

THE MATTER OF MENDELIAN HEREDITY, K. R. Lewis and B. John, 269, pp., Little, Brown and Company, Boston, 1964.

This is an excellent modern text with a number of innovations in presentation which should prove appealing to both teacher and student. Chapter headings and divisions are cleverly titled and the diagrams and other illustrations are clear and pertinent.

Features which should make the book particularly useful to the beginning student are a chapter on statistics which encapsulates the less complex methods useful in genetics studies and a long chapter on cytological techniques.

Throughout the text there is emphasis on original studies and their analysis. Mendel's work is presented lucidly and the interpretations of his methods should add not only to the student's general knowledge of genetics but also to his understanding of the "scientific method." Chapter 8, "Myth, Mania and Method" contains an interesting comparison of the research methods of Mendel and Darwin.

Modern studies in the genetics of microorganisms are not presented in detail, but Chapter 7 summarizes the chemical basis and the role of DNA-RNA in heredity.

Frank N. Young  
*Department of Zoology  
Indiana University*

A HISTORY OF GENETICS, A. H. Sturtevant, 165 pp., \$15.50, Harper and Row, New York, 1965.

This book is not only a presentation of the important events in the history of genetics, it is a synthesis of the development of thoughts and ideas which helped form the tremendous body of integrated knowledge which led to the state of modern genetics. The author, Alfred H. Sturtevant, is Thomas Hunt Morgan Professor of Biology Emeritus at the California Institute of Technology. Professor Sturtevant has a fine sense of intellectual history, and has participated in the "classical period of chromosomal genetics." He presents much of the material of that time from personal recollections and experiences involving the school of *Drosophila* genetics. The period of history covered begins with Aristotle. Such topics as Mendel's work, its rediscovery and impact, genes and chromosomes, linkage, mutations, cytological maps and crossing over, sex determination, position effect, population genetics and evolution, maternal effects, and genetics of man are presented in terms of how they contributed to the growing body of unified knowledge up to the 1940's. Contributions later to that period, such as biochemical genetics, are

briefly discussed, while the more recent work on DNA and the RNA code is only mentioned. Some 175 references are included.

Although the book is intended primarily for persons already familiar with the principles of inheritance, individuals interested in the history of science and ideas would find this book informative. Diagrams of intellectual pedigrees are added to show the interaction between contemporary investigators and of students and teachers, illustrating the continuity of personal influence.

One can offer one suggestion that might have made the book even more interesting, and that is the inclusion of photographs of some of the geneticists who have contributed to its history.

Edith K. MacRae  
*University of Illinois Medical Center  
Chicago, Illinois*

TEACHING GENETICS, Darlington and Gradshaw, Eds., 121 pp., \$7.50, Philosophical Library, New York, 1965.

This book is the result of a meeting of twenty professors who decided to compare notes on the teachings of genetics. Its fifteen short papers and six brief notes contain mainly suggestions for laboratory work ranging from transduction in bacteria to blood grouping in man. All the papers are straight to the point and lack pedagogic verbiage.

The authors discuss mostly the materials with which they became familiar during their research. This gives the book a commendable freshness. However, the two general articles which are included fall short of giving to the teacher any comprehensible syllabus for a semester or a year course and no selection of materials to fit a course is attempted.

Most experiments are presented in a simple and clear manner but the technique recommended for human chromosome preparations is unduly complicated. Much simpler routines work well even for research purposes.

Among the references listed an important one is lacking: "The teaching of genetics in the undergraduate medical curriculum and in post-graduate training," Technical Report Series 238, W.H.O., Geneva, 1962.

O. Frota-Pessoa  
*Department of Biology  
University of Sao Paulo, Brazil*

HUMAN GENETICS AND ITS FOUNDATIONS, Whittinghill, 431 pp., \$8.95, Reinhold Publishing Company, New York, 1965.

A variety of textbooks using different approaches are highly desirable on such a heterogeneous and fast-expanding subject as human

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.

O. Frota-Pessoa  
*Department of Biology*  
*University of São Paulo*  
*S. P., Brazil*

#### *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.

Edith K. MacRae  
*University of Illinois Medical Center*  
*Chicago, Illinois*

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.