

to total inorganic phosphate in the grey matter is 9.28. A large part of the creatine exists in the grey matter as creatine-phosphoric acid. Pyrophosphate in minute amounts also was found in the brain substance, as were all other forms of phosphorus found in the muscles. The labile phosphorus appears to be more stable in the brain substance than in muscle tissues. B. S. LEVINE (Chem. Abstr.).

*The Lipoid Metabolism in the Central Nervous System.* (Arch. Ital. Biol., vol. lxxxix, p. 172, 1933.) Mitolo, M.

The cerebro-spinal axes from *Bufo* showed the following lipid content: Free cholesterol 1.7622%, lecithin + myelin 0.3564%, cephalin 0.4887%, galactose of saturated cerebroside 0.027%, sulphatides 0.2978%, and sphingomyelin 0.5593%. All lipoids decrease during rest of the nervous tissue; the decrease is lowest in sulphatides, highest in phosphatides. During reflex activity the sulphatides decrease the most, the phosphatides less, whereas the other lipoids decrease at the same rate as during rest. All lipoids, except sulphatides, increase during narcosis. Excitation caused by convulsive poisons produces a greater loss of all lipoids than occurs during rest. A. E. MEYER (Chem. Abstr.).

*Chemical Nature of Brain Antigen.* (Biochem. Zeitschr., vol. cclxvii, p. 77, 1933.) Rudy, H.

By further purification procedures it has been established that the hapten obtained by alcoholic extraction of brain is phosphorus-free and resistant to alkali, and is neither a sterol, cerebroside nor creatine. The hapten is a lipid-soluble substance, scarcely soluble in water, which on removal of its impurities becomes more or less water-soluble. In the crude extraction the hapten is not dialysable, but in the saponified fraction considerable dialysis takes place. From these results it is concluded that the hapten is adsorbed on lipid material.

S. MORGULIS (Chem. Abstr.).

*Creatine in the Brain.* (Jap. Journ. Med. Sci., II, Biochem., vol. ii, p. 205, 1933.) Matsumoto, M.

Fresh pig brain was extracted first with alcohol and then with ether. The alcoholic extract contained the major portion of the creatine. In 8 gm. of the hydrolysed ether extract, 12.28 mgrm. creatine was found by the method of Harding and Eagles. By the method of Folin, 8 gm. of the ether extractive gave 6.48 mgrm. creatinine. To determine whether this was a correct value, pure creatinine was investigated. It was adsorbed on animal charcoal to the extent of 81% in acid solution and 99% in alkaline solution; on kaolin and adsol the adsorption was more effective in an acid medium. Aluminium hydroxide did not adsorb creatinine. The chromogenic substance in the ether extractive of brain behaved towards adsorbents similarly to creatinine. The chromogenic substance in lecithin and cerebroside from rabbit brain behaved in the same manner. Inositol boiled with sulphuric acid gave a false test for creatinine. The high creatinine content of the brain should therefore probably be ascribed to lipoids or their split products. R. BROWN (Chem. Abstr.).

*Comparison of the Creatinine Contents of Blood-serum and Cerebro-spinal Fluid.* (Z. ges. expl. Med., vol. xci, p. 455, 1933.) Maydell, R. B.

In 18 normal human beings the blood creatinine averaged 1.6 mgrm.% and the cerebro-spinal fluid contained 1.18 mgrm.%. In renal disease the cerebro-spinal creatinine rises more slowly than that of the serum. M. LEVY (Chem. Abstr.).

*Bromine of the Cerebro-spinal Fluid and the Blood-Serum, Plasma and Corpuscles.* (Compt. Rend. Soc. Biol., vol. cxv, p. 312, 1934.) Urechia, C. I., and Relezeanu, A.

In a series of sane pathological cases, the bromine content of spinal fluid taken from the suboccipital region was .58–.89 mgrm.%, or nearly that of the blood; in