

activity and cellular control of molecular activity is based on the semantic ambiguity of the term "control", hence fades in the light of true understanding of the phenomena involved".

H. Swift discusses Dipteran salivary glands concerning problems such as how DNA fits into the chromosome and how nucleolar RNA originates. The evidence "points to nucleolar and chromosomal fractions as substantially independent". In a rather short article which deals mainly with techniques, T. Caspersson remarks, "The conception—nucleolus—is still complex and relatively undefined; it includes structures of different compositions within the nucleus of the cell", and touches on the possibility that "the occurrence of disturbances in the heterochromatin system is one of the factors required for the malignant type of growth".

The article on metabolic activity and cell structure (P. Siekevitz) serves to warn naive biochemists that enzymes in solution may behave differently from enzymes in the cell, although his examples based on pH optima are of ambiguous interpretation. The articles by M. Demerec (gene structure), D. S. Hogness (phage DNA), R. L. Sinsheimer (DNA and RNA structure), and A. Kornberg (DNA biosynthesis) deserve high praise, particularly since they cater for non-specialists. There is no article on RNA synthesis, but aspects of protein synthesis are covered by V. M. Ingram (control of specificity, exemplified by haemoglobins), P. C. Zamecnik (soluble RNA), and A. B. Pardee (genetic and metabolic control). Metabolic control mechanisms are crisply surveyed by H. A. Krebs; this chapter hardly gives a coherent story, but the fault is perhaps with the subject rather than the presentation. Early in his chapter on steroid hormones and metabolism, C. A. Villee gives a good survey of possible mechanisms, and suggests that hormones may bring about growth responses by affecting energy supply rather than specific biosynthetic reactions—a concept so simple that it seems too good to be true. The rest of his chapter rambles somewhat and would have benefited from sub-headings.

Two good points are the inclusion of titles in the references, and the presence of an index. In summary, some but not all of the material in the book would be excellent for students unfamiliar with the subject. The faults lie partly with the authors; for example, "cistron" is not defined, although terms such as "allele" are explained. However the deficiencies of the book are partly inevitable because of the fragmentary state of knowledge at the present day and more especially at the time when the lectures were given—at which time, for example, the concept of "messenger RNA" had not crystallized.

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ERRATUM

In *Biochem. Pharmacol.* **12**, 269 (1963):

D. J DENNIS, H. BLASCHKO and A. D. WELCH *J. Pharmacol. exp. Ther.* **117**, 208 (1956), the first name should be D. J. DEMIS.