

## Book Reviews

**Wave Theory of Aberrations.** H. H. Hopkins. New York: Oxford Univ. Press, 1950. 169 pp. \$3.00.

Book titles can be misleading, for actually less than half of the present book deals with the wave theory of lens aberrations. The derivation of the properties of aberrations from the shape of the image-forming wave front is an old science, and the transfer from wave-front to ray aberrations is a straightforward matter, since rays are merely the normals to the wave front. In this little book, Dr. Hopkins has made a useful collection of these derivations, based largely on Conrady's papers of 1905 and 1918-20, with some additional proofs and formulae of his own. A large part of the book is, however, devoted to ray-tracing methods and computing procedures, which are quite conventional and have little relation to the title. Indeed, many of the author's statements will be found intact in Conrady's *Applied Optics and Optical Design*.

One would have expected to find that a book on the wave theory of aberrations would also include the effects of diffraction in the elementary image. A consideration of the mutual interference of Huygenian wavelets, originating at every point on the wave front as it emerges from the lens, enables us to compute the detailed light distribution or fine structure of the elementary image associated with each aberration. Unfortunately this approach to the subject has been entirely omitted in the present book.

The mathematics involved is simple, but the inclusion of a few numerical examples would greatly help the reader to understand the formulae. The book should be useful to anyone engaged in lens computation or design.

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**Dementia Praecox or the Group of Schizophrenias.**

Eugen Bleuler; translated by Joseph Zinkin. New York: International Universities Press, 1950. 548 pp. \$7.50.

Bleuler's monumental work on schizophrenia is probably the most important book ever written in psychiatry, dealing as it does with this most common and protean of diseases of the mind. What makes the book so important is not that schizophrenia is so common but that it is so frequently not recognized. In this book Bleuler delineates with great clinical acumen, and describes in clear language, the disease he named schizophrenia and removes it from that artificial and rigid classificatory system of a multiplicity of mental diseases that Kraepelin gave psychiatry at the beginning of the century. Kraepelin masterfully described and classified the *symptoms* of the two psychoses dementia praecox and manic-depressive states; Bleuler

had the sagacity to recognize the *nature* of the disease, and had the courage to say that in medicine one cannot base diagnosis upon either the prognosis or upon the course of the disease, but only upon knowledge and recognition of the disease.

The fundamental manifestations of schizophrenia are seen in a specific loosening of associations, in disturbances of affect, and in autistic thinking. These may result in ambivalence, blocking, and autism. Such gross manifestations as delusions and hallucinations (psychosis) are, according to Bleuler, only accessory symptoms, and for the diagnosis relatively unimportant.

Since the majority of schizophrenics are not psychotic, but since the majority of these nonpsychotic schizophrenics do also demonstrate neurotic symptoms, it becomes exceedingly important to differentiate diagnostically between schizophrenia and the neuroses, as the latter are not diseases of the ego. The symptomatological differentiation between neuroses and psychoses still in use today is a Kraepelinian heritage which should give way to the understanding of the disease schizophrenia, which frequently straddles both. Bleuler's contribution to psychiatry is as significant as is the ability to diagnose liver disease before jaundice is visible, in internal medicine, or nephritis before signs of edema occur, or coronary disease before coronary accidents take place.

The book was published in German in 1911, during a period of great diagnostic activity but also of therapeutic nihilism (aside from Freud and his then small circle of students). Now, 40 years later, the pendulum has swung, and we appear to be in a period of diagnostic nihilism and therapeutic anarchy. It is most timely, then, that this great book—which should be on every medical student's desk and on every physician's reading shelf—has finally been translated into English. Joseph Zinkin deserves high praise for his lucid translation, as does Gregory Zilboorg for his long advocacy of the belated undertaking.

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**Cell and Psyche: The Biology of Purpose.** Edmund W. Sinnott. Chapel Hill, N. C.: Univ. North Carolina Press, 1950. 121 pp. \$2.00.

In his John Calvin McNair Lectures, the distinguished author gives a popular presentation of his biological world view. The distinctive character of life is organization. This central problem presents itself in the orderly distribution and cooperation of enzymes and other biocatalyzers, as well as in the control of morphogenesis shown, for example, in the formation of sporangia of slime molds from a mass of amoeboid cells, in the regulation of innumerable chemical re-

actions for maintaining the steady state of the open system "organism," in development where the organizer is but a stimulus, the problem of organization resting in the responding system, in gene action where thousands of genes cooperate and numerous chemical reactions, accurately timed and located, are involved to produce a complex individual.

Despite all the advances in physical chemistry of cells, physiology, etc., we have no adequate explanation of biological organization. The hypothesis proposed by the author is that the close resemblance between regulatory or "goal-directed" processes of development and physiological activity on the one hand, and the purposiveness of mental or psychological activities on the other, indicates that both are fundamentally the same thing. Growth, physiological reactions, and true behavior form an ascending series the steps of which grade into each other imperceptibly. Unconscious purpose at the beginning has finally evolved into consciousness. Thus, body and mind, including the highest manifestations of spiritual activity, are two aspects of the same biological phenomenon. From this standpoint, purpose appears to be essentially similar to the tendency toward developmental and physiological equi-

libria; freedom is rooted in the emergent and creative character of life and mind; individuality is found as well in the biological perseverance of organization in continuous change of the components as in the ego; and man finds his place in the universe as the most subtle expression of protoplasmic activity.

