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BOOK REVIEW

STEWART, P. R., LETHAM, D. S. (ed.): **The Ribonucleic Acids.** — Springer-Verlag, Berlin, Heidelberg, New York 1973. 268 pp. DM 45,40.

Thanks to the staff members of the Australian National University in Canberra this comprehensive outline of the biochemistry and biological roles of RNA, which grow out of postgraduate course of lectures of twelve contributors, appeared as a well edited book. Obviously a book bearing this title and having only 268 pages cannot cover all aspects of the subject. On the other hand it is written as a continuous text which gives satisfactory information not only to postgraduate students. The introductory chapter "RNA in Retrospect" presents a condensed history of research of molecular bases of gene expression starting from Levene's work on "pentose nucleic acid" components. The following ten chapters are dealing with individual classes of RNA: nuclear RNA (H. NAORA), messenger RNA (A. J. HOWELS), transfer RNA (D. S. LETHAM) and ribosomal RNA (L. DALGARNO and J. SHINE) and with basic processes of gene expression: transcription (G. M. POLYA) and translation of messenger (G. D. CLARK-WALKER). The latter chapter is supplemented with an appendix presenting inhibitors of translation (P. R. STEWART). Special attention is paid to mitochondrial RNA (P. R. STEWART), chloroplast RNA (P. R. WHITFIELD) and viral RNA (A. J. GIBBS and J. J. SKEHEL). The book contains a special chapter presenting a short description of principles and procedures of isolation, purification and fractionation of RNA (R. POULSON).

Unlike most previous books dealing with similar subjects this one carefully distinguishes facts found for low organisms, animals and plants. Plant biologists especially will appreciate this book because of a considerable space which is devoted to special problems of RNA functions in plant cells (relation of growth regulating cytokinins to tRNA, organelle-specific RNAs, etc.). This advantage is underlined by the fact that most of the authors are familiar with plant material. The book would become even more systematic by incorporation of methodical parts of individual chapters (purification of RNA polymerases, preparation of nuclear RNA, extraction of leaf and chloroplast RNAs, etc.) into the last chapter. This chapter, despite the very condensed form of style, cannot give a comprehensive information about methods of RNA research because of a very limited space. One would also appreciate more details about possible mechanisms of control of translation. Our present knowledge in this field is limited but, on the other hand, concepts of regulation of protein synthesis on translational level are promising and deserve more attention than a reference to literature. These are, however, minor criticisms of a book which appeared in right time and which can be recommended to both, post graduate students and biologists work of which has relation to RNA function in living organisms.

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