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.

https://doi.org/10.1192/bjp.83.343.230-a Published online by Cambridge University Press