apparently humiliated, and his face assumes an expression of mean suspicion, looking downward. He has a peculiar habit—since being in this institution—of standing on tiptoe. He would maintain this uncomfortable position so persistently that the question arose as to his possibly developing a spastic affection, but no objective signs of spinal disease can be found. He has repeatedly masturbated while in the asylum, and done so quite publicly, holding a newspaper, as if reading it, for concealment of the act. As he improved, he could be occasionally induced to settle down on the full sole of his foot in standing and walking, and ultimately did so voluntarily. I observed that the hair had grown considerably all over the convexity of his scalp, which previously had been entirely bald. He was, according to the latest information, recovering in his native land, to which he had been taken after his discharge from the asylum.

(*To be continued.*)

A Case of Epilepsy. By W. J. DODDS, M.D., D.Sc., Montrose Royal Asylum.

Harry S., a boy of 15, a baker by trade, was admitted into the Birmingham Asylum under the care of Dr. Whitcombe, on May 24, 1883. He was unconscious, and during the quarter of an hour he was in the reception-room he had four epileptic fits.

History.—Six years ago, when a boy of nine, he had a fall, and is said to have hung with his head downwards for a minute or two. There was no mark of injury on his head. Two or three weeks afterwards he was observed to go off in a sort of "swoon" occasionally, but it was not until six months after the accident that he took his first fit. His right side was convulsed. He now began to take fits, right-sided fits for the most part, at infrequent intervals, sometimes having as many as four or five a day, but never having any series of fits till Christmas, 1882. The series began on a Tuesday, and he was in fits, more or less, till the following Friday. When this attack passed off he was found to have lost the use of his right arm and of speech; but he regained both within a week, speech first, then the use of the right arm. Since Christmas he had had single fits, but not many, and his parents thought he was growing out of them. He was able to go to work, and was not paralyzed or disabled in any way. He was always a sharp lad. About a month before admission he had begun to take fits more frequently, and their number had steadily increased. During the last fortnight his speech had been affected. Since May 20th, that is four days before admission to the asylum, he had scarcely been out of fits; and his right arm had appeared paralyzed since that time. During this attack, and in all his previous ones, the fits had been mostly on the right side, but some-

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times his body was convulsed. On his father's side his grandfather and two uncles had been insane. Such, then, was the history.

Condition on admission.—The patient when brought to the asylum was in the *status epilepticus.* The convulsions were mainly, but not altogether, on the right side, and they followed one another with great rapidity. They began in the right face, the muscles of the angle of the mouth on the right side and the right orbicularis palpebrarum being chiefly affected; the head and both eyes were drawn to the right, and the pupils became widely dilated. Soon the right arm became convulsed; then both legs, but the right much more so than the left, and lastly the muscles of the left shoulder and neck twitched slightly. A long breath was taken, and the fit suddenly ceased. The eyes turned to the left and the pupils became contracted.

As the bowels were not acting properly an enema was administered, which brought away soft, yellow fæcal matter. At two o'clock in the afternoon he had 40 grains of potassium bromide by mouth.

3.30 p.m.—He has had 51 fits; temperature, 101·4; pulse, 120, full, soft; no cardiac bruit, though there is a slight impurity of the first sound in the aortic area. Respirations normal. Patient is sweating profusely. The conjunctival reflex is retained on the left side, but almost absent on the right. There is paralysis of the right arm and apparently of the right leg; he has not been noticed to move either except in a fit. The left arm and leg he frequently moves. In the intervals of the fits there is no puffing of the cheek or evident paralysis of the face. The patient seems quite unconscious, but on shouting to him and asking him to put his tongue out he does so. His tongue is thickly coated white.

6.20 p.m.—The number of fits has risen to 92; they are the same in character as the one described. Since the last note he has had an attack of excitement, but it soon passed off. Immediately after a fit he is often observed to open his eyes and turn to the left. Harsh breathing is detected at the base of the right lung, with distant rattling sounds on expiration. Ordered 60 grains of potassium bromide in two doses.

11.20 p.m.—He is still taking fit after fit. When spoken to he sometimes moans and mutters something. He has been taking small quantities of milk occasionally. 30 grains of potassium bromide, and of chloral hydrate, ordered every three hours.

May 25, 9.30 a.m.—He has had 364 fits. They are still of the same character. The temperature has now risen to 103·1 on the left side, 103·2 on the right side. The sweating ceased at 3 a.m.; the pulse is 148, the respirations 44 per minute.

11 a.m.—Ten drops of nitrite of amyl inhaled; a fit followed a few minutes after.

1 p.m.—The temperature has risen to 103·8. The left conjunctiva not so sensitive as it was. Once during an interval slight diverging

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strabismus of right eye was noticed. The pupils are contracted in the intervals, and still dilate rapidly when fits come on. Ten drops of amyl nitrite again given ; and four grains of calomel on tongue.

3.30 p.m.—Nitrite of amyl, gtt. x, given for the third time. The blush was very distinct on the chest, but a fit occurred a few minutes afterwards.

The fits continued steadily till 5.30 p.m., when they ceased ; that is, a little less than 30 hours after admission. During this time there had been 472 fits. The last fit was stated to be an unusually severe one ; he got discoloured in the face and frothed at the mouth.

6.30 p.m.—Is lying comatose ; temperature 104·2, pulse 140, respirations 58 per minute.

11 p.m.—Temperature still rising, it is now 105° ; respirations 52, pulse 144. He has had four slight fits since the last note, making a grand total of 476. The face is drawn to the left, and he has become very restless. He moves both legs.

