

days later he had, in one day, repeated attacks of loss of consciousness. Still later he showed intense negativism, refused to speak and eat, and exhibited rigidity and cataleptic attitudes. There was no alteration of tendinous reflexes, no Kernig's sign, no pupillary changes, no symptom of infection. The condition remained unaltered until the patient's death, ten weeks after the initiation of his symptoms. Melancholia with stupor and encephalitis having been ruled out, a diagnosis of catatonia was made. Histological examination of the brain showed marked alterations in the basal nuclei, the red nucleus and the *locus niger*, and, to a lesser degree, in the cortex. These changes are illustrated by micro-photographs. Previous work on the subject is reviewed. Without attempting to settle the anatomical basis of dementia præcox on the findings in a single case, the authors believe that there is a relation between the symptoms and the cerebral lesions described.

M. HAMBLIN SMITH.

Preparation of Intact Total Phosphatide-cerebroside. (*Helv. Chim. Acta*, vol. xvi, pp. 943-58, 1933.) Escher, H. H.

Brain or spinal marrow is coarsely subdivided and dehydrated by successive treatments with ether or acetone. The product is extracted at 37° C. with mixtures of 95% ether and light petroleum, b. 35-70° (1 : 1, 1 : 3 and 1 : 10 successively). By means of water, ether is removed from the extract, which is concentrated at 37° under vacuum and proportioned with acetone. The solid is triturated with successive quantities of acetone, whereby fats, cholesterol and its esters, and lipochromes are removed without considerable loss of total phosphatide-cerebroside, which forms additive compounds with acetone. The material is pressed into thin sheets from which acetone is removed at 37° at 1-2 mm., after which it can be preserved indefinitely in carbon dioxide.

B. C. A. (Chem. Abstr.).

A Reducing Substance in the Brain Tissue. (*Nature*, vol. cxxxiii, p. 572, 1934.) Young, F. G., and Mitolo, M.

The alcoholic extracts of brain tissues of mouse, rat, guinea-pig and ox contain a substance which reduces 2-6-dichloroindophenol (used for the estimation of ascorbic acid in tissues), but with other properties differing from those of ascorbic acid. It does not prevent scurvy in guinea-pigs. Estimations of ascorbic acid in brain-tissue by the indophenol titration method are therefore incorrect. Isolation of the reducing substance is difficult, but solutions are somewhat stabilized by addition of cyanide; this suggests that sulphur may be concerned with its activity. A semicarbazone, m. 251-2°, may be a derivative.

JANET E. AUSTIN (Chem. Abstr.).

Pyruvic Acid as an Intermediary Metabolite in the Brain Tissue of Avitaminous and Normal Pigeons. (*Biochem. Journ.*, vol. xxviii, p. 916, 1934.) Peters, R. A., and Thompson, R. H. S.

The authors found that the disappearance of pyruvic acid and bisulphite-binding substances accompanies the extra oxygen uptake induced by the action of crystalline vitamin B₁ in pigeon's brain tissue respiring *in vitro*. Pyruvate also disappears when substituted for lactate. The disappearance of pyruvate is an indirect effect of vitamin action. These results are consistent with the view that pyruvic acid is a normal intermediary in the metabolism of pigeon's brain tissue. In agreement with the Embden-Meyerhof fermentation scheme, it accumulates with respiring normal brain tissue in the presence of iodo-acetate and not of fluoride.

G. W. T. H. FLEMING.

Cerebral Blood-flow Preceding and Accompanying Epileptic Seizures in Man. (*Arch. of Neur. and Psychiat.*, vol. xxxii, p. 257, Aug., 1934.) Gibbs, F. A., Lennox, W. G., and Gibbs, E. L.

By means of a thermo-electric blood-flow recorder inserted into the internal jugular vein of patients subject to epilepsy, the authors ascertained changes in the

blood-flow in relation to both *grand* and *petit mal*. In none of 10 patients studied was there any significant reduction in blood-flow immediately preceding the onset of seizures. During severe convulsions there was a great increase in flow, but the changes which accompanied the seizures were the result rather than the cause of the seizures. This evidence is against the theory of acute widespread anæmia of the brain as an immediate cause of epileptic seizures. G. W. T. H. FLEMING.

The Relation of Negative Pressure in the Epidural Space to Post-puncture Headache. (*Amer. Journ. Med. Sci.*, vol. *clxxxviii*, p. 247, Aug., 1934.) Sheppe, W. M.

The writer, after reviewing his own results, concludes that continued leakage of spinal fluid from the dural sac is the predominant cause of post-puncture headache. This continued leakage may be obviated by the use of a needle not larger than 22-gauge, with a sharp tapering point, and the elimination of the negative epidural pressure, shown by manometric readings to exist in at least some individuals, by allowing an inflow of air through the needle while the point rests in the epidural space for some 30 seconds.

The author carries out this work regularly on ambulant patients, with subsequent headache in only 3%. G. W. T. H. FLEMING.

Xanthochromic Cerebro-spinal Fluid in Psychiatry [*Le liquide céphalo-rachidien xanthochromique en psychiatrie*]. (*Ann. Méd. Psych.*, vol. *xiv* (i), p. 520, April, 1934.) Courtois, A., and André, Mme. Yv.

Xanthochromia is rare in psychiatric practice, and out of 10,000 examinations in six years there were only 60 positive results. Of the 60, 12 were associated with cerebral arteriopathy; 11 with cranial trauma; 10 with acute meningitis; 10 with acute or subacute encephalitis; 9 with alcoholism; 5 with cerebral tumour; 2 with spontaneous hæmorrhagic meningitis and 1 with eclampsia. Regarding the general characters of the fluid, it was noted that the tension is usually increased; that there is increased albumen proportionate to the intensity of xanthochromia; that Pandy's reaction is usually positive; that the leucocyte count varies with the causal factor; and that the Meinicke was positive in 10 out of 44 examinations without evidence of syphilis; that the Wassermann was negative in all cases except one; and that xanthochromia is a cause of error for Verné's reaction to resorcin, which is often strongly positive without evidence of tubercle. The author points out that the presence of a yellow fluid, excluding medullary compression, only indicates that a hæmorrhage has taken place into the central nervous system. In tubercular meningitis and eclampsia there are probably micro-hæmorrhages. He also insists on the importance of alcoholism, which is present as an added ætiological factor in a large proportion of the cases observed. He goes on to point out that in dementia paralytica and epilepsy, where there is cerebral congestion without apoplexy, xanthochromia is rarely found; out of 2,000 examinations of cases of dementia paralytica there was one positive finding. It is also noted that cases of jaundice must be excluded, for in this condition the skin is xanthochromic, and spectroscopic examination of a xanthochromic fluid gives an analogous curve to that of an icteric fluid, produced by the presence of bilirubin.

STANLEY M. COLEMAN.

Proteins of the Cerebro-spinal Fluid [*Protéinas do líquido céfalo raquidiano*]. (*Revista da Assoc. Paulista de Med.*, vol. *iv*, p. 153, April, 1934.) Lange, O.

The author deals with the methods employed for the estimation of these proteins, and with their value in the diagnosis and prognosis of some diseases of the central nervous system. Having reviewed the previous work on these subjects, the author describes the methods employed in the neurological service of the Medical Faculty of São Paulo, with special reference to the method of Kafka and Samson, giving some results obtained in cases of dementia paralytica. Finally, he deals with the exogenous or endogenous origin of the protein constituents of the cerebro-spinal fluid M. HAMBLIN SMITH.