only do these often present little conceptual advantage, but the book becomes in places as cryptic as Chemical Abstracts but with the added difficulty that many of the abbreviations are completely parochial. From the purely mechanical side, a glossary would be an immense improvement, as would an index.

Burnet points out, as have many scientific writers, that we may need a new “language” or new unifying concepts to explain the apparently unmanageable complexities of biology. Yet his qualitative biological approach leads repeatedly in the book to exactly those deceptively simple models which are in actuality only slight restatements of obvious generalities. The problems of information transfer and self-duplication bogged down on such concepts for some five decades prior to the Watson-Crick model for DNA.

In summary, Burnet’s book is an excellent presentation of important facts and a most commendable attempt to correlate several fields of biology which obviously must be concerned with the same underlying properties and reactions. Unfortunately the author’s prejudices occasionally strain the facts and conclusions. The book is very interesting reading and positively culminates with ideas of unquestioned value. Which are valid and heuristically useful will remain to be seen.

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CHEMISTRY OF PLANTS
Erston V. Miller, Professor of Botany, University of Pittsburgh. Reinhold Publishing Corp., New York, 1957. vii + 174 pp. 13 tables. 16 × 23.5 cm. $4.75.

Professor Miller’s book on the “Chemistry of Plants” will be interesting to those who are looking for information on the occurrence of organic compounds in plants. He has collected in this small volume information on the occurrence of a large number of organic compounds in a great variety of plants. From the point of view of chemistry, however, the book is a disappointment. The book reflects the author’s attitude stated in the preface, that the “writer of a text book is a mere compiler.” A perusal of it reveals that here is primarily a compilation of a large number of chemicals which occur in nature. The points at which interesting discussions of plant chemistry could be taken up are few points. For example, a whole page is utilized for the formula chlorophyll, but the discussion of photosynthesis utilizes only three times this space. The interesting work on the biosynthesis of steroids and amino acids is given the most superficial treatment. The chemistry of proteins and nitrogen compounds, for example, is covered in 13 pages.

Possibly the best chapter in the book is that on plant hormones. Even here the treatment is superficial. For example, the “chemistry” and occurrence of kinetin

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A HISTORY OF LUMINESCENCE


"LUMINISCENCE" as defined by E. Wiedemann in 1888, includes "all those phenomena of light which are not solely conditioned by the rise in temperature." It thus is the antithesis of incandescence or "hot light." The great variety of "cold light" is indicated by the terms: phosphorescence, electroluminescence, fluorescence, triboluminescence, theroluminescence, radioluminescence, piezoluminescence, crystalloluminescence, lyoluminescence, etc. The great field of bioluminescence belongs under chemiluminescence, and in view of the author's professional field it is not surprising that an entire section (140 pages) is devoted to the light given off by living organisms. Most types of luminescence were first observed centuries ago and the mysterious quality of this light naturally led to speculation regarding its origin. The literature is immense, and was issued in many languages. The author takes the reader on a detailed and well-planned tour through this mass of books and papers. In many cases, extracts are given so that the flavor of the contemporary language is preserved. The relation of luminescence to fire, heat, and ordinary light inevitably involved the theory of these phenomena in the discussions whose interest is thus broadened to the general reader. Corollary benefits are the discussions of learned societies, museums, outstanding texts, biographical data, etc. In short, this bulky volume is a source book of general scientific history. It is filled with interesting facts and important information. An extensive bibliography covering 70 pages in small type and numerous footnotes testify to the thoroughness of the search for material to be included (or rejected).

Obviously this was a labor of love and many years of scholarly research and downright hard work are represented by this ultimate distillate of the author's wide reading and careful cogitation. He exhibits here a wide and accurate acquaintance with sciences other than biology.

The cut-off date (1900) was wisely chosen. This was the period of the discovery

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