

capsule, and that it is accompanied by lesions of the crossed pyramidal tract. This was Türck's original view. Crural palsies, on the other hand, do not show any involvement of this tract, and the authors state that it does not extend to the lower levels of the cord. This suggests a connection between the tract and the particularly fine range of voluntary movement in hand and arm, and also with the neck and trunk muscles. The authors suggest a subcortical neuron as the origin of the tract, and believe that it occupies a position between the pyramidal and the extrapyramidal systems.

W. McC. HARROWES.

Reflexes and Other Motor Activities in the Newborn Infant. (Bull. Neur. Inst. N.Y., vol. ii, p. 1, March, 1932.) Chaney, L. B., and McGraw, M. B.

This study is based on the investigation of reflex and other reactions in 125 apparently normal infants. Twenty-five of these infants were examined at the time of birth in the delivery room, and these are termed "partunates". The remaining 100 included 10 for each day during the first ten days of life, and these are termed "neonates". Certain general differences in the responses in the partunates and neonates were demonstrated, e.g., tendon reflexes were more easily elicited from partunates than neonates, but neonates were strikingly more responsive to cutaneous stimulation than were partunates. The following general conclusions were drawn: (a) Individual differences are evident in the simplest type of reflex action in newborn infants; the more complex the type of reaction, the more marked is the individual variation. (b) Although the variability in type of reaction is great among newborn infants, the total absence of any reflex response is strongly suggestive of a pathological condition. (c) Nothing in this investigation has tended to substantiate the contention that certain reflex patterns, such as the Babinski, are, in infants, normal reflex reactions, attributable to an immature nervous system. Reflex reactions of normal newborn infants are different from the characteristic reflexes of normal adults; they are also different from the classical pathological reflex patterns.

J. L. FAULL.

Plantar Tendon Reflexes. (Bull. Neur. Inst. N.Y., vol. ii, p. 312, July, 1932.) Weingrow, S. M.

A distinction between the plantar tendon and skin reflexes should always be made. A number of tendon reflexes of the plantar region, not previously reported in the literature, are described, and are said to be easily elicited in the recumbent position of the patient. The tendons in which reaction to tapping is described were those of the peroneus longus and brevis, tibialis posticus, flexor longus digitorum, flexor hallucis longus and digiti quinti brevis. The reaction consists of plantar flexion of the foot or toes, collectively or individually. The motor cells concerned in the reflex arcs of the plantar tendon responses are located in the fourth and fifth lumbar and first and second sacral segments of the spinal cord. Owing to the proximity of the centres in the cord representing the plantar and tendo Achillis reflexes, the changes which affect the one may also involve the other. There are pathological conditions in which the plantar tendon reflexes are affected, while the Achilles reflex of the same foot may be normal or *vice versa*. In sciatica the plantar tendons may be more distinctly affected than the Achilles tendon reflex, and so particular attention should be paid to the former. In syphilis of the nervous system the plantar tendon reflexes may disappear earlier than the Achilles jerk, and so their investigation may help in the early diagnosis of this condition.

J. L. FAULL.

Further Studies on Individually Acquired Automatic Associated Movements. (Bull. Neur. Inst. N.Y., vol. ii, p. 294, July, 1932.) Brickner, R. M., and Lyons, I. V.

There is, apparently, a fundamental difference between phyletically and ontogenetically acquired automatic associated movements. Evidence for this contention is adduced from the consideration of certain phenomena observed in

two cases of paralysis agitans and two of dystonia musculorum deformans. In one of the cases of paralysis agitans rigidity was marked in all four limbs, but in spite of this the patient, who had been a light-weight boxing champion, showed astonishing grace and facility in shadow-boxing and sparring with an opponent. In the other case of paralysis agitans and in those of dystonia similar differences were observed. The authors consider the facts point to separate neuron patterns for given acts in both the neokinetic and palæokinetic systems, the probability being that the former are situated in the cortex, the latter in the corpus striatum.

J. L. FAULL.

The Relation between Carbohydrate Metabolism and the Function of the Grey Matter of the Central Nervous System. (*Biochem. Journ.*, vol. xxvii, p. 523, No. 2, 1933.) Holmes, E. G.

The capacity of the frog's central nervous system to respond to strychnine injections by convulsions is abolished by iodo-acetic acid, but perfusion for 1½ hours with 0.1% iodo-acetic acid is necessary for complete abolition. Perfusion for the same period with a concentration of 0.01% reduces the lactic acid content to a very low level. The abolition of central nervous system function by iodo-acetic acid is partially prevented by the presence of 0.5% sodium lactate and 0.05% methylglyoxal. The "labile phosphorus", presumably representing the phosphocreatine of the central nervous system, is reduced by iodo-acetic acid more rapidly than the function of the tissue is affected.

The author suggests that the effect of iodo-acetic acid may be chiefly on conduction in the white matter, and that the activity of the grey matter depends immediately neither on phosphocreatine breakdown, nor on lactic acid formation or oxidation.

G. W. T. H. FLEMING.

A Constant Motor Phenomenon of Normal Sleep: Physiological Hypnic Myoclonus [*Su di un fenomeno motorio costante del sonno normale: le mioclonie ipniche fisiologiche*]. (*Riv. di Pat. Nerv. e Ment.*, vol. xxxix, p. 481, May-June, 1932.) de Lisi, L.

The author draws attention to the presence in normal man and animals of slight movements during the first 10-15 minutes of sleep, which cease at the end of half an hour or so. They are rapid, small, wavelike, and quite unorganized. In some cases there may be almost a general convulsion. No part of the musculature is exempt, and the contractions are not influenced by any external stimuli or change in posture.

G. W. T. H. FLEMING.

2. Psychology and Psychopathology.

The Expression of Fear [*L'expression de la peur*]. (*L'Encéph.*, vol. xxviii, p. 1, Jan., 1933.) Dumas, G.

The manifestations of fear are divided by this author into two groups—passive and active. In the first the problem is one of the massive inhibition of Pavlov. Such an inhibition, it is suggested, may be brought about by vaso-motor disturbances causing local anæmias in the brain. The passive manifestations of fear consist of a general relaxation equivalent to paralysis, and specially noticeable in the muscles around the eye and mouth. The question of the paralytic effect of fear is not a new conception and was interestingly dealt with by Hudson the naturalist. In the active expression of fear there is a subdivision into apprehensive dread and actual realized fear. In these states there is argued to be a tension of the surrounding muscles of the eye and mouth in contrast to the hypotonus in the passive fear state. This is an exaggeration of the surprise expression. A third section is devoted to associated gesture, divided into submissive voluntary movements and involuntary movements which are protective.

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