May 26, 9.30 a.m.—Was very restless during night. The temperature has fallen to 102·8, but the respirations are 48 ; the pulse very rapid and weak, and scarcely to be counted. The right leg is freely moved, the right arm a little. He can speak, saying "Yes, yes, sir;" but is only semi-conscious, answering different questions in just the same way.

May 27.—The temperature has dropped to 99°, respirations to 26, pulse 120. He is becoming more conscious and regaining power over right leg, arm, and face. He cannot whistle. He takes food well.

May 28.—Speech is still muttering and indistinct; he is confused, scarcely seeming to comprehend what is said to him, and not always answering simple questions.

May 30.—Speech still ataxic. An eruption of acne on both sides of face near nose, and a few spots on forehead.

June 1.—Lips tremulous ; he slurs words, scarcely getting them out. Drags right leg in walking. Ordered potassium bromide, gr. x., three times a day.

June 3.—Now walks with only a trace of weakness in right leg. Ataxia in speech disappearing. Is slow at reading; is some time before he can spell out a simple word.

June 15.—Very irritable and quarrelsome, threatening other patients, and sometimes striking them ; makes use of bad language.

July 11.—Still some impairment of speech. Complains of being unable to do anything with the right hand; it shakes when he uses it; he finds it difficult to write with it.

July 15.—Home on trial. To take potassium bromide, gr. xx., twice a day.

July 30.—Has had no fits since he went home, and is looking well. There is still some impairment of speech, a slight stutter occasionally with a slurring of the words, and a difficulty in saying what he wants to say. He complains, too, of weakness, and a feeling of deadness and

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numbness at times in his right arm, and he is rather clumsy with it, letting things fall oftener than he used to do. The leg is quite normal.

August 10, 1883.—Discharged recovered.

He had no fits for about twelve months, but they came on again, and caused his discharge from the Navy, which he had in the meantime entered.

On May 20, 1885, he was again admitted to the Birmingham Asylum.

The medical certificate stated that he had been violent, thought his relations were against him, had shouted murder, struck his father and mother, and seemed to be unconscious of what he was doing.

On admission he was calmer, and answered questions rationally, but his memory was impaired, and he told a long and incredible story about being assailed by his father and brother, and stated that his mother had attempted to stab him.

While in the asylum he was excitable, quarrelsome, pugnacious, striking and kicking freely at times. The excitement and irritability seem to have been greatest after his fits.

A remarkable change had come over the character of the fits. They were no longer mainly unilateral, but were ordinary general epileptic fits. The attacks were sometimes very strong. The number of the fits varied greatly. In June, 1885, there were 94, in July 4, August 3; in the following March 4, in April 22.

In May he was well enough mentally to be sent home on trial, and in June, 1886, he was discharged recovered.

The patient's father informs me (March, 1887) that his son still takes fits, sometimes two a week. They are not so severe as they were. At times the whole body is convulsed, at other times the convulsions are on the right side. He knows when the fits are coming on, for half a minute before very peculiar thoughts come over his mind.

Remarks.—The outstanding feature in this case is the large number of fits the patient had. In 30 hours he had 472 fits, or one every four minutes, and when we remember that for four days previously he had scarcely been out of fits we can form an idea of the vast number he must have had during the attack. The case, as far as my reading goes, beats the record. The boy seemed to have a perfect genius for fits.

Another feature in the case is the fact that the fits were unilateral. They were not absolutely unilateral, for there were often convulsive movements in the left leg and slight twitching of the left shoulder and neck. But the convulsions were by far the most marked on the right side, and the left face and arm were not convulsed.

A third point of interest is the post-epileptic paralysis.

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During the *status epilepticus* the arm and leg were apparently paralyzed, and after the patient became conscious there was a degree of ataxic aphasia and paresis of the arm and face, and, in a slight measure, of the leg. The leg soon recovered, but it is interesting to note that as long as two months after the attack, there was still impairment of speech and deadness and numbness of the right arm. This is an unusually long period for symptoms of post-epileptic paralysis to last.

The pathology of the case is far from clear, but the symptoms point to an irritative lesion, a fine, not a coarse, lesion, affecting the cortical motor centres for the face and arm on the left side. The mere fact (says Gowers in his "Epilepsy," p. 236) of local commencement and deliberate march (of a fit) does not alone constitute evidence that there is organic disease, since fits begin thus in idiopathic epilepsy not at all rarely.

An important question arises. Was this a case of epileptiform convulsions, or, as it is variously termed, Jacksonian or organic or cortical epilepsy; or was it a case of idiopathic, primary, functional epilepsy? My own view is that it partakes of the characters of both; in its early stages it resembled a case of epileptiform convulsions, in its later a case of idiopathic epilepsy; the one stage passed into the other. The case seems to me to show that the distinction between epileptiform convulsions and true epilepsy is not a very deep one.

Two theories are held as to the pathology of idiopathic epilepsy. By the one school it is considered essentially an affection of the medulla oblongata or pons; by the other school, with H. Jackson at its head, it is considered an affection of the cerebral cortex. Our case may, I think, be fairly adduced in support of the latter view that epilepsy is, like epileptiform convulsions, due to a discharging lesion of the cortex cerebri. It may be compared with a case recently reported by Dr. Noël-Paton ("Brain," vol. viii.) which presented the two distinct classes of fits, Jacksonian epilepsy and ordinary epilepsy, now one, now the other, after fracture of the parietal bone.

I must, in conclusion, express my thanks to Dr. Whitcombe for his permission to publish the case and for his kindness in supplying me with the notes of its later progress.

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