split into three nearly equal segments (Figure 7), one of which is detached and lost. A multiple longitudinal fracture, continuous with the line of one of the divisions of the head, extends downward for an inch on the side of the neck and shaft of the bone. The tip of the external condyle is broken off. The ulna is uninjured.

Some of the above cases are open to the criticism of being mere comminuted fractures. But still it is difficult to believe, when so peculiar a line of separation repeats itself, that it is not in obedience to a law which marks this point as a weak one in the elbow-joint, and predisposed to break under certain directions of applied force. It will be noticed that in two cases, not compound (Velpéau's and that of Figure 1), the fracture was not detected by experienced surgeons. Indeed, it was not discovered before dissection or excision in any of the cases reported except that shown in Figure 4. In four instances it occurred without any accompanying injury of the ulna (Figures 4, 5, 6, and 7), and in eight (Figures 1, 3, and 5, and the cases of Bérard, Velpéau, Holmes (two), and Bryant) without any injury of the humerus, but in no instance without the co-existence of some fracture. Of the cases surviving the general injury of which this fracture was a part, all but two (Velpéau's and that represented in Figure 5) required amputation or excision.

This individual experience (six cases out of eleven reported) leads me to believe that this injury may exist in cases of simple fracture terminating less disastrously, and that from its difficult diagnosis, the non-displacement of the fragments, and the comparative rarity of fatal elbow accidents, it happens more often than has been supposed. Fracture of the coronoid process, asserted to occur, equally with the one under consideration, in connection with backward dislocations of the elbow-joint, is undoubtedly rare. Professor Hamilton states "that there is no evidence that the coronoid process was ever broken by the action of a muscle," and "only one example in which it is probable that a fracture occurred as a consequence of a dislocation of the radius and ulna backwards." I have, however, cited the cases reported by Bérard, Velpéau, and Holmes, in which this fracture existed, and was verified by dissection. It accompanied none of the fractures of the head of the radius which I have myself observed.

PHYMOSIS; INCOÖRDINATION OF MOVEMENTS, WITH LOSS OF EQUILIBRATING POWER; CIRCUMCISION; RECOVERY.

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IN the Philadelphia *Medical and Surgical Reporter* for October 14th appeared an article by Dr. Sayre, of New York, on the causal relation

between phymosis and certain paralyses in children. Several illustrative cases were reported, in which recovery from the paralysis followed circumcision. In the *Reporter* for November 11th, 1876, appears a report of a case of my own in which severe nervous irritation, lithuria, etc., was proved due to a similar cause, recovery ensuing after circumcision. In the following case, also in my own practice, the symptoms were those of ataxia and loss of equilibration, muscular spasms and general epileptiform convulsions being also features of the case.

The maintenance of equilibrium as well as muscular coördination "involves the conjoint operation of three separate factors: (1.) A system of efferent nerves. (2.) A coördinating centre. (3.) Efferent tracts in connection with the muscular apparatus concerned in the action. The faculty of coördination is overthrown by lesions of the afferent apparatus alone, or by lesions of the encephalic centre alone, or by lesions of the efferent tracts alone, or by conjoint lesion of all."¹

That a severe and persistent irritation from any part of the genital apparatus may cause morbid excitation, nutritive disturbances, atrophic degenerations of those spinal centres primarily implicated, a perturbation which eventually becomes widely diffused, rendering considerable portions of the spinal medulla unfit for their proper functions, — that thus an irritating lesion may become an *inhibiting* lesion is quite in accordance with physiological and pathological facts.

History. — Was called, November 1, 1876, to see W. B., a bright lad of seven years. The parents are healthy, and of good habits. He had been in poor health for several months, losing strength, appetite, flesh, etc. Had been restless and "nervous." He looked thin and pale, was dull, taking but little notice of anything, and saying but little. *Ataxie locomotrice* is a marked symptom. Could not walk across the room without staggering and pitching headlong. The same want of coördination was manifested when he attempted to feed himself; he made bad work of it, and was soon forced to give it up. It seemed impossible for the will to guide the hand to the mouth. Intellect not disturbed, only the hebetude before mentioned was marked. Responded to questions in monosyllables, and speech was not very distinct. Pupils widely dilated; at times an outward and slightly upward squint of both eyeballs, from paresis,² as was supposed, of the third pair of nerves. Marked dullness of hearing. No febrile heat; pulse normal. No pains

¹ Vide page 47 of *Functions of the Brain*, by David Ferrier. New York: G. P. Putnam's Sons. 1876.

