The most important point of the case is how to deal satisfactorily with a man in his mental condition: at any time he may become dangerous to himself and those about him—his wife is afraid to leave him alone with his child in case he should be seized with one of his ungovernable fits of passion, and yet beyond this symptom of insanity—if so it can be called—there is nothing to warrant one in signing a lunacy certificate, and still further, little chance of it being signed by the examining magistrate after his interview with the man in his present state of mind. Knowing full well the history of this class of case one feels certain that the only safe and proper place for a patient of this kind is in the county asylum or where he can be always under skilled observation.

Other interesting points in the case are (1) the continuation of movements during sleep, (2) the power of voluntary efforts to control movement—this latter, no doubt, accounts for the former, (3) the commencement of the disease at the usual age with its tendency to gradually increase in severity, (4) the hereditary nature of the nerve degeneration. I have no means at hand of finding out whether most of the recorded cases have occurred in country villages where intermarriage is very prevalent, but there is no doubt but that it is answerable for a great deal of the deterioration which one sees both mentally and physically in many country districts.

Note.—Since writing the above, the man has attempted suicide and has been sent to the County Asylum.

A CASE OF FRIEDREICH'S ATAXIA.

By R. S. C. EDLESTON, M.R.C.S., L.R.C.P.LOND.,
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It is by the kind permission of Mr. E. M. Wrench, F.R.C.S., of Baslow, that I am able to publish this case. My first note, made in November, 1897, is as follows:

E. A., female, aged 14, spare, but looking her age, complains of loss of power in her hands and arms, and inability to stand or walk without support, falling down if she attempts to do so.

History of Present Condition.—Her mother first noticed awkwardness in walking when she was 7 years old, and says she, used to carry her head poked forwards. Shortly afterwards she noticed her speech became drawing and indistinct. About three and a half years ago the patient had suffered from pains in the joints, but the doctor who attended her said it was not rheumatic fever. The arms were only slightly affected before the patient had measles about three weeks ago, she could help her mother in the housework, "wash up," etc., but could not write or sew well. Since the attack of measles she could not stand or walk so well, and had lost flesh.

Family History.—Father and mother alive and well. Two brothers aged 10 and 5, and two sisters aged 13 and 8 years respectively, quite healthy, and as far as could be ascertained there is no history of any nervous disease in any member of either parent's families. Both parents are steady, hard-working country folk.

Previous Illness.—With the exception of measles three weeks ago has enjoyed good health.

Present Condition (November, 1897).—The child has now quite recovered from measles, and has been up and about nearly a fortnight. In the sitting posture she remains quite still, with her head bent forwards. When spoken to her head sways from side to side as she looks up. She keeps her arms semiflexed and her wrists flexed with fingers extended, and at present complains of pains in the joints when moved. (Examined later when pain was absent, flexion and extension could be performed, but when at rest the limbs resumed the above-mentioned position.) Her pupils are somewhat dilated but equal, and react to light and accommodation; there is no nystagmus, neither can it be demonstrated by prolonged lateral deviation of the eyes. The tongue appears natural, and can be protruded straight. Her speech is slow and drawing, like that of a patient suffering from painful tonsillitis. Her memory is good. Knee-jerks and ankle-clonus are absent. When asked to stand up she separates her feet widely, and thrusts her head forwards. In walking she rolls from side to side, and the effort is accompanied by jerky movements of the head and shoulders and choreiform movements of the arms; she clutches at any near

object for support, and walks on the outer edge of her feet. Romberg's symptom is present. Asked to pick up anything, her hand sways from side to side, the fingers are spread out over it and then suddenly grasp it. Lateral curvature of the spine and talipes equinus are well marked, and examination in bed discloses the striking deformity of the great toes so well illustrated in Pierre Marie's account of this disease published in the Sydenham Society's *Transactions*, namely, hyperextension of the proximal with flexion of the distal phalanges of the great toes. Skin reflexes and sensation are normal. No retinal changes were found on examining the eyes with the ophthalmoscope.

Progress.—September 7th, 1902. The condition of the patient is decidedly worse than when the previous note was taken five years ago. Her expression is not markedly dull, and her mental faculties remain good, but she is now practically helpless; static ataxia is well marked, and the talipes has now reached the condition of pes cavus, and the deformity of the great toes is very pronounced. The hands are much less useful, knitting can only be performed with effort, and quickly tires the patient. Her chief solace is in reading. Her general health on the whole keeps good, but lately she has been troubled with attacks of gastric pain and flatulence. She remains fairly well nourished, considering the long partial disuse of her limbs. Sensation remains normal, and the eyes still show no signs of nystagmus or retinal changes. All the other members of the family remain healthy.

Remarks.—The chief points of interest in this case are: The absence of any history of nervous disease in the family; the absence of the disease in any other members of the family, the youngest of which is now ten years old; the inability to attribute the disease to intemperance or syphilis, or any cause whatever; and, lastly, the absence of one of the chief, though sometimes a late, sign in this disease—namely, nystagmus—and the occasional occurrence of joint and gastric pains.

