Part III.—Epitome of Current Literature.*

1. Anatomy and Physiology.

Left-handedness in the Prehistoric Inhabitants of Alexandria [Il mancinismo nei preistorici di Castelceriolo (Alessandria)]. (Arch. di Antropol. Crim., vol. lvi, p. 291, *May–June,* 1936.) *Peola. P.*

Prof. Peolo starts by describing two Stone Age implements which could have been used only with the left hand. He refers to prehistoric drawings and statuettes of antiquity, and compared the stages through which children and anthropoid apes pass in the achievement of right-handedness with those depicted in the relics of antiquity. He finds a striking parallel in the following five stages:

(1) Ambidexterity.
(2) Transient period.
(3) Left-handedness.
(4) Transient period.
(5) Predominance of right-handedness.

These stages are intimately concerned with the separation of the prehensile and locomotor functions of the four limbs, and the specialized distribution of these two functions in the upper and lower limbs respectively.

This process of differentiation necessitated the adoption of the upright attitude.

He argues that as man began to fashion tools and weapons, the left hand would be the natural one for defence while the right would be free for more active functions. He chooses the left as the side for defence because of the position of the heart on that side and the ease of access to it in an attack from the left.

H. W. Eddison.

The Thalamus in Relation to the Cerebral Cortex. (Journ. Nerv. and Ment. Dis., vol. lxxxv, p. 249, *Mar.,* 1937.) *Walker, A. E.*

The thalamus is divided into three groups of nuclei. The first includes those having entirely subcortical connections, and concerned with either a phylogenetically old system (the nuclei of the mid-line and the nucleus ventralis anterior) or probably intrathalamic associations (the intralaminar nuclei). The second group (the nuclei ventralis lateralis, ventralis posterior, the anterior nuclei and the geniculate bodies) consists of those nuclei receiving fibres from the ascending sensory tracts and projecting to the cerebral cortex. The third group (the nuclei medialis dorsalis, lateralis posterior and pulvinar) receives no fibres from the great ascending pathways, but has numerous connections with the thalamic nuclei of the second group and projects to the association areas (Flechsig) of the cerebral cortex, whereas the fibres of the second group end in the projection centres of the cerebral cortex.

A study of the connections of these cortical areas gives further evidence for the conception that at least a partial synthesis occurs in the nuclei of the third group. The prefrontal area receives fibres from only the adjacent motor areas (4 and 6 of Brodmann), and sends fibres to the latter region and also the parietal cortex.

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The fact that the prefrontal cortex has so few connections and yet unquestionably plays a large associative role—as determined by psychological tests, points to its subcortical connections as relaying at least partially synthesized impulses from the thalamus.

The parietal cortex (areas 5 and 7) has a much larger association field—from the prefrontal area, the precentral and post-central convolutions as well as a smaller connection to the periparastriate areas and the temporal cortex. The periparastriate areas likewise have a wide associative field particularly with the striate cortex. It is probable that the thalamic projection to these areas, having such wide cortical connections, must be of a fairly high functional order.

G. W. T. H. FLEMING.

Effect of the Growth Hormone upon the Brain and Brain Weight–body Weight Relations. (*Journ. Comp. Neurol., vol. lxiv, pp.* 469–96, 1936.) *Rubinstein, H. S.*

White rats were injected intraperitoneally with growth hormone for 22 weeks. Control rats were uninoculated or injected with meat extract. The growth hormone produced generalized body growth, but it failed to influence the structural make-up of the central nervous system as judged by studies of the weight, volume, density, water and solid contents of the brain. The growth hormone, therefore, affected the normal brain–body weight relations by decreasing the brain weight–body weight ratio, by lowering the exponent of relation and by leading to a significant deviation from the body–brain growth curves as established by Hatai for the normal. It tended to increase the size of the male pituitary gland but not the female. Extensive bibliography. RACHEL BROWN (Chem. Abstr.)

Metabolism of the Central Nervous System. I: Normal Respiration of the Central Nervous System of the Toad. (*Contrib. Biol. Lab. Sci. Soc. China, vol. xi, pp.* 239–43, 1936.) *Chang, T. H., and Tai, F. I.*

The central nervous system has a high respiration—at least as high as that of the mammalian grey cortex under the same conditions. The respiration parallels alkalinity, shows seasonal variations and is highly affected by oxygen tension.

II: Influence of Electrolytes on its Respiration. (*Ibid., pp.* 243–65.) *Chang, T. H., and Tai, F. I.*

The effects of electrolytes on the respiration of the central nervous system and peripheral nerves are compared. Sodium halides (except NaF, which has depressive effect) all increase its respiration. Lactate, citrate and phosphate cause greater increases. Calcium chloride and KI depress respiration at all concentrations studied. Isotonic KCl gives marked increases which are greater on the brain than on the cord, and, like the normal respiration, it is favoured by alkalinity and seems to require the presence of phosphate. L. T. CHENG (Chem. Abstr.).

Creatine in Brain in the Course of the Ontogenetic Development of Vertebrates. (*Ukrain. Biochem. Journ., vol. ix, pp.* 5–38, 1936.) *Palladin, A. V., and Rashba, H.*

The creatine, water and total-nitrogen contents of the brain during the second half of the embryonic development of rabbits (15th–30th day) are higher than in adult rabbits; they decrease in later stages. During the first month of post-embryonic development, the creatine and nitrogen contents attain a level characteristic of brains of adult rabbits; the water content does not attain this level. In embryos of guinea-pigs the same tendency is evident, but not so clearly; at birth the creatine and total nitrogen contents are the same as in adults; the water is a little higher. In 3–8-month bovine embryos the contents of creatine, total nitrogen and water are higher in the earlier stages and fall gradually. This process is more evident in the cerebellum; the water content falls very uniformly.