extracts in kidneys and heart and a decrease in the brain. The total P and the P of the different extracts of the three organs are increased proportionately to the increase in phospholipides and weight of the organ. There is no qualitative change in the phospholipides. FELIX SAUNDERS (Chem. Abstr.).

Further Investigations on the Blood-brain Barrier. The Significance of the Electrical Charge and the S-potential in the Problem of the Blood-brain Barrier and Capillary Permeability in General. (*Journ. Immunol., vol. xxxii, pp.* 97–117. 1937.) *Friedemann, Ulrich.*

After intravenous injection of 1–7 mgrm. into guinea-pigs weighing 300 grm., all basic aniline dyes with the exception of safranine stain the brain. Some acid dyes (acid fuchsin, orange, bordeaux, eosin, uranin) do not stain the brain in the amounts used. Some others (trypan blue, Congo red, water blue, alizarin blue-S, indigo di- and tetrasulfonate) stain in amounts of 20 to 80 mgrm. The difference between the acid and basic dyes is partly due to a difference in their affinity for brain tissue, which was tested by determining the minimum staining dose *in vitro*. The cerebral capillaries are more permeable to basic than to acid dyes. This is determined by the ratio between the minimum staining concentrations *in vivo* and *in vitro*. The permeability of the cerebral capillaries to dyes is independent of their chemical constitution, size and lipoid solubility, but depends on their electrical charge. Staphylococcus toxin acts rapidly without any incubation period. It is unable to pass the blood-brain barrier. It carries a negative charge at the pH of the blood and the iso-electric point is near 6·2. A method was devised to compare the *S*-potentials of toxins, with which the capacity of toxins to pass the capillary system is correlated. A theory is advanced that the selective permeability of the capillary system in general and the blood-brain barrier in particular is due to an irreciprocal permeability. A. R. BEEBE (Chem. Abstr.).

An Investigation of the Absorption of Ultra-violet Light by Cerebro-spinal Fluid in Various Disease States. (*Journ. Neur. and Psychopathol., vol. xvii, p.* 213, *Jan.*, 1937.) *Skinner, E. F.*

The writer continued his work on absorption spectra in the spinal fluid. In his first series of 50 cases he found that cases of tuberculous meningitis gave rise to a characteristic change in the curve, as also did general paralysis, but not to such a marked degree. During the course of a disease the curve tended to become steeper if progress was towards fatality. The curve of general paralysis shows a shift towards the region of the long waves. In cases of long standing the hump on the curve disappears and the curve becomes merely a steeply-sloping line, closely resembling the curve found in tuberculous meningitis. After malarial treatment the curve approximates to the normal. The shape of the curve does not depend on a pleocytosis. Removal of all the salts by dialysis eliminated the hump from the curve and diminished the amount of absorption. Selective absorption gives way to a general absorption beginning about 2350. Normal fluid absorbs the ultra-violet waves in a region between 2600 and 3150, so causing the " hump " on the curve. Removal of proteins obliterates the hump by increasing the absorption and moves the curve to the right. There appear grounds for thinking that the hump in the normal curve may be due to uric acid, and that the shift to the right in inflammatory conditions is possibly due to an increase in the constituents. The writer suggests that coma may be due to the action of uric acid on neurones. G. W. T. H. FLEMING.

Fatty Acids of Phrenosin and Kerasin. (*Biochem. Journ., vol. xxx, p.* 100, *Jan.*, 1936.) *Chibnall, A. C., Piper, S. H., and Williams, E. F.*

These authors found that brain contains at least three phrenosins whose acid components are –OH-n-docosanic, -OH-n-tetracosanic, and -OH-n-hexacosanic acids. Phrenosinic (cerebronic) acid is a mixture of these acids. Brain also