division, cell growth, differentiation of cells, and embryonic induction.

It seems unavoidable that in covering such a variety of rapidly expanding disciplines, the treatment should be uneven and often out of date. The coverage of the literature is often spotty, especially since 1950. The recent work on cell structure with the electron microscope is largely neglected and, as a result, the discussion of the "ground substance" of the cytoplasm is especially weak and based mainly on the speculations in the German literature before 1950. Sometimes different chapters come to contradictory conclusions: chromosome reproduction occurs in prophase on one page, but all the evidence for synthesis during interphase is presented in a later chapter. The expert in each of the fields covered will no doubt be annoyed by such discrepancies, by the omission of significant work, by the emphasis in some chapters on ancient speculations, and perhaps by the frequent misspelling of names. It is hoped that in a future edition the various chapters will be revised by experts in the respective areas.

Yet, despite these shortcomings, the book is a rich source of information, and it is unique in scope and conception. It deserves the attention of anyone who is interested in the activities of cells and the modern approaches to their investigation.

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Ergebnisse der Medizinischen Grundlagenforschung. K. Fr. Bauer. Thieme, Stuttgart, Germany, 1956 (order from Intercontinental Medical Book Corp., New York 16). 855 pp. Illus. $30.75.

As the title indicates, this book is largely concerned with giving an account of the present state of the basic sciences that underlie medicine. The several chapters are "Structure of bacterial surfaces," by J. Tomcsik; "The present state of fundamental research in the field of tuberculosis from a dermatological viewpoint," by C. F. Funk; "The mitochondria," by G. Glimstedt and S. Lagerstedt; "The fine structure of nucleus and cytoplasm in relation to general cell functions," by F. E. Lehman; "Metabolites and antimetabolites," by J. C. Somogyi; "Kinetic and thermodynamic enzyme reactions in living cells and tissues," by H. Holzer; "Results of vitamin research from 1950 to 1954," by W. Stepp; "Fundamental processes of muscular contraction," by A. Fleckenstein; "The essential amino acids," by J. Kapfhammer, R. Bauer, and V. Kapfhammer; "Tissue and functional therapy," by S. Funaoka; "The mechanism of parenteral tissue and stimulus therapy," by K. O. Vorlaender; "The present state of research in allergies," by F. Sheiffarth; "Biophysics of radiation," by F. Wachsmann; "Hypothermy," by H. Laborit; "Recent results in neurohistology," by E. Landau; "The development of the human cerebral cortex," by G. von Bonin; "The external and internal functional relationship of the hypophyseal organs," by E. Collin; and "Embryology in relation to medical research," by G. Töndury.

There are both author and subject indexes.

International Review of Cytology. vol. IV. G. H. Bourne and J. F. Danielli, Eds. Academic Press, New York, 1955. xii + 419 pp. Illus. $9.

The fourth volume of these reviews includes 12 articles assembled in accordance with the stated policy of the editors to survey the expanding field of cellular biology over a period of years. Selected topics range from a consideration of nucleic acids as ubiquitous cell components to examination of the properties of highly specialized cell types.

"The histochemistry of nucleic acids" is reviewed by N. B. Kurnick in a comprehensive manner. Emphasis is placed on the rigid requirements essential to critical analysis of these materials *in situ* by photometric, enzymatic, and staining procedures. Some of the same problems are examined by R. Vendrely in the "Histochemistry of bacteria," although constituents of bacterial cells other than nucleic acids are also considered. The short chapter by A. Marshak on "Bacterial cytology" sounds the precautionary note that students of the nuclear apparatus should rely on direct analysis and avoid the tendency "to seek in bacteria the morphological counterparts of intracellular structures seen in higher forms."

L. E. Wagge discusses in considerable detail the structure and function of "Amoebocytes," primarily as they occur in the Mollusca, but with reference to wandering cells in other phyla. This review, and the parallel study of Harald Moe on the mucus-secreting "goblet cells, especially of the intestine of some mammalian species," afford insight into the origin and structural modifications of cells concerned with transport and secretion.

Another outstanding review is D. P. Hackett's "Recent studies on plant mitochondria," in which morphological, biochemical, and physiological studies are evaluated, but which is devoid of illustrative material that could have enhanced its usefulness. R. Mühlethaler's consideration of the "Structure of chloroplasts" includes many of the more recent findings with respect to the ultrafine structure afforded by electron microscopy. M. Wolman surveys "Problems of fixation in cytology, histology, and histochemistry," presenting a treatment of general principles and problems in which the choice of a fixing agent to meet individual requirements is stressed, although specific formulas are not provided.

A review by W. S. Vincent of the "Structure and chemistry of nucleoli" includes results that he obtained in the study of nucleoli isolated from starfish oocytes; this article emphasizes the uncertain state of current knowledge despite the considerable progress that has been made in recent years toward an understanding of nucleolar structure and function. Localization of "Cholinesterases at neuromuscular junctions" is discussed by R. Couteaux and illustrated with photographs and diagrams. E. J. Conway contributes the second part of a discussion that was initiated in volume II of this series entitled "Evidence for a redox pump in the active transport of cations." The introductory chapter by M. J. Kopac on "Cytochemical micrurgy" lists some of the technical developments that facilitate quantitative study of small parts of cells.

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Yearbook of Anthropology, 1955. vol. I. William L. Thomas, Jr., Ed. Wenner-Gren Foundation for Anthropological Research, New York, 1955. xv + 836 pp.

The increasing importance of anthropology and the growing volume of its literature were appropriately marked in 1953 by the publication of an encyclopedic appraisal, *Anthropolgy Today* (edited by A. L. Kroeber *et al.*). The present *Yearbook of Anthropology,* benefiting from the experience of its predecessor, inaugurates a new series of annual publications and marks anthropology's full coming of age.

Although it focuses on the significant achievements and trends in the field of anthropology during 1952–54, the first volume of the *Yearbook* is truly a synthesis of heroic proportions. Excluding the editor and his staff, more than 40 contributors are involved; these include, to mention only a few, Birket-Smith, Eiseley, Firth, Haury, Koppers, Kroeber, Schultz, and Tax.

This book is divided into six sections. Part one is devoted to a "Guest editorial" by Julian Huxley on evolution.