Effect of Age on the Phosphorus Compounds of the Brain. (*Ukrain. Biokhem. Zhur., vol. ix, pp.* 613–32, 1936.) *Epel'baum, S. E., Khaikina, B. I., and Skvirskaya, E. B.*

In rabbit brain, in the first 7 days after birth there are considerably more total phosphate and acid-soluble P compounds than in adults. With increasing age there are decreases in the fraction hydrolysed during 7 minutes in normal HCl at 100° of the fraction of difficultly hydrolysable compounds and of creatinephosphoric acid. At 12–23 days the first two of these fractions are greater than in adults. After the 30th day after birth the content of P compounds attains the level characteristic for the brain of adults.

E. E. STEFANOWSKY (Chem. Abstr.).

Unimolecular Films of Nerve Proteins. (*Journ. Phys. Chem., vol. xl, pp.* 989–96, 1936.) *Fourt, Lyman, and Schmitt, Francis O.*

Nerve protein fractions were prepared. The general features of the unimolecular films formed by them on various sub-solutions are described. A phenomenon of pressure equilibration following change of area of these films was observed. This equilibration is not associated with changes in phase boundary potentials and is distinct from irreversible collapse. F. URBAN (Chem. Abstr.).

The Influence of Lactic Acid on the Cerebral Respiration of Mammals During Avitaminosis B_1. (*Biochem. Zeitschr., vol. cclxxxix, pp.* 136–42, 1936.) *Galvao, P. E., and Pereira, J.*

Lactate causes no increase in the O_2 consumption of the motor region of the cerebrum of rats with typical manifestations of B_1 avitaminosis, but in the cord the lactate exerts its usual effect. On the other hand in rats on a vitamin B-free diet without any manifestations of avitaminosis the motor area of the cerebrum shows the usual behaviour towards lactate, whereas lactate has no effect on the respiratory activity of the cord. The disturbances in birds are localized in the cord, while in the rat there are also disturbances in the motor area of the cerebrum.

S. MORGULIS (Chem. Abstr.).

Relationship between Brain Lipides and Learning Ability of Albino Rats. (*Journ. Genetic Psychol., vol. xlix, pp.* 389–403, 1936.) *Alm, O. W., and Whitnah, C. H.*

The scores for learning ability of rats obtained by maze tests gave positive correlations with the unsaturated galactolipides and phospholipides of the brain. The latter perhaps show a more uniform relationship to learning ability than the former. Other relationships were studied and are discussed critically.

WALTER H. SEEGERS (Chem. Abstr.).

A Study of the Chemical Composition of Various Divisions of the Nervous System. III. The Peripheral Nerves of Various Divisions of the Cow. (*Ukrain. Biokhem. Zhur., vol. ix, pp.* 69–84, 1936.) *Palladin, A. V., Rashba, E. Ya., and Gel'man, R. M.*

The chemical compositions of the anterior and posterior roots of the spinal cord per unit of dry matter are essentially the same; per unit of wet matter cholesterol, lecithin and cephalin contents of the anterior roots are lower than that of the posterior. In comparison with other divisions of the nervous system the absolute cholesterol contents are much greater in both cases. The inverse is the case for lipoids, nitrogen, creatine, P and water contents in the peripheral nerve. The N and creatine contents of the sympathetic nerve are higher than those of other nerves. It is concluded that a high protein and a medium cholesterol content are characteristic for the non-medullated nerves. The ganglia of the posterior roots have approximately the same composition as all the others, with the exception of a higher cholesterol and unsaturated phosphatides. Phylogenetically the

cholesterol and unsaturated phosphatides are higher in older than in younger divisions of the peripheral and of the central nervous systems; the reverse is true of water and protein contents. E. E. STEFANOWSKY (Chem. Abstr.).

The Blood Sugar in Convulsions of Infancy and Childhood. (*Arch. Dis. Child., vol. ii, pp.* 257–60, 1936.) *Maclean, Margaret B.*

The concentration of blood sugar is frequently increased during or immediately after convulsions in infants and children. It then decreases rapidly to a level below normal, remains low for a period of several hours to several days and then rises to the normal level. The administration of adrenaline during the period of hypoglycæmia is followed by a significant increase in blood sugar. Except in cases of true hyperinsulinism, the disturbance in carbohydrate metabolism appears to be the result rather than the cause of the convulsions.

E. R. MAIN (Chem. Abstr.).

Patho-histological Studies of the Brain. I. Deposition of Lime. (*Sei-i-kai Med. Journ., vol. lv, no.* 9, *pp.* 1851–81, 1936.) *Shimada, Sadaaki.*

Of 34 cases in which the deposition of lime (D) occurred in the brain, only 1 case had D in the wall of blood-vessels alone; 25 cases, D in brain tissue only, and 8 cases D in both blood-vessels and brain tissue. Age is not a factor in D in brain.

S. TASHIRO (Chem. Abstr.).

Existence of a Complex Substance in Nerve Centres which Liberates Acetylcholine when Heated. (*Compt. Rend. Soc. Biol., vol. cxxiii, p.* 667, 1936.) *Corteggiani, E., Gautrelet, J., Kaswin, A., and Mentzer, C.*

Guinea-pig brain was triturated with a very dilute solution of eserine. The mixture gave a reaction with leech muscle corresponding to 0·25 mgrm. acetylcholine per grm. brain. The acetylcholine concentration did not change on standing at room temperature, but increased 4-fold if the mixture was heated to 70° C. for a short time. The acetylcholine content of an alcoholic extract of the brain was not changed by heating. Similar results were obtained with dog and rat brains and snail nerve ganglions. L. E. GILSON (Chem. Abstr.).

The Vitamin C Content of Cerebro-spinal Fluid in Neurological Patients. (*Klin. Wochenschr., vol. xv, pp.* 1528–9, 1936.) *Heinrich, Adolph.*

The Harris modification of the Tillman method was used. The variation in vitamin C content was no greater than in normal people. The older the patient, the lower the ascorbic acid content. WILLIAM MENDELSOHN (Chem. Abstr.).

The Cerebral Regulation of Sugar Content of Blood in Childhood. (*Orvosi Hetilap., vol. lxxx, pp.* 1139–40, 1936.) *Roboz, Pal, and Rausnitz, Erzebet.*

Blood-sugar content of children of both sexes and of ages 7–14 were determined by the methods of Hagedorn and Jensen (*C. A.*, 14, 2352). The normal blood-sugar level did not change significantly on treatment with 1·5 cgrm. pyramidone per kgrm. of body-weight in normally grown children. Large changes were observed in the vegetative nervous systems of backward children. Deviations exceeding 10–15% show a deficiency in the blood-sugar-regulating centre.

S. S. DE FINALY (Chem. Abstr.).

Bromine Content of Cerebro-spinal Fluid in Nervous Diseases and Insanity. (*Orvosi Hetilap, vol. lxxx, pp.* 1114–16, 1936.) *Nagy, Mihaly, and Straub, Janos.*

Numerous determinations according to the method of Leipert and Watzlawek (*C.A.*, 6393) showed that the Br content of the cerebro-spinal fluid varied between wide limits. The results seem to disagree with the statements of Zondek and Bier (*C.A.*, 4856; 27, 2201). Br content of cerebro-spinal fluid was not found to bear any definite relation to mental disease.

S. S. DE FINALY (Chem. Abstr.).