

genetics. Dr. Whittinghill's book is a good step toward this end. It does not surpass in clarity and pertinency the outstanding text of Stern's (*Principles of Human Genetics*, 2nd edition, 1960) but being five years more recent it includes important new developments in the field lacking in the older book. For instance, cytogenetics, including Lyon's theory, was given the attention it deserves nowadays in a basic text.

Parts I and II of the book cover in fourteen chapters the most traditional aspects of human genetics: simple segregation and segregation and its cytological counterpart, consanguinity, multiple alleles, linkage, quantitative inheritance, twins, sex determination, Hardy-Weinberg equilibrium, and simple statistical tests. Part III, with six chapters, is dedicated to phenogenetics, prenatal interactions and diseases associated with marker alleles. Part IV (eight chapters) deals with mutation and evolution.

It is a pity that the inheritance of intelligence is not discussed in this otherwise well balanced text.

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Cellular and Developmental Biology

THE BIOLOGY OF CELLS, Herbert Stern and David L. Nanney, \$7.95, 548 pp., John Wiley and Sons, New York, 1965.

This is the first of a trilogy to encompass the field of biology with subsequent volumes on the organism and population. The authors of all are distinguished biologists with research careers as well as teaching responsibilities. The authors give Prof. David Goddard the credit for the organization of the volumes. But this first is one that was startling to this reviewer. It is evidently written to be taught. Indeed, there are exercises within chapters but a strange absence of all other teaching aids, e.g., bibliographies, etc.

The disconcerting point in this volume is the tremendous background it assumes for the reader. This includes a healthy dose of mathematics, chemistry, and physics. No apologies are offered for physics equations, chemical formulas, or references to fundamental biological terms. If this is to be one of the texts for the elementary collegiate course, then it can be said that it will be a superlative biology course.

One cannot argue with the conception of this book, or the style of writing, or the illustrations, but the readership must be limited to absolutely top-flight collegiate students, and I suspect the unusually well-trained high school biology teacher.

But all of this probably is a good indication of things to come. High school teachers should use this for their own enlightenment. College teachers should look at this as a standard to which to repair, perhaps not this year but probably sooner than we think.

There are some references to a pedagogical lag, but I believe that what the authors are really referring to is the lag of content in the collegiate level. There is nothing here which improves our fundamental pedagogical problems; viz., the right level for the students, a new approach to the students' interests, and methodology.

CELL BIOLOGY, A CURRENT SUMMARY, John Paul, 197 pp., \$4.75, Stanford University Press, California, 1966.

This book is a concise summary of the recent developments in cell biology. The author, John Paul, a Reader in Biology at the University of Glasgow, covers a tremendous amount of information on the nature of the cell, the molecular basis of cell structure, the physicochemical basis of cell activity, and the origin and evolution of cells. The book is well-organized, clearly presented, and reads easily. Much of the material is illustrated with helpful diagrams, tables, and 12 plates of photographs and electron-micrographs. By necessity, some of the condensed information is treated too briefly and some important omissions were made. Nevertheless, the book serves as a good summary and introduction to 456 references to articles in cell biology representing mainly the last two decades up to 1962-63.

Although the book is written for readers already somewhat familiar with the fundamentals of modern biology and biochemistry, the presentation can be useful to beginning students seriously interested in obtaining a clear picture of the exciting problems of current biology.

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THE LIFE OF THE CELL, J. A. V. Butler, 167 pp., \$4.50, Basic Books, Inc., New York, 1965.

The English have an uncommon grasp of the significance of the written word, and the ability to write it. This book is a splendid illustration of this trait. In a concise, yet meaningful manner, the author describes the state of knowledge of the cell, moving easily through physiology, morphology, reproduction, antibiosis, cancer, sense organs, brain and a speculation about life elsewhere than on earth. Fully illustrated, there is even one page devoted to an electron photomicrograph which one can see in 3-D.