

REVIEWS

THE MATTER OF MENDELIAN HEREDITY. K. R. Lewis and B. John. Second Edition, Longman, London. Pp. 273+56 text figures, 15 plate figs. £2.95.

The second edition of *The Matter of Mendelian Heredity* is modestly priced and excellent value for money. As a textbook of genetics, with the emphasis mainly on higher organisms, it has two particularly attractive assets. First, the principles are enunciated with enviable clarity and, second, the genetics and cytology are presented in the broader context of genetic systems, related that is to the reproductive systems of different organisms and to their capacity for generating and conserving heritable variation within populations. For this reason there is a sense of unity about the book so that the reader quickly appreciates the manifold consequences that may follow from change in one of the many components of the genetic system; how, for example, a switch from outbreeding to inbreeding affects not only the distribution of genes within and between individuals but, as well, creates change in the development of the phenotype generally, even in the pattern of chromosome behaviour during cell division.

The first chapter deals with Mendelism, linkage and the chromosome basis for segregation and recombination. The second chapter, a digression in one sense, presents elementary statistical methods commonly used in genetic analyses. It is very well done. We move on to gene action and interaction, to reproductive and genetic systems and, in chapter five, the nature and sources of heritable variation, selection and divergence in evolution. Chapter six is a guide to the preparation and interpretation of cytological specimens, accompanied by extremely helpful photographs and diagrams. There is a new chapter on the structure and replication of nucleic acids and the nature of the genetic code, fields inordinately well cultivated since the book was first published in 1964.

At the beginning of the book is a comprehensive and useful summary of contents. It would, I think, have been helpful to the reader if page headings within chapters, some of which are quite long, gave the same clear indication of the subject matter under discussion. This small point aside it is difficult to fault the book, in terms either of presentation or scope. For teachers and students of genetics alike, this is a first rate textbook.

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IONIZING RADIATION: LEVELS AND EFFECTS. Two volumes: I. Levels (197 pp., numerous graphs and tables); II. Effects (250 pp., numerous graphs and tables). United Nations Publications E. 72. IX. 17/18. \$U.S.12.50 for the two volumes.

These volumes comprise the sixth report of the U.N. Scientific Committee on the effects of atomic radiation, to the General Assembly. The report proper consists of four short summary chapters (I, Sources and doses of radiation; II, Genetic effects of radiation; III, Effects of radiation on the immune response; IV, Radiation carcinogenesis) and appendices listing scientists involved in drawing up the reports, and a list of reports received