can be eliminated is a thing which may be demonstrated without much difficulty.

a. Unexpected Pressure may cause the Paroxysm.—An instance of this occurred during my visit to the hospital, when neither patient, nor physician, nor bystanders had reason to anticipate the event. Having concluded his lecture (November 17th), in which, by the way, he discussed subjects other than paroxysms, and only referred to them incidentally, Professor Charcot withdrew from the hall. The four or five patients who had been present for reference retired likewise, and a number of the auditors chose to depart by the same corridor. Physicians as well as students from different countries had assisted at the lecture, and one of these (suspected to be a Wallachian) rudely rubbed with his hand the sensitive zone known to exist on the back of the patient preceding him. Immediately, a cry was heard, and the patient was seen to have fallen on the tiled floor in violent convulsions. A most severe paroxysm ensued. The culprit escaped in the confusion, and the incident naturally gave rise to much annoyance and indignation; for the patient might have received grave injuries. However, the reckless scepticism of the offender supplies an indubitable proof of the effect of unexpected pressure.*

b. Unexpected Pressure may terminate the Paroxysm.—When the hystero-epileptic fit is going through its evolution, the application of strong pressure to the sensitive regions will arrest it in any stage of its course. The patient's mind at this time is incapable of exerting influence; for, when the act is suddenly done, she awakes abruptly but incompletely, as from a dream-drama, with the incidents of which her thoughts are still concerned. When questioned as to what has happened, her muttered answers betray that her imagination is still vividly affected by things remote and alien to the place. It has been found that, if, instead of applying pressure, a strong continued current be sent through brain and body, the same effect of immediate awakening will be produced.

c. Expected Pressure may be quite ineffectual.—In most patients, there are intervals of greater or less duration between the paroxysmal periods or hysterical high tides, as Professor Charcot graphically calls them. Now, during this space, it is impossible to cause the production of the hystero-epileptic fit. The physician may be anxious that foreign visitors shall have the opportunity of witnessing the evolution of the paroxysm; the patient's attention may be vividly aroused by the proceedings, and a feeling of expectancy excited; nevertheless, all ends in disappointment.

From the foregoing, it follows that psychical and physical agencies may produce identical results; next, that these hysterical phenomena may be caused—1. By violent emotion without expectancy; 2. By emotion with expectancy; 3. By purely physical means, quite distinct from, and independent of, emotion, whether with or without expectancy. It is a self-evident consequence of this that a demonstration of the efficiency of any one of these factors in a given case does not exclude the potential efficiency of the others. If it were shown that, in a certain patient, the phenomena could be produced by expectant attention, the experiments at La Salpêtrière would neither be disproved nor invalidated.

3. The Crisogenic Region.—It is not essential that the hysterical diathesis should be present, in order that a convulsive fit shall be determined by pressure on particular peripheral regions which I may be permitted to designate by the generic term "crisogenic". A case in point came under my observation five years ago in the Hôtel Dieu, in the wards of Professor Ball, then acting for my late master Professor Béhier. The patient had been a cavalry soldier, and, falling from his horse, he had received some severe injuries in the back and head, after which he became subject to epileptiform fits. Dr. Duchenne (de Boulogne) was invited to examine the case, and, recalling a noted physiological experiment, he proceeded to ascertain whether there might not be a *zone épileptogène* discoverable. He succeeded; for, on investigation, it was found that pressure applied over the dorsal vertebrae was immediately followed by an epileptiform fit. Hysteria there was none, neither could there have been any expectancy, as the patient was given no reason to anticipate anything other than a careful examination. This experiment, which took place in the presence of Dr. Lionville, *chef du laboratoire*, myself, and Professor Ball, was made the subject of a clinical lecture by the latter. If the influence of a psychical cause in determining the crisis here should still seem probable to any reader, then it should be added that the experiment in question was suggested by the discovery of Professor Brown-Séquard that epileptogenic zones are to be found in animals after spinal injury.