Much could be said about the author's position both from the viewpoint of science, where it seems doubtful in what way physio-psychological monism is helpful in the interpretation of phenomena, and from the philosophical standpoint, where the problems of human mind are hardly touched by the simple statement of evolution. But the book makes excellent reading, and its value is in emphasizing two fundamentals often overlooked: first, the central problem of organization which is not solved by accumulating an ever-increasing number of data on biochemical reactions, enzymes, hormones, and the like; second, that it is, in the last resort, not material things, economic and social factors, but great ideas that are decisive for human destiny.

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## Scientific Book Register

**Geography of Russia.** N. T. Mirov. New York: Wiley; London: Chapman & Hall, 1951. 362 pp. \$6.50.

**Geography of the USSR: A Regional Survey.** Theodore Shabad. New York: Columbia Univ. Press, 1951. 584 pp. \$8.50.

**Propagation of Short Radio Waves.** M.I.T. Radiation Laboratory Series, Vol. 13. Donald E. Kerr, Ed. New York-London: McGraw-Hill, 1951. 728 pp. \$10.00.

**Plant Growth Substances.** Folke Skoog, Ed. Madison, Wis.: Univ. Wisconsin Press, 1951. 476 pp. \$6.00.

**The Affairs of a Tribe: A Study in Tribal Dynamics.** Dharendra Nath Majumdar. Lucknow, India: Universal Publishers, 1950. Published for the Ethnographic and Folk Culture Society, U. P. 367 pp. Rs. 23/8.

**Stratigraphy and Sedimentation.** W. C. Krumbein and L. L. Sloss. San Francisco, Calif.: Freeman, 1951. 497 pp. \$5.00.

**An Introduction to the Anatomy of Seed Plants.** Ernest L. Stover. Boston, Mass.: Heath, 1951. 274 pp. \$4.00.

**Semi-Conductors.** D. A. Wright. London: Methuen; New York: Wiley, 1950. 130 pp. \$1.75.

**Health and Disease in the Tropics.** Charles Wilcocks. New York: Oxford Univ. Press, 1950. 200 pp. \$3.25.

**Cosmic Rays.** Louis Leprince-Ringuet; trans. by Fay Ajzenberg. New York: Prentice-Hall, 1950. 290 pp. \$5.00.

**Families of Dicotyledons.** Alfred Gundersen. Waltham, Mass.: Chronica Botanica; New York: Stechert-Hafner, 1950. 237 pp. \$4.50.

**The Hebrew Impact on Western Civilization.** Dagobert D. Runes, Ed. New York: Philosophical Library, 1951. 922 pp. \$10.00.

**Elementary Theory of Equations.** Samuel Borofsky. New York: Macmillan, 1950. 302 pp. \$4.25.

**The Piperaceae of Northern South America**, Vols. I and II. William Trelease and Truman G. Yuncker, Urbana: Univ. Illinois Press, 1950. 838 pp., 674 plates. \$10.00.

**Our Desert Neighbors.** Edmund C. Jaeger. Stanford, Calif.: Stanford Univ. Press, 1950. 239 pp. \$5.00.

**The Fifth General Assembly of the International Council of Scientific Unions: Reports of Proceedings.** F. J. M. Stratton, Ed. Cambridge, Eng.: University Press, 1950. 249 pp. 7s. 6d.

**Human Biology.** 2nd ed. George Alfred Baitsell. New York: McGraw-Hill, 1950. 730 pp. \$6.00.

**Sites of the Reserve Phase, Pine Lawn Valley, Western New Mexico.** Fieldiana: Anthropology, Vol. 38, No. 3. Paul S. Martin and John B. Rinaldo. Chicago: Chicago Natural History Museum, 1950. 577 pp. \$3.00.

**Studies in Leadership: Leadership and Democratic Action.** Alvin W. Gouldner, Ed. New York: Harper, 1950. 736 pp. \$5.00.

**Soybeans and Soybean Products**, Vol. I. Klare S. Markley, Ed. New York: Interscience, 1950. 540 pp. \$11.00.

**Operational Calculus: Based on the Two-Sided Laplace Integral.** B. Van der Pol and H. Bremmer. New York: Cambridge Univ. Press, 1950. 415 pp. \$10.00.

**Aerodynamics of Supersonic Flight: An Introduction.** Alan Pope. New York: Pitman Publ., 1950. 184 pp. \$4.00.

**Advertising Psychology and Research: An Introductory Book.** Darrell Blaine Lucas and Stuart Henderson Britt. New York: McGraw-Hill, 1950. 765 pp. \$6.50.

**Heterocyclic Compounds: Polycyclic Five- and Six-Membered Compounds Containing One O or S Atom**, Vol. 2. New York: Wiley; London: Chapman & Hall, 1951. 571 pp. \$15.00.