tion concerning the composition and function of these structures. The relatively new science of "molecular biology" has thus come into existence. This excellent paperback gives a brief but accurate survey of some of the more significant concepts of the molecular biology of the cell. The author emphasizes the role of biochemistry in the elucidation of the structure and function of animal cell components in his discussions of organelles such as mitochondria, ribosomes and the endoplasmic reticulum, the nucleus, and lyosomes.

An outstanding feature of the book is the list of references included with each topic, thus providing a valuable review of the literature from recently published periodicals. Diagrams, charts, photographs, and electron micrographs all contribute in making an extremely well illustrated book. The book is highly recommended as a reference for graduate and undergraduate students in biochemistry, cytology, or molecular biology, and as an introductory text in animal cytology.

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INTRODUCTION TO MOLECULAR BIOLOGICAL TECHNIQUES, L. Jack Bradshaw, 171 pp., $4.25, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1966.

This paperback book was written, according to the author, for undergraduate biology majors. The first seven chapters of the book place emphasis on methods, dealing in turn with experimental calculations, microscopy, spectroscopy, electrophoresis, diffusion, chromatography, and radioisotopes. The chapter on calculations includes a small section on simple statistical manipulations of data. The chapter on spectroscopy has an exceptionally good theoretical discussion of light (energetics, electron excitation, absorption). Chapters on chromatography and radioisotopes might have been improved by devoting more space, in similar fashion, to theoretical aspects. The next three chapters describe methods for the isolation, characterization and quantification of carbohydrates, proteins, and nucleic acids, employing some of the procedures outlined in earlier chapters. The eleventh chapter is concerned with studies of respiration. Appendix One contains formulas for solutions used in the various experiments and Appendix Two provides a list and commentary on items of major equipment required for the experiments. The book is well written. The instructions contain an adequate amount of detail, are easy to follow and are virtually "goof-proof." A few

errors, mostly typographical, are present but no major ones appear. Some of my medical students in a biochemistry laboratory "group project" found this book quite useful. Four dollars and twenty-five cents is a rather stiff price for a 171 page paperback laboratory manual, even a very good one, and this cost could be reduced, I would think, by the omission of the forty-eight pages of blank graph paper provided in the back of the book.

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Growth and Development

DEVELOPMENTAL BIOLOGY, R. A. Flickinger, Ed., 259 pp., $4.25, Wm. C. Brown Publishers, Dubuque, Iowa, 1966.

Sixteen original articles from the field of developmental biology are reprinted in this book as representative studies which presently are influencing the course and thinking of this field. These readings were chosen to afford an insight into the ways the problems of differentiation are being approached. It is hoped that those who read these articles will be inspired to devise new experiments which will lead to a better understanding of cellular differentiation.

The chief problem for the editor was to decide which articles reflected the advancing state of knowledge in the field. The editor's selection is quite representative of the current directions and methods being used to understand the fascinating problems of differentiation. I am certain, however, that every developmental biologist would have chosen a few different papers reflecting his bias as I detect in this compilation. The articles are mainly original reports except for a couple review articles which leads to a lack of continuity and a certain unevenness in the book. This might have been overcome if the editor had included a few comments introducing a group of papers that deal with a similar problem. The editor did this to some extent in the preface, but some readers may not begin by reading these comments. One disturbing element is that the proof reading was not adequate so that numerous typographical errors are found throughout the book.

These readings should be useful to students entering the field of developmental biology, and I am certain this book will help them in reading original literature and hopefully direct them into further reading.

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