pathological changes in the membranes were more developed on that side, and were associated with a greater degree of cortical degeneration. Had the hemiplegia been permanent in this case it would have seemed to corroborate (*quantum valeat*) the views of Baillarger;* but as has been seen, the motor defect was comparatively transient, and, apparently, was due to a condition of the nervous tissue, the same as, or analagous to, that present in epileptic hemiplegia.

6.—*Speech.* The disorder or absence of speech may have been at first partly of the nature of epileptic aphasia, which is said to occur most frequently in those cases of unilateral convulsions in which the spasm begins at the right side of the mouth or tongue, or both.† When the speechlessness cleared away a variety of aphasia‡ still remained, and as this latter persisted throughout the rest of the patient's life, although for a considerable period he was free from fits, and without a trace of hemiplegia, there is every probability that it was due to those pathological changes in the cerebral cortex found over a wide area, not only in, but also on every side of, the left third frontal convolution.

CLINICAL NOTES AND CASES.

Lesion of Coordination in the Secondarily Automatic or Acquired Functions of Reading and Writing, with Hints of Hemiplegia. Question of Tabes Dorsalis, or Incipient Locomotor Ataxy: Clot in Right Optic Thalamus? By GEORGE SHEARER, M.D. Liverpool.

R. T., æt. 42. Government Ship Surveyor, of active habits, and invariable good health, educated, intelligent, humorous, and possessing considerable mental activity. He is a heavy smoker and accustomed to his beer, but strictly temperate.

While in London, some five years since, he was one of a small band

* Baillarger makes a clear distinction between the two varieties. He does not, as one of his critics seems to imply, attribute all the hemiplegias in General Paralytics with these modes of onset to unilateral cerebral atrophy. "L'atrophie prédominante trouve donc son explication dans ces congestions plus ou moins répétées sur l'un des hémisphères . . . Les auteurs en effet ont admis deux sortes de congestions dans la paralysie générale, les unes lentes et permanentes, les autres brusques et instantanées . . . Les congestions qui précèdent la paralysie générale ou qui surviennent dans son cours sont souvent accompagnées d'hémiplegies passagères . . . En se répétant sur un seul hémisphère ces congestions finissent par amener des hémiplegies persistantes le plus souvent incomplètes."—Op. Cit., pp. 172 and 173.

† "Med. Times and Gazette," Dec. 23, 1871.

‡ "Bateman on Aphasia," p. 104, et seq.

of fast friends of the same social standing, but differing in political and religious creeds, who used to meet every Saturday evening at each other's houses, to discuss political and religious questions, in which he always took the liveliest interest. He was constituted "Dean of the Chapter," and when he left for Liverpool, engaged to keep up weekly communication with the club by letter, on subjects under discussion. This he did for a year and a half. At the end of this period, in the month of June, 1870, he complained one day of great weariness, and had to lean against a wall for support for a few seconds. Next day, in writing out his customary weekly argument for the debating club, he felt a most extraordinary sensation—afraid to go on writing—a feeling of distraction which obliged him to desist in spite of himself. He "knocked off" for half an hour, forgot the trouble, began again, but write he could not. He got up early the next morning to finish the composition, but when he had got about half-way down the first page, he came to a word (he believes it was the word "weather") which he could not finish, nor write another word any more than he could fly. It was a fine morning in June, and the sun was shining gloriously into the lobby of his house, so he got up, walked up and down for a while, and forgot the whole thing. At 8 a.m. he sat down again to write, but all in vain. With this attempt came on the most awful sense of some unknown terror, a sensation of something going—giving way in his brain, as if a handful of brains had been taken out of the back of his head, but without pain, or sense of weight, or heat, tension or pressure, and with perfect consciousness throughout.

He ran up stairs, tore about the house, but still this awful sense of something coming on, as if he were going to have a fit, continued for some time, notwithstanding that everything was done to calm and sooth and re-assure him. The same dreadful feeling returned whenever he continued writing beyond a very few minutes at a time, and he can only compare it to that of a man standing upon a trap door which he is conscious may give away any moment, or to that of a man ready to be hung standing under the drop. The feeling of helplessness (in writing) returned so frequently that he was obliged to give up his employment for a period of three months, yet circumstances obliged him to remain in town, though he believes that complete rest from business, together with the bracing influences of the country, would, at that time, have quite restored him. Even now he can write twice as long on the Mondays after the rest of Sunday.

