CURRENT LITERATURE

II. SENSORI-MOTOR NEUROLOGY.

6. BRAIN.

Von Monakow, P. UREMIA. [Schw. Arch. f. Neur. und Psych., 1920, 6, No. 2. J. A. M. A.]

Von Monakow recalls that there are no characteristic signs of the uremic nature of a hemiplegia or other clinical picture except the knowledge of existing kidney disease. He protests against the assumption that the residual nitrogen is a reliable index of kidney functioning, and also that edema of the brain alone is able to induce convulsions. For this, some toxic factor is indispensable. With mechanical retention of urine, cerebral focal symptoms are rare, and when they occur they are variable and fleeting. With chronic nephritis, uremic coma is liable to develop suddenly without any apparent special factors at the moment to bring it on. These and other data cited suggest that something beyond the mere retention of the elements of urine is responsible for uremic coma, some factor independent of the kidneys. This factor, he thinks, is the sudden yielding of the choroid plexus to allow passage of injurious substances. As long as the choroid plexus is normal, it serves as a protecting membrane to ward off toxic fluid from the brain. When it becomes abnormally permeable, the brain is flooded with the noxious elements circulating in the blood stream. He gives photomicrograms from two cases, showing the pronounced fibrous and other changes in the choroid plexus found after death in uremic coma.

Noica. COMBINED VOLUNTARY MOVEMENTS. [L'Encephale, 1920, June, Vol. 15, p. 390.]

In following the development of voluntary movements at various ages it is found that combined voluntary movements are the first to make their appearance. New born infants make combined movements with the entire body and of various members which seem to have neither sense nor utility. The first purposeful and limited movements appear at the beginning of the fourth month when the infant grasps for the mother's breast with its two hands. The first separate voluntary movements of the lower members appears in connection with attempts to walk when the infant has reached the age of one year. It is only later, however, that limited movements of the fingers or hands in the upper members or of the knee, foot or other articulations in the lower members make their appearance. But even in adults the tendency to make associated movements persists under some conditions. The same rule holds good of the face: If a child or uneducated person is told to close one eye the

whole side of the face is moved. The author agrees with Mueller's explanation of the mechanism of these combined and separate movements. The child comes into the world with a tendency to make symmetrical and identical movements and by education and exercise learns to single out the separate voluntary movements of the different articulations of the body. The author endeavors to answer the question on the basis of this mechanism why the combined voluntary movements reappear in certain cases of adult hemiplegia, but not in all. He finds the answer in the analysis of the movements of various patients examined by him. The sign of Strümpell, for example, is a combined movement partly modified by a predominant paralysis of the extensors of the last four toes with the relative conservation of the motility of the anterior muscles of the limb and of the long extensor of the great toe. In lesions of the pyramidal bundle the first movements to disappear in the lower membranes are the later acquired limited movements—in the case of Strümpell's phenomena the power of separately moving the great toe. Another paralytic examined by the author could not close the hand without bending the elbow, nor bend the elbow without closing the hand—which constituted the infantile combined voluntary movement. These combined movements are only observed in those patients who have preserved at least a part of their power of voluntary movements. The author concludes that combined movements are an economy of force while the dissociation of these movements, *i.e.*, their isolation by inhibiting other from setting in, represents a greater expenditure of force, a higher form of adaptation. The adult having a lesion of the pyramidal bundle destroying the powers of particular adaptations tends to have combined movements, therefore, rather than to dissociate them. [J.]

Ducroquet, C. HEMIPLEGIA IN CHILDREN. [Presse Méd., July 24, 1920. J. A. M. A.]

Ducroquet shows in this profusely illustrated article the gait with hemiplegia, and advocates active movements of the knee and hip joint as the best means to restore functional use of the muscles. They may have to be preceded by passive exercises to stretch the contracted muscles. The knees, for example, can be strapped to a board as the patient sits with his back against a wall or the straight back of a chair. The equinus deformity of the foot can be corrected in young children by an elastic, fastening up the tip of the foot. An appliance should be worn at night to maintain this correction. Tenotomy may be indispensable in the severer cases, but much can be accomplished by pressure on the metatarsus as the knee is flexed. This relaxes the triceps at its attachment to the femur. Holding this corrected position with a plaster cast, the muscle finally relaxes permanently and two or three casts complete the process. Healing is complete sooner if the knee is enclosed in the cast.