The titles of the articles are those under which information is most likely to be sought, and the articles are arranged in the following categories: Chemical Substances (such as acrolein polymers, alfin catalysts, and amines); Polymer Properties (such as abrasion resistance and adsorption); Methods and Processes (such as addition polymerization, chromatography, and extrusion); Uses (such as aerospace applications); and General Background (papers that deal with the classification, the literature, and the nomenclature of polymers). The articles in each category are arranged in alphabetical order by title, and interspersed among them are a number of cross-references, also in alphabetical order, thereby making it possible to use the encyclopedia without reference to any classification system.

The contributors are recognized authorities in the fields of their respective articles. Of the 56 contributors to this first volume, 45 are from industry, 8 from universities, and 3 from laboratories of governmental agencies. As one would expect, most of the contributors are from the U.S., but Britain and Germany are also represented.

In order to obtain a broad evaluation of the encyclopedia I asked three members of the staff of the National Bureau of Standards to read articles dealing with subjects on which they had done research. They gave a very favorable account of the encyclopedia for they found the articles thorough, well balanced, and clearly presented. They noted in particular the large number of literature references that follow each article as an indication of the value of the encyclopedia to the investigator who seeks detailed information.

In keeping with the policy of the editors, the individual articles are as self-contained as it is practical to make them; thus, the reader is not required to consult a number of references to obtain essential information. There will undoubtedly be some overlap among articles, but the advantage to the reader will outweigh any saving in space that might have been attained by extensive cross-referencing.

More of the articles in volume 1 deal with chemical substances than with topics in any other category, and the same will probably be true of succeeding volumes. The scope of these articles is illustrated by the following subdivisions under Acrylonitrile Polymers: Physical properties of acrylonitrile; Chemical properties of acrylonitrile; Manufacture of acrylonitrile; Polymerization of acrylonitrile; Properties of polymers and copolymers of acrylonitrile; Processing of Polymers; Uses; Economic aspects; Specifications; Analytical methods; Health and safety factors; and Bibliography. Articles on some other chemical substances follow the same general pattern, while still other articles include relatively large sections on raw materials and manufacturing processes. The article on alkyd resins, for example, includes a considerable amount of information about the commercial production of the resins and their use in the formulation of paints, enamels, and other finishes.

The numerous tables of properties and other critically selected data will be welcomed by the reader who seeks numerical values. It is also gratifying to note that chemical formulas, reactions, and reaction mechanisms are clearly shown in all cases where they are pertinent. Figures are used wherever they are needed to illustrate the text and clarify the presentation, but there