In connexion with his official duties, he has frequently to sign his name, and at first he was so helpless in the matter of writing, that if the table were heaped with gold and silver and offered him for merely signing his name, he could not have done it. For a long time he was obliged to make his mark. After a time he found he could sign his name with his eyes shut, and in time he learned to write with one eye open, and at length, with both eyes open for a period never exceeding fifteen or twenty minutes at a time. The ability to write crept back

by little, but has to be exercised with the greatest care. When the power is going, and ~~his~~ ten minutes, or thereabouts, are up, he manages by the manœuvre of shutting his eyes to scratch away a little longer, and often signs his name in a spasm of anxiety with his eyes shut.

The case is very different from Scrivener's palsy. There is no spasm of the muscles of the fore arm or hand, and never has been, neither is there any peripheral pain or numbness, but only a sense of weakness and fatigue which extends to the whole of the left side threatening paralysis; this sluggishness in the leg being so great as to make him feel that if he don't keep moving (while the attack is on) he would lose the power of walking altogether. Yet, as before stated, there is no numbness or hyperæsthesia anywhere, and when the attack is over, his muscular power in the arms, legs, and trunk is unimpaired. It is a question of something acting on the brain through the eye, and he finds that reading (perhaps on account of the greater number of forms passing in an equal time through the eye and the brain in reading than in writing) exhausts him more quickly, and sooner brings on the "horror" and helplessness. It is therefore as much a reading as a writing horror and helplessness, dysanagnosia and mogigraphia combined.

Patient has never sustained any injury to the head, nor suffered from "fits," nor headaches; there is no sign of cardiac or arterial disease, no arcus senilis, nor any mischief in the eyes beyond an old-standing half-sightedness in the left eye, with which, however, he sees further than with the right. At present he is the subject of extreme nervous jactitation of the lips and eyelids, which are almost incessant when he plays the passive rôle of a mere listener.

When a young man he had a peculiar affection of the left eye, which has deprived him of vision when objects are carried below the central plane or equator, that is to say, objects are only visible in the lower half or inferior segment of the eye, the upper half of the eye being blind. The eye was examined by an ophthalmoscopic surgeon who said the blindness was owing to an effusion of blood in the lower segments of the retina, and would probably disappear in the course of time by absorption. It has not, however, done so, and the focal lengths of the two eyes are now very different, that of the right being normal, say 10 in., while that of the left or morbid one is $1\frac{1}{2}$ feet. He can read ordinary newspaper type without his spectacles, with the right eye at three inches distance, and with the left at six. The presbyopic condition of the left eye may with tolerable certainty be attributed to some flattening of the eye ball, or derangement of the transparent media of vision consequent upon the ophthalmic affection in early manhood, and is probably in no way connected with the brain.

Besides the loss of writing function and the fugitive loss of power in the left side, during the attacks, he suffered at the commencement of the malady in 1870 from sudden attacks of choleraic

diarrhæa, which used to come on every morning before breakfast, gave him no warning, and used to pour from him in a perfect stream. All sorts of medicines and medical treatment were tried, but in vain, when at last he succeeded in stopping it by means of a bit of advice from a ship captain, viz. : the application of a couple of sponges dipped in cold water, one to the arms and another to the pit of the stomach, after every loose stool. His medical adviser dissuaded him from this as being likely to bring on an attack of inflammation of the bowels, and he used cold baths instead, since which he has been seldom troubled with diarrhæa.

Whatever the defect is, it is somewhere, says the patient, "*in the right side of my brain.*" Half-an-hour is the utmost limit he can continue reading or writing. He has never tried the electro-magnetic current, nor in fact any treatment worth mentioning, the doctors putting the case down as one of Scrivener's palsy.

Writing me from Cork, on April 1st, 1875, he apologises for the delay on the ground "that when his daily official letters were written *he had no writing power left*, it was completely gone. I could no more have written a letter than a child who had never learnt to write. I have taken from the 1st to the 11th to write this letter."

In answer to my question "whether the disability is ever accompanied by cramps or spasm," he replies, "No, never; nor by numbness or pain in the arm or hand, or anywhere else. When I have written about 20 minutes, as a rule, I find myself growing excited, as if what I was writing was of the utmost imaginable consequence, and had to be posted within two minutes from that time, or if not some sad catastrophe must follow. This excitement develops into an intense anxiety to write very rapidly, and if I persevere in writing, as I am sometimes compelled to do to save a post, I find the strength leaving my left arm, as gradually and sensibly as a carpenter feels the strength of his right arm giving way after he has been sawing wood for half an hour—this character and degree (of what shall I call it?) weakness or helplessness being in each case *identical*, but *accompanied with no pain*. If I persist in writing after this, it is with feelings I can only characterise as *distress*. I cannot explain it, but the helplessness of the left arm *extends to the leg*, and is very often attended with a *violent action of the bowels*, as if I had taken some drastic purgative.