CASE OF COMPLETE PARAPLEGIA SUCCESSFULLY TREATED BY FORCIBLE EXTENSION OF THE SPINE.*

By
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D. M., aged 10 years, was admitted into the West End Hospital for Diseases of the Nervous System under the care of Dr. Outtersson Wood on November 21st, 1900.

For the following history of the case we are indebted to Dr. H. J. F. Simson, the Medical Registrar to the hospital.

History.—Father and mother healthy. Six children in the family, of whom one died of measles and one of tuberculous peritonitis; other children healthy. Beyond the ordinary diseases of childhood the patient had been healthy until about two years before admission. In 1898 his mother stated that she noticed that there was something wrong with his back. The patient was treated as an out-patient at a hospital, and kept in a jacket for eighteen months and discharged cured. In the course of a few weeks (probably about six) the boy's legs "began to be stiff," and he experienced a difficulty in moving about; this was first noticed in March, 1900, and in May there was complete paralysis of both lower limbs.

State on Admission.—The patient was found to be suffering from complete paralysis of both lower extremities, a condition which had lasted for about six months. The patient was a well-nourished and well-developed lad, mentally and physically. There was complete paralysis of both lower limbs associated with marked rigidity and a good deal of adductor spasm, but there was no flexion of the knees or thighs. The knee-jerks were greatly exaggerated, and there was ankle and patellar clonus. The plantar reflex was increased and Babinski's sign was markedly present.

Sensation.—From the umbilicus downwards there was greatly diminished perception of pain. If pricked pretty firmly with a pin he could feel it but did not cry out as if hurt. Tactile sensation was almost entirely lost. Cold was acutely perceived but always as heat; heat produced no sensation of any sort. There was a band of hyperaesthesia midway between the umbilicus and the ensiform cartilage. Above the band of hyperaesthesia the movement and sensation were normal, both as regards trunk and arms. Bladder and rectal functions were unaffected. Examination of the spine showed an angular curvature in the region of the second, third, and fourth dorsal vertebrae, with a backward curve of the cervico-dorsal region as a whole. There was marked tenderness on percussion over the

* Read before the West London Division of the Metropolitan Branch of the British Medical Association.

angular projection, and pain was elicited in the same region on pressing the shoulders together; moderate pressure on the head and movements of the head and neck appear to be painless.

Progress and Treatment.—For three months the patient was kept on his back, and passive extension was applied to the lower extremities by means of pulleys and weights, the shoulders being fixed; at the same time, the legs were massaged daily. At the end of the three months Mr. Cantlie forcibly extended the spine under an anaesthetic, and applied a Sayre's jacket, while the extension was kept up by means of the pulleys. All the night following the operation the patient complained of extreme pain in the knee-joints, and the extension was therefore discontinued, and the child kept on his back in the Sayre's jacket only until the following June, when the jacket was taken off. The patient could now voluntarily move both legs. He could not yet lift them off the bed, but could abduct and adduct them, and bend the knee-joints. Sensibility to painful impressions had increased considerably, and there was also a fair amount of tactile sensation.

In July the patient was sent to a convalescent home, but still kept on his back, and in the open air as much as possible. In August he returned home, and was kept on his back, and in October he went to the convalescent home again, where he was allowed to be out of bed and lie in front of the fire, still being kept off his legs. He was readmitted to the hospital on his return from the convalescent home on November 21st.

A fortnight before admission he began to attempt to walk from the fireplace to his bed, and since then the improvement has been rapid and steadily maintained. His condition on readmission eight months after the operations shows that there is still some angular curvature, though considerably less prominent in the upper dorsal region, but all signs of active disease have completely disappeared. He can now run and jump about, and play with other children. There is also complete recovery as regards tactile and thermal sensations, and pain is correctly appreciated. The knee-jerks are still somewhat exaggerated, but there is no rigidity and no adductor spasm. Babinski's sign cannot now be elicited, and sensation is normal.

REMARKS BY DR. OUTTERSON WOOD.—This is the second case of forcible extension for paraplegia following angular curvature undertaken at the West-End Hospital, which has resulted in complete restoration of motor power. The first case was that of a girl who was admitted under my care in June, 1897, in which there was absolute paraplegia, with unconscious action of bladder and rectum, the result of angular curvature in the upper dorsal region. The case was treated by rest and extension for three months, but no improvement resulted. In September, 1897, the late Mr. Edward Cotterell forcibly extended the spine under chloroform and fixed it up in a plaster jacket. Within a week movement of the legs began, the case continued to improve, and the jacket was removed in February, 1898. The child has continued steadily to improve, and is now attending the Board school. She can run about and jump and "skip" like the other children. This patient was discharged from a London hospital as incurably paralysed. This case was shown at the Medical Society in 1898, and three and a-half years after the operation the improvement has been well maintained. She has been under my observation as an out-patient ever since, and has never presented any untoward symptom.

