

by Moore were published before 1900. Only one (that by Mendel) of the 28 papers in Peters was not first published in this century. Thus the two collections are complementary and, taken together, could give the discerning undergraduate considerable insight into the historical and conceptual development of the study of inheritance.

REFERENCE

PETERS, J. A. 1959. *Classic Papers in Genetics*. Prentice-Hall, Englewood Cliffs, N.J.

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THE SCIENCE OF GENETICS: AN INTRODUCTION TO HEREDITY (2nd Edition).
George W. Burns. Collier-Macmillan Ltd., London, 1971. Pp. vii+470. Published
May 1972. £4.85.

As little as ten years ago it was permissible to term oneself "a geneticist"; today such a simple label is not sufficient and must be qualified by a prefix; cytogeneticist, microbial geneticist, etc. This specialisation, which derives from research interests, extends into the instruction of students and we train them to fit neatly into these various categories. I recommend this book to those who remember with regret when it was enough to be a geneticist and who would like to awake in their students some appreciation of the range and potential of the subject.

It is essentially an elementary text, suitable only for first and second year students. However, with this limitation, it is extremely good, covers a lot of ground and makes the subject come alive. The presentation follows what may be termed "the traditional sequence", starting with mono and dihybrid ratios, probability and cytology, taking the student up to population genetics in the first thirteen chapters. The majority of contemporary texts assume that this approach is old-fashioned and dull; they accordingly follow the "in the beginning was DNA" sequence. However, allele ratios, linkage analysis and the interpretation of cytological preparations are, in my opinion, more basic elements of the fabric of genetics than, for example, the *in vivo* synthesis of DNA. For this reason I prefer the traditional sequence and its emphasis on genetic analysis. In any event this book is far from dull, though leaf characters in *Coleus* make a welcome change from round versus wrinkled peas. Dr Burns holds the readers interest by using examples which are familiar (*e.g. Coleus*) or relevant (*e.g. human diseases*).

The chapters on probability, statistical methods and population genetics are well written and take the reader painlessly through the required mathematics. As is usual in American textbooks, there are numerous problems at the end of each chapter for the student to monitor his understanding of the material.

The next five chapters cover the molecular and biochemical aspects of genetics. The treatment appears superficial at first reading but on reflection is quite adequate for first year work. Perhaps unusually for a book of this kind, the unanswered problems in this and other areas are clearly stated. Thus, in discussing linkage and recombination the author sets out the

requirements of the recombination mechanism and does not confuse the issue with the discussion of esoteric models. However, I do think that he might have mentioned that the *lac* operon is not the only genetic regulatory system.

The text continues with a brief chapter on cytoplasmic inheritance. This is not up to the standard of the rest of the book—there is too much emphasis on the nature of the implicated organelles and not enough on the genetic data implying that these organelles have genetic continuity.

The concluding chapter summarises the outstanding problems of contemporary genetics and goes on to discuss the ways in which man may control his own evolution. Here I think that the author confuses the issues of the economic and environmental consequences of excessive population growth and genetic deterioration of the race due to the salvage, by improved medicine, of unfit or deleterious genotypes. However, it is better to mention these issues than to suppress them.

There are six appendices; two of them, selected life cycles and amino-acid structures, would have been better placed in appropriate parts of the text. There are adequate references, both to original papers and books, though it should be noted that every few of the former are later than 1969.

In summary, this book is a good student text for first-year work. The style, content and the examples chosen will leave the student in no doubt that the study of genetics is both useful and relevant.

At £4.85 for the hardback edition the book is rather expensive—but in paperback it is a good buy.

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REPRODUCTION IN MAMMALS. Vol. I—GERM CELLS AND FERTILISATION (136 pp.). Vol. II—EMBRYONIC AND FETAL DEVELOPMENT (158 pp.). Vol. III—HORMONES IN REPRODUCTION (148 pp.). Ed. C. R. Austin and R. V. Short. Cambridge University Press, 1972. Price (per volume): Cloth £3.40, Paper £1.30.

These three volumes, taken together, form an excellent and highly readable introduction to mammalian reproduction. All the books are liberally illustrated with clear diagrams and each contains five articles, by different authors, on related topics. Volume I covers the origin of the primordial germ cells, gametogenesis and fertilisation. *Embryonic and Fetal development* (Vol. II) deals with embryogenesis and implantation, sex determination and differentiation, abnormal development, and parturition. The third volume describes the hormones, including the prostaglandins, which control the reproductive process, and their roles in gametogenesis, pregnancy and lactation. The books, which are aimed at both pure and applied biologists, combine information about human reproduction with examples and data from comparative studies on a variety of other wild and domesticated species. This has been done in such a way as to enlighten not only physicians and vertebrate zoologists but also biologists with more general interests. Throughout the series the social, ecological and economic relevance of studying mammalian reproduction is emphasised.

The series is to be completed by the publication of two more volumes, one on patterns of reproduction and the other on the artificial regulation of