² The *oculo-papillary* phenomena observed in the case of this patient are common to chronic myelitis, being especially remarked in posterior spinal sclerosis. See Jaccoud, *Pathologie interne*, vol. i. page 363, Paris, 1875. Jaccoud refers this singular behavior of the eye and pupil to irritation of the cilio-spinal centre. "Ces phénomènes oculo-papillaires sont produits par l'excitation directe ou réflexe de cette région de la moelle qui donne naissance aux filets sympathiques du muscle radié de l'iris, et à ceux qui animent le muscle orbitaire inférieur de H. Muller."

complained of. Could not elicit from him whether he experienced any abnormal sensations on attempting to put his feet on the floor, or whether the tactile or muscular sense was perverted. Hyperæsthesia of general surface.

November 2d. Symptoms have remained the same as yesterday. He either lies on the lounge, or sits in his mother's lap. He cannot support himself in a sitting posture. Kicks the legs, tosses the arms, etc., but cannot coördinate his members in any act. Had a restless night, frequently screaming out; repeatedly had partial spasms.

November 6th. W. had a severe fit of epileptiform type last night, and he seems to-day more listless and powerless.

There has been no constipation or difficulty of micturition. The treatment has been thus far the administration of nervous sedatives.

November 7th. Dr. Tilton saw the case in consultation with me. Dr. Tilton held the theory of scrofulous disease of the cerebellum, the precise lesion not determinable. The theory of scrofula was favored by the fact that certain glandular swellings in the neck (submaxillary and thyroid) which the child had once had (following, however, a simple eruptive fever) had disappeared. Dr. Tilton gave an unfavorable prognosis, and regarded all medication as useless.

November 8th. I have been obliged to give my little patient chloral (both the hydrate and the croton chloral) to quiet the excessive nervous irritability manifested during nights, but all has been of little use. He is evidently rapidly failing, gets very little sleep, and his parents are worn out with the care of him. On this occasion I made the following prescription:—

R̄ Pulv. opii	.	.	.	.	.	.	.	.	.	.	.	gr. ̄.
Camphor												
Ext. hyoscyami	.	.	.	.	.	.	.	.	.	.	.	āā gr. i. M.
Ft. pil. una.												

Give *pro re natâ*. Paint along spine with tincture of iodine.

November 10th. The pill of camphorated hyoscyamus and opium has had a beneficial effect on the patient, who slept a good part of the night. His general condition is not at all improved.

November 13th. My visit was made at nine o'clock P. M. Little W. lay naked in his mother's arms. A glance revealed phymosis. The prepuce was greatly elongated, strangulating the glans, and the urinary *punctum* was minute.

November 15th. Ether was administered, and circumcision was performed in the usual way. An oval portion of mucous membrane was clipped off to correspond with the part removed by the bistoury (the product of the first excision being mostly integument); the prepuce could then be reflected over the glans. Four stitches united the cut edges of the skin and mucous membrane. Carbolized dressings were then applied. Dr. J. A. Tilton assisted.

There was considerable œdema the next day, accompanied with pain.

November 17th. The swelling and pain continued. The stitches were removed under ether. Several incisions were made into the swollen prepuce to let out blood and serum, and the urine was drawn off by a catheter, none having been voided for twenty-four hours.

November 18th. Swelling and pain diminishing, but considerable sloughing of the tumefied foreskin is going on. The restlessness has abated, and there have been no more spasms.

November 27th. The foreskin has sloughed away up to the corona glandis, and the parts beneath look healthy.

December 7th. The patient has nearly recovered. There has been a rapid gain in the power of coördination. Equilibration is now restored; he walks slowly and feebly, but with perfect steadiness. He can feed and otherwise help himself with his hands. Pupils of eyes are natural, and there is harmony of the ocular muscles. There has been no return of spasms or convulsions, and his sleep is now good. He amuses himself all day long with his playthings, is lively and chatty, and the change in his condition is as gratifying as it is striking.

January 9, 1877. Since the above was written the case has progressed favorably. The lad now plays with his hand-sled out-of-doors, and is able to govern his movements very well. There is at times a little stiffness and awkwardness about his gait, especially perceptible when he attempts to run. He sleeps well; no nervous irritability and no spasms.

Remarks.—Cases of paraplegia and ataxia of movement from peripheral irritation are sufficiently common, as is shown by Brown-Séquard in his lectures, by Weir Mitchell in a paper published in the *New York Medical Journal* in 1866, by Jaccoud in a treatise published in 1864,¹ and by others. Vulpian,² however, denies that there is any such thing as reflex functional paralysis, but for reasons that to me are not satisfactory.

I think that the case above reported must be considered a case in point, where the ataxia was purely functional, owing to irritation of the glandular branches of the dorsalis penis nerve, the speedy relief following circumcision demonstrating this. Any concomitant spinal lesion, which on Vulpian's theory is to be assumed, must have been trifling.

Had the phymosis not been discovered, it is natural to suppose that general paralysis with dementia would have been the ultimate result.

¹ Les Paraplégies et l'Ataxie du Mouvement. Paris. 1864.

² Leçons sur l'Appareil Vaso-Moteur. Leçon Dix-Septième. Paris. 1875.