"At this point (in writing the present letter) I am utterly prostrate, the countenance exhibits a scared and frightened appearance and a sense of inability to move comes over me, symptoms a familiarity with which has taught me to be no longer terrified at, but to meet by a glass of some stimulant, as brandy and water, and a rush into the open air. After an extreme attack like this, the sight of pen and ink is almost unbearable for eight or ten hours.

"When I have to complete a letter at all costs, for any particular reason, I find myself greatly assisted by two expedients:—When I find my writing power failing me I continue a little longer by shutting

one eye and writing with the other—it doesn't matter which eye—and when this fails me I can go on if I write thus, *largely and slowly* for at least a minute or a minute and a half.

“I may add that not only have I never experienced any pain of any sort, but with all the helplessness of my left arm, it has *never felt dead or benumbed* as in paralysis ; simply tired and weary, as if from long continued normal exertion.

“I was first seized on the 18th of June, 1870, and for the first two months could not even sign my own name. I have, as you see, much improved since then, although this letter has taken me ten days to write.”

June, 1875. His wife informs me that he now writes all his letters to her *with his eyes shut*; a circumstance explicable enough on the ground that there is less distraction to the jaded nervous system in writing with the eyes closed, but which also seems to show that his improvement is by no means of a very substantial or encouraging nature. July 1st. Returned from Ireland well and hearty. The writing and reading power is in no way improved. He writes best and largest with his eyes shut, or when directed and fixed on some distant object in the room.

Diagnosis. The case is plainly one of incipient ataxy, not of the locomotor apparatus proper, but of the parts concerned in the performance of certain complex acquired functions ; a failure, in short, of coordinative power over the nerves and muscles employed in the acquired habitudes or secondarily-automatic functions of reading and writing. The mental horror following each exhibition of the ataxy I regard as a mental impression secondary to, and consequent upon, the presentation to the consciousness of the fact of utter inability to perform a heretofore easy and wonted function ; the will, in fact, is unable to exert its customary combining and coordinating power over certain groups of muscles, and the discovery gives rise to the mental agony.

Whether the seat of the lesion be in the cerebellum, the centre of coordination, or in the spinal cord, which by means of its nervous strands places the eye and the brain in relation with the muscles, or finally in the optic thalamus of the right side, where the existence of a small clot would explain the crossed pseudo-paralysis of the left side, and the manner in which the writing-palsy supervenes through the previously wearied eye sight—this symptom, so far, hardly warrants us in deciding dogmatically, though the last seems, by much, the more probable hypothesis.

The violent catharsis which, without warning and without control, was wont to attend the crisis of so many of the nervous

attacks, may be set down as of purely sympathetic origin. It is the motor force constantly emanating from the spinal cord which maintains the balanced action of the voluntary muscles, as well as the vital tonicity of the involuntary muscular system (of the intestines and throughout the body); and the circumstance is by no means an uncommon one, for a sudden brain shock, or even strong mental impression, to act instantaneously on the entire viscera, through the agency of the sympathetic nervous system, so as to give rise to the most urgent looseness or even attacks of choleraic diarrhæa.

The treatment hitherto has been *nil*. I have enjoined perfect rest of brain, so far as practicable, by recommending the employment of a reader and amanuensis; general quietude and daily open-air exercise; absorbents alternately with nervine tonics, and faradization of the spinal cord and muscles, but I confess that I regard the mischief as beyond the reach of art, and shall be glad if we can prevent matters growing worse.

The manner in which the diarrhæa was cured appears to be quite physiological, for, according to the latest experiments, cold at once stops the peristaltic action of the bowels while heat sets them agoing.

A Case of Epilepsy of 33 Years' Duration—Recovery. By EDMUND BANCKS WHITCOMBE, M.R.C.S.E., Assistant Medical Officer of the Borough Lunatic Asylum, Birmingham.

H. L. B., a female, aged 30 years, unmarried, and following no occupation, was admitted into the Birmingham Borough Lunatic Asylum on the 2nd of February, 1860. She had been insane two weeks, the supposed cause being epilepsy. The medical facts (certified by W. M. Richards) were "Total imbecility, unconsciousness of everything and every person about her."

(On admission she is stated to be of short stature, thin, of neuro-sanguine temperament; exhibits very little intelligence, does not know her own age, saying 21.

During the first year she had from 10 to 20 fits a month; these chiefly occurred at night, and some were of a very slight character. They produced the usual amount of bewilderment, but otherwise she gave little or no trouble.

In 1861 she suffered from amenorrhæa, and at frequent intervals, for the following eight years, she had irregular menstrual discharges, at times amounting to menorrhagia. During this period there was a large increase in the number of fits, she became anæmic, was very feeble