† Dr. Wilks (BRITISH MEDICAL JOURNAL, January 18th), mentions cases where local and general hysterical symptoms were the consequences of injuries received by the patient.

Mental action can scarcely cause much interference where the guinea-pig is concerned. However, lest some partisan of animal intelligence should still suspect the existence of a possible cause of error, it may be mentioned that similar epileptiform fits can be produced (respiration being kept up artificially) even after removal of the brain. This eliminates expectant attention.

[To be continued.]

TWO CASES OF HYSTERIA.

By JOHN S. BRISTOWE, M.D., F.R.C.P.,

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CASE 1. Hysteria: Paraplegia: Convulsions: Analgesia: Asthma, etc.—M. N., a florid healthy-looking girl, aged 18, was admitted into St. Thomas's Hospital, under my care, on April 18th, 1876. Her mother died at the age of 45 of consumption. Her father, who was rheumatic, was alive at the age of 63. She has had nine brothers and sisters, of whom eight are living and well; the ninth died of pyæmia after an operation. She said that she had always been weakly and nervous; that she was liable to take cold; and that, about twelve months ago, she began to experience some difficulty in walking, which increased upon her gradually, so that, in October last, she had lost all power of locomotion, and had continued thus ever since. She had been liable also to attacks of severe trembling, especially of the arms.

On admission, she was found to have completely lost the use of her lower extremities, so that she was unable to move them at any joint, or to move even her feet or toes. She complained of a feeling of "pins and needles" in her feet; but ordinary tactile sensibility was present everywhere. The limbs could be readily moved for her, but were not limp. No reflex phenomena could be induced by tickling the soles of the feet; and faradism, which was applied without causing any pain, had much less effect than was natural in producing contraction of the muscles. There was no wasting. She had perfect control over the rectum and bladder. The heart, lungs, and kidneys were quite healthy. The pulse was regular and natural. Temperature was normal. The tongue was clean; the appetite poor. There was no affection of the bones of the spine; but she complained of pain in the small of the back, shooting occasionally into the groins and down the legs.

There was no change in her symptoms during the next ten days; but, on the morning of the 28th, about eight or nine o'clock, while sitting in a chair, she was attacked with convulsive movements of a choreic character, mainly implicating the left side of the body. An hour or two later, these became general and so violent, that she was precipitated from her chair on to the floor. She was placed in a cold bath without benefit; thence she was removed to bed, and one-third of a grain of hydrochlorate of morphia was injected subcutaneously. In bed, she became extremely violent; the convulsions were continuous, and she bruised her arms against the sides and back of the bed, and kicked the skin off her heels. The morphia having had no effect, chloroform was administered, and she was kept under its influence from 12.30 to 1.30 P.M.; but, when its use was then intermitted, she became as violent as ever. The chloroform was repeated, however, and continued until 2.45. At this time, forty grains of chloral were given; but she was more violent after it than before. The dose was repeated at five and again at six, after which she went to sleep, and continued asleep until 4.30 the next morning. On waking, she became noisy and violent, with constant jactitation. At 9.30, the wet pack was employed with some advantage. During the day, she had frequent paroxysms at intervals sometimes of an hour. In those she was convulsed, violent, foamed at the mouth (without biting the tongue), barked incessantly like a dog, and frequently called out "take the beast away". She was very violent during the following night, requiring more than one nurse to take care of her; and the chloral had to be repeated.

On the morning of the 30th, she was conscious; but her voice was hoarse; her pulse 100; her tongue coated; and her temperature 98.9 deg. She had during the day several convulsive attacks, one of which lasted three-quarters of an hour. They were less violent, however, than those of the previous day, and were attended with barking and whining. In the evening, one-third of a grain of morphia was injected subcutaneously.

It must be observed that, during the convulsive attacks, she moved her legs as freely as her arms; and that, throughout the three days, she took beef-tea and milk with little difficulty.

