

## BOOK REVIEW

**The Biological Role of the Nucleic Acids:** D. COHEN. Elsevier Publishing Co., New York, 1966. 104 pp. \$3.95.

THIS is a paperback concerned with outlining the nucleic acid-protein biosynthesis story for the non-specialist. The introduction (Chap. 1) usefully puts nucleic acid biochemistry into historical perspective and the remaining eight chapters present a well-balanced examination of this field. Chapters 2 and 3 deal with the functions and chemistry of nucleic acids; Chapters 4 and 5 are concerned with DNA replication and information transfer; the remaining four chapters deal with "Protein Structures", "The Functions and Control of Enzymes", "Viral and Bacterial Genetics", and "Mutation, Cancer and Chemotherapy".

The book is written in a readable style but is marred by a number of errors and ambiguities, e.g. the description of Avery's bacterial transformation experiment uses the terms "rough" and "smooth" as though they apply to the microscopic appearance of individual bacteria rather than colonies, and p. 75 misrepresents the terms "phenotype" and "genotype". On p. 71 "a sexual reproduction cycle" has become "asexual..." and p. 72 produces the ambiguity "... daughter cells each contain a pair of chromosomes (two chromatids)...". According to p. 54, Fig. 6.2 "lists all the twenty normally occurring amino acids". Indiscriminate use of the word "replication" is misleading and in several places "multiplication" would be more accurate, e.g. "cell replication" (p. 67) and "it can be shown that DNA is replicated during interphase" (p. 16). The bibliography concludes with the provocation that research "is reported in a variety of journals, the most important of which are *Nature*, the *Journal of Molecular Biology*, and *Proceedings of the National Academy of Sciences*".

Although most of the figures are well conceived, some are not mentioned in the text and a few are of questionable value, e.g. the "schematic representation of a cell" (Fig. 2.1) consists solely of a nucleus, chromosomes, endoplasmic reticulum and ribosomes. It is regrettable that the captions to Plates 1 and 5 have become transposed and that the reader is referred on p. 88 to a feature of a chromosome to be seen in Plate 6 which later turns out to be an electron micrograph of a bacteriophage. After the well-presented simple treatment of the chemistry of the nucleic acids (Chap. 3) for the non-specialist, unnecessarily advanced examples of biosynthesis and "feedback control" appear to have been selected (Figs. 7.2 and 7.4) and the definitions for abbreviations used in these figures, such as NAD, PRPP and DHF, are given by formula not name.

In general the book presents a concise and balanced account of nucleic acids in a readable style but the errors and ambiguities must inevitably detract from its value to the non-specialist.

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