REMARKS BY MR. CANTLIE.—At Dr. Outtersson Wood's suggestion I applied forcible extension in this case, as stated in the notes. The boy was anaesthetised, turned face downwards, and each of the upper and lower limbs were pulled upon by a nurse. Seeing that the curvature was so high in the dorsal region, traction was also directly applied to the head. Whilst the limbs and head were being thus extended I applied my hand over the most prominent part of the curvature, and exercised gradually increasing pressure until a sensation of something "giving way" was communicated to the hand. The pressure was immediately desisted from and a plaster support applied and the patient placed in bed supine with some degree of extension of the lower limbs. The subsequent history of the case and its successful issue have been related by Dr. Wood and Dr. Simson. The amount of pressure necessary in cases of this kind it is impossible to state. My rule, in the cases of angular curvature I have treated in this manner, is to desist when something is "felt to have given." The sensation conveyed to the hand whilst maintaining pressure is that deep-seatedly, but quite impossible to localize, something of a fibrous nature has been stretched and that it has given way. Nothing more should be attempted; the complete reduction of the curvature, and pressure in the expectation that a crack as if bony structures had snapped, are not to be expected. It is the angularity of the curvature that is the deleterious factor in cases of the kind, and when the projection is treated so that its sharpness is reduced to a curve or arc of a circle, the surgeon should rest content that he has performed all that he ought to do in treating angular curvature. In the case of displacement of vertebrae back-

wards, the result of recent accident and accompanied by paralysis, the treatment is different. In a case under my care at the Seamen's Hospital at the present moment I applied forcible extension to the limbs and pressed the vertebrae—the lower dorsal—completely back into their places; but with angular curvature it is the reduction of the angularity merely that should be attempted, not the complete reduction of the curvature. Were this rule observed, there are but few instances in which, when paralysis is present, forcible extension may not be applied with safety and with every hope of good recovery.

THREE CASES OF PARALYSIS OF MUSCLES OF THE HAND AND FOREARM.

By WALTER BROADBENT, M.D., M.R.C.P.,
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THE following cases of paralysis of the muscles of the hand and forearm, which are at present under my care at the Sussex County Hospital, are sufficiently uncommon and interesting to be worthy of record.

CASE I.—A girl, aged 16, came to me six months ago with marked wasting of the thenar muscles and interossei of the right hand. She was able to approximate the thumb to the index finger, but not with sufficient strength to pick up anything. The forearm was less developed and softer than the other, but no muscle was definitely wasted, and there were no fibrillary tremors. Sensation to touch, heat and cold, was normal, which excluded the possibility of its being a case of syringomyelia. She stated that two years ago she suddenly noticed that her right hand was weak; there was no wasting at first, but that came on later, and her hand has been in its present condition for over a year. The muscles affected were those supplied by the first dorsal segment of the cord. The diagnosis lay between infantile paralysis and progressive muscular atrophy, but the former seemed the more probable. This was confirmed by finding that the affected muscles did not react to faradism, but the muscles of the thumb contracted slightly to the constant current, and more to the anode closing than the kathode. Treatment by galvanism and massage has improved the condition so far that she can hold a pen and write for a short time, and the forearm has become as well developed as the other, but of course the thenar muscles are still wasted.

CASE II.—A girl, aged 17, had paralysis and wasting of the flexors of the fingers and thumb in the right arm, also of the flexors carpi radialis and ulnaris, thenar and hypotherar muscles and interossei. The skin of the fingers was glossy, and there were bullae constantly recurring at the ends of all the fingers but not of the thumb. There was anaesthesia over the palmar surface of the fingers and over the palm, except over the thenar eminence and the thumb. On the back the anaesthesia only extended over the little finger and half the ring finger, and the corresponding part of the back of the hand. The extensor muscles were not affected. The history given was that three months before she and her sister had had a meal of sausages and mashed potatoes at a shop in Brighton; an hour later she noticed that both her hands were swollen; in the evening her legs and face also became swollen, and she had considerable pain in the arms and legs. Her sister was not ill at all, and the patient had no pain in the abdomen and no digestive disturbance. She was confined to her bed for two months; the swelling began to go down in a month, and disappeared last from the right hand, leaving it in its paralysed condition. The bullae on the fingers did not appear until a fortnight after she left her bed. This seems to have been an attack of acute multiple neuritis, which cleared up, leaving a prolonged neuritis in the median and ulnar nerves of the right arm. Whether the sausages were the cause, as she thinks, is not clear. Treatment by massage, potassium iodide, and strychnine has resulted in steady improvement, the bullae and glossy skin having disappeared, sensation is almost normal, and power of movement is returning.

CASE III.—A man, aged 50, a painter by trade, came complaining of inability to extend the two middle fingers of the right hand and inability to raise the right arm above the