After the subsidence of this attack, her condition was identical with that on admission. She seemed fairly well; took her food without much trouble; but had no power whatever over the legs; and now and then would be attacked with tremulous or convulsive movements. These

would occasionally affect the legs only, and be induced (with the similar movements in true paraplegia) by simple exposure of the legs to the air, or by handling or irritating them. Sometimes they were more general. But she had nothing that could be called a fit until July 1st. At half-past four in the morning of this day, she again became noisy, whined, and was more or less convulsed. These symptoms continued off and on for about three days, and then subsided. In the attack, her tongue was coated, and her temperature normal. For a day or two subsequently, she was low-spirited, and had fits of crying.

On the 18th, a recurrence of the attack took place; and, though the symptoms were not so severe as they had been, they continued with intermissions until about the 25th. During the greater part of this period, she appeared to know very well what she was about; and, towards the end, asserted that she was quite well, and wanted to go home. She was again treated with morphia and chloral.

There was no material change from this time until the night of August 23rd, when she had a sudden asthmatic attack. In the morning, she was still suffering, and the chest was found to be resonant, and to present dry bronchitic *râles*. The temperature was normal. The thoracic complication lasted, with variations, down to the middle or end of September. During it, the chest was resonant, dry bronchitic *râles* were generally audible, and occasionally a little moist crepitation. She had some dyspnoea and rapidity of breathing, a frequent cough, and scanty expectoration. At one time, this was slightly tinged with blood. The temperature varied from normal to 101.2 deg. She also lost her appetite, and became much emaciated. So great indeed was the loss of flesh that, on my return to the hospital in the beginning of October, after an absence of about six weeks, I could not help thinking that she was suffering from tuberculosis. But at that time the thoracic symptoms had entirely ceased, and the most careful examination failed to detect a trace of thoracic mischief.

In the middle of October, there was a slight recurrence of cough, but it soon subsided. She now rapidly improved in general health, and regained flesh; her paraplegia, however, remaining unaltered.

On December 12th, she was startled by the opening of a soda-water bottle, when both legs started convulsively. It was at this time discovered that she had marked hemianalgesia on the left side of the body, as tested both by faradism and by pricking the skin with a pin. Shortly afterwards, it was also discovered that smell, taste, and hearing were all more imperfect on the left than on the right side. There was no clear difference in the two eyes, as regards either distinctness of vision or recognition of atoms.

About the middle of January, she began to suffer again from shortness of breath, coming on mainly at night-time. On the 24th, the attack became much more serious, and was attended with cough, expectoration, and slight elevation of temperature. The chest was resonant; sonorous rhonchi were generally audible; and the expectoration was somewhat viscid and frothy. She had quite recovered by February 4th. About the end of January, Dr. Starkey, the resident assistant-physician, tested her cutaneous sensibility, and found that she had universal analgesia. She could feel; but a large shawl-pin could be passed through a fold of skin at any part—face, legs, arms, or trunk—without producing pain; almost, indeed, without being felt. Both ovarian regions, but chiefly the left, were tender on pressure.

On February 13th, she was tested again. She was now quite well in appearance and in general health; but the paraplegia continued complete; there was tenderness in the left ovarian region, and complete analgesia on the left half of the body. The sensibility of the right side was normal.

On the 21st, she was menstruating, and the analgesia was again found to be universal, the ovarian tenderness being limited to the left side. The condition of taste and smell was also investigated; and it was found, as regarded smell, that she could not distinguish rhubarb, assafoetida, and valerian from one another; but that she recognised ammonia by its pungency, and by its making her eyes water. It was found also that she had lost the power of taste. She said her food was insipid; and certainly she could not distinguish sugar, salt, mustard, and pepper one from another.

On March 12th, the analgesia was complete on the left side, but only slight upon the right. There was still absence of taste and smell. She now admitted, however, that pepper and mustard made the back of her throat feel warm; still they had very little effect upon her; for she sucked and swallowed nearly a teaspoonful of mustard in powder with no apparent result.

By April 3rd, the senses of taste and smell were again tested. Smell appeared to have returned; but, so far as we could make out, the sense of taste had returned only to the right half of the tongue and mouth. At this time also, although there was general analgesia, it was much more complete on the left than on the right side.

From this time forward, there was little change in her condition. Her general health remained good; indeed, she became plump and remarkably healthy-looking. Though inclined at times to laugh and cry without obvious cause, and to be unduly excited at any sudden noise or cause for emotion, she had no fits and no convulsive attacks. But the legs still remained entirely useless; they were plump and firm, without reflex phenomena, and acting little under the influence of galvanism. Latterly, she endeavoured to walk with the aid of a chair, her limbs being somewhat stiff; but she did not move them voluntarily, and simply dragged them after her. There was no loss of control over the bladder or rectum. She still presented tenderness in the ovarian regions, chiefly the left; and the analgesia, though it varied in degree and extent, never wholly left her. She was discharged at the end of June 1877.

I may conclude by adding the following facts. Her catamenia were regular (they were, at the commencement of her stay in the hospital, profuse); and about September 2nd, 1876, retroflexion of the uterus was discovered, and a Hodge's pessary was introduced. This appeared to have some beneficial influence over the uterine functions, but none upon the hysterical phenomena. No distinct connection was traced between the menstrual flow and aggravation of the hysterical symptoms. In all her convulsive attacks, the lower extremities moved freely, and apparently voluntarily; but, with that exception, and on one other occasion above alluded to, her legs were entirely powerless. In describing the condition of her general surface as regards sensibility, I have spoken as if failure to recognise pain were the only peculiarity; but, although she could feel when touched, she felt imperfectly, and it was clear that ordinary tactile sensibility was much impaired. She had no clumsiness in the movement of her hands. Further, she was (excepting when she was suffering from the convulsive and maniacal attacks) a thoroughly well-conducted, well-meaning girl; at times a little hasty or a little sullen in her temper, but otherwise good-tempered, good-natured, and a favourite with the nurses and her companions in the ward. Moreover, she was industrious, and passed her time largely in knitting shawls, petticoats, and the like.

The treatment, which included baths, galvanism, bromide of potassium, and tonics, was very various during her long stay in the hospital; and, as it all proved entirely inefficacious against the hysterical phenomena, it is needless to reproduce it in detail. It may be observed, however, that both faradism and the shower-bath seemed to aggravate the symptoms.

[To be continued.]

GENERAL MANIACAL HYSTERIA, AND ITS SUCCESSFUL TREATMENT BY THE RECTUM AND SKIN.

By JOHN BROOM, M.D., etc., Clifton.

HYSTERIA, in its many and varied forms, is one of those reflex nervous phenomena—or, according to Aitkin, “a complex morbid condition of all the cerebral functions”—which the practitioner is generally quick in recognising when it occurs under ordinary circumstances, and presents the usual diagnostic symptoms; but when it assumes exceptional phases and latent forms, such as simulating other diseases, he may either suspect, or doubt, or even altogether fail to recognise, the existence of the real malady under which the patient may be suffering.

Without going into the subject of the theory of reflex action, of cause and effect, or of the various delusions under which some of the subjects of this disease occasionally suffer—with all of which my fellow practitioners are accustomed to deal—I shall at once proceed to give a general outline of a fairly typical case which came under my care a few years ago: the heading or general title indicates the disease it chiefly simulated.

My patient was a lady of about twenty years, bilio-nervous temperament, and slight *physique*. So far as I could ascertain, her general health had been good up to the time of attack. The immediate or exciting cause was the sudden death of a near and dear relative. When I was called in to see the case, I was informed that about three weeks had elapsed since the attack commenced, during which time she had been attended by three other practitioners, all of whom pronounced her to be of unsound mind, and recommended her being removed to an asylum for a time; the chief difficulty about the treatment of her case being her obstinate determination to take neither medicine nor food, as well as her having to be almost constantly restrained from committing acts of violence, indelicacy, and immorality. I found her being forcibly held by three or four attendants; and when I approached and spoke to her, she kicked and spat at me, and refused to either answer questions or obey commands. Her expression was wild and vacant,