Book Reviews

The Biology of Mental Health and Disease. The twenty-seventh annual conference of the Milbank Memorial Fund. New York: Hoeber-Harper, 1952. 654 pp. $10.00.

This book consists of 38 chapters with subdivisions ("discussions") in each in which anatomists, physiologists, biochemists, pharmacologists, geneticists, psychologists, and neuropsychiatrists report on their (mostly experimental) work on the problem of mental disease. There are great inequalities in the various contributions. Some authors discuss material largely or completely unpublished, others summarize results that were reported in a similar form many years ago. Some essays have an extensive bibliography, others have no references.

From the rich material presented, some topics and results may be mentioned in order to indicate the scope of this work. Anatomical studies by Conel and by P. Bailey indicate that cytoarchitectonic differences in the structure of the cerebral cortex have been overemphasized. Cortical function seems to be determined "by distribution of the fibers rather than by specificity of cells" (Conel). Cerebral circulation in its physiological and pathological aspects is discussed by Kety in an excellent essay, and Tschirgi deals with the blood-brain barrier and its physiological significance for homeostasis. He comes to the conclusion that the perivascular glia and not the vascular epithelium represents this barrier. Taylor describes his interesting studies on perfusion of the cat's brain and gives evidence for the fact that the utilization of glucose by the brain depends on a substance present in aqueous liver extracts. A series of papers is concerned with the biochemical aspects of brain activity. Among them, that by Elliott on "Brain Tissue Respiration and Glycolysis" deserves particular mention because of its clarity and completeness. Physiological contributions are made by Lloyd in an article dealing with the influence of volume conduction on electrical potentials, by Lilienthal and Marrazzi on neurohumors, by Jasper and Magoun on the integrative systems which originate in thalamus and lower parts of the brain stem and influence the activity of the cerebral cortex as a whole. Woolsey emphasizes the similarity in the anatomical organization of motor cortex and specific sensory projection areas.

Flexner's brief but highly interesting article cuts across the boundaries of anatomy, physiology, and biochemistry by the determination of morphological and chemical changes associated with the onset of cortical function in the fetal guinea pig. Experiments on the basal lamina of the cord of the chick show that differentiation of motor neurons depends on the peripheral structures which they innervate (Barron). Observations on monkeys with extensive cortical lesions lead Harlow to the conclusion that "although no specific intellectual function is localized in a single cortical area, the different cortical areas play markedly unequal roles in the mediation of our diverse intellectual processes."

Windle describes his well-known experiments on the effects of asphyxia at birth on learning ability, and McFarland discusses the influence of anoxia on sensory and mental processes. Quastel gives a comprehensive review on the relation between drug action and oxygen consumption of the brain, with emphasis on the mechanism underlying narcosis. This latter problem is also discussed by Larrabee on the basis of new ingenious experiments on the resting and activated superior cervical sympathetic ganglion. Ingalls emphasizes the importance of the prenatal environment for the causation of mongolism, and Hoagland, Altschule, and Gildea deal with the important problems of adrenocortical functions in psychoses. Enzymatic changes in the human cerebral cortex of psychotics are reported by Pope. Histopathological findings in functional psychoses are still largely negative, but new methods are being applied to these problems (Nurnberger). Factors leading to the production of psychoses (Hoch), therapeutic studies with vitamins and hormones, and analyses of shock- and CO_2-therapy are also presented. Keys discusses the relation of semistarvation to psychoneurosis, and Liddell and Gantt report new work on experimental neurosis.

This interesting book deserves wide reading.

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A Textbook of Pharmacology: Principles and Application of Pharmacology to the Practice of Medicine. William T. Salter. Philadelphia–London: Saunders, 1952. 1240 pp. Illus. $15.00.

The introduction of so many new and effective therapeutic agents during the past decade has made the task of writing a textbook of pharmacology a formidable one. It has become particularly difficult to satisfy the experimental pharmacologist interested in the basic principles; the practitioner of medicine, desirous of a more empirical approach to the subject; and the medical student for whom such texts are primarily intended. The late Dr. Salter was a practicing clinician before entering pharmacology and would be expected to bring to the subject the desirable clinical background. This he has done, at the same time covering the subject matter included in textbooks of pharmacology.

The first three chapters of the book, entitled "General Principles of Pharmacology," consist of a historical résumé, a very brief outline of prescription writing, and the usual discussions of dosage and administration. The main body of the text, entitled "Drug Action on Physiological Mechanisms," follows the usual pattern of textbooks on pharmacology. This is followed by "The Application of Drugs in Clinical