object of attempting to show that clinical observation tends to corroborate this theorising from analogy, and that there exists a morbid state which may be described as epilepsy of the centres which govern the nutrition of the body.

A. is now twenty-seven years of age, and has been an inmate of this asylum for nine years. In order to understand her condition, it will be better to begin by describing her as she appears under the most favourable circumstances, when her general *physique* is very good, and her appearance somewhat prepossessing, with a florid complexion, but rather "epileptic" expression. Her mental condition is at all times weak, but when in the state just described she is not inclined to be violent, understands most of what is said to her, and gives fairly rational answers when questioned. This comparatively satisfactory state lasts for some time, when suddenly a marked change, more especially physically, takes place, and within twenty-four hours a decided deterioration is observable. This degeneration progresses very rapidly, but not uniformly, as, during the course of the attack, she frequently exhibits apparent signs of improvement, or at least of arrest of the attack. Any hopes, however, of a permanent change for the better are soon dissipated by a relapse into a worse state than formerly; and at the end of a fortnight her general appearance has so much altered that she would not be recognised as the same person, unless special attention with that object were directed towards her. Although she may be thus reduced to a kind of living skeleton, and may appear to be literally dying from starvation, her appetite remains unimpaired, and she takes her food well, and with no abatement of relish. Concurrently with this alteration in her physical condition, her mental state gradually becomes more unsatisfactory, until at last she is restless and troublesome, incapable of understanding any conversation, or of herself speaking otherwise than in the most incoherent manner. This condition continues until she seems to approach a state of collapse, when an improvement as rapid as the original degeneration sets in, and in a very short time she regains her former satisfactory state. This, however, again proves to be of only temporary duration, and the same sequence of events follows. The quiescent period which elapses between any two seizures is very variable, and does not bear any relation to the menstrual function.

REMARKS.—The periodicity of the attacks in this case, together with the course they run, presents many points of analogy to those cases of epilepsy in which there are considerable intervals of entire immunity from fits, followed by periods during which the seizures are so frequent and severe as to leave the subject of them quite prostrate for a time, until they gradually pass off and another interval of repose ensues. The resemblance is still more marked by considering what might be called the convulsive character of the physical degeneration, as shown

by the temporary intervals of improvement or arrest in severity of the attacks. The intense degree of malnutrition cannot be owing to a defective supply of nutritious matter, because the appetite is, as stated above, always very good, and there are never any signs of gastric or intestinal disturbance. The entire course of events may fairly be accounted for by supposing that the cerebral centres which govern the nutrition of the body may be acted upon by the same conditions as those which affect the motor centres, occasioning ordinary epilepsy.

B. is a congenital imbecile, twenty-four years of age. About a year ago, a patch of alopecia areata, about three inches long by about two inches broad, appeared just above the left temple; but the baldness disappeared in a short time, and a good crop of hair again covered the affected spot. Both the falling off and the subsequent growth of the hair seemed to take place in an irregular and spasmodic manner. Shortly after this, a patch of about the same size appeared immediately posterior to, and joining, that which had been first affected, ran a similar course, and was followed by a like spot immediately posteriorly. The same succession of occurrences has taken place on several occasions, until now a tract of the scalp extending from the temple to the occiput has been affected from time to time.

REMARKS.—If the maintenance of the general well-being of the body be liable to interference by an "epileptic" condition of the centres governing general nutrition, it may be inferred that a part may be affected in a manner similar to the whole, and consequently that these periodic attacks of alopecia may be due to a like pathological condition of that small part of the nervous system which is concerned in the nutrition of the affected spot. This case might also be looked upon as favouring the view, that alopecia areata is of neurotic origin in most instances.

Cases are frequently observed in asylums in which patients who have never been subject to epilepsy, though presenting the peculiar physiognomy incidental to that disease, often complain at frequent and irregular intervals of a general feeling of being ill, without any cause to assign for it, as they may still have an excellent appetite, and may show no signs whatever of a disordered state of any portion of the digestive tract. In such cases, all medicines may be tried without affording any relief; but, if left to themselves, they completely recover. After an uncertain interval, the same symptoms again present themselves; and it is a noteworthy fact that, during these slight indispositions, the mental state always becomes more unsatisfactory.

REMARKS.—These cases might be considered as a mild variety of the class which would include Case A., towards which they stand in the same relation as *petit mal* to *haut mal*.

It is not proposed now to enter upon any discussion as to what may be the exact nature of the morbid change which produces these effects, and which may be either circulatory or nervous in character. In favour of the idea that the blood-supply of the nervous centres is at fault, it may be urged that, considering the extreme vascularity of nervous tissue everywhere, a slight derangement either of the supply or of the quality of the blood would be likely to seriously interfere with the proper fulfilment of the functions of any part of the nervous system. On the other hand, when it is remembered what an important part the vasa vasorum play in the nourishment of the larger blood-vessels, and that these vasa vasorum are ultimately in great measure controlled by branches of the sympathetic, it is open to supposition that the small nervi nervorum have a considerable share in the regulation of the nutrition of the nervous centres, and that the morbid phenomena described above may be due to their nervous force periodically acquiring, as it were, a state of unstable equilibrium. Why such a condition of things should occur, and be manifested in such a manner, is as inexplicable as why miasma should affect the body in the periodic manner witnessed in ague.

SURGICAL MEMORANDA.

INJURY PECULIAR TO CHILDREN.

The "injury peculiar to children," which Dr. Sneddon describes in the BRITISH MEDICAL JOURNAL, April 8th, though so trifling as to escape insertion in many of the standard text-books on surgery, is yet sufficiently great to cause the young practitioner considerable perplexity, and possibly annoyance, when first brought under his notice.

I have had seven cases in less than four years, to all of which Dr. Sneddon's description applies accurately, with the exception that, in my cases, the arm was considerably less than semi-flexed. I did not recognise the nature of the injury in my first case until, in the course of a very protracted examination, a slight click occurred at the elbow, with complete restoration of use of the forearm and cessation of pain.

In my case the injury was at the elbow, and, I believe, consisted of slight anterior displacement of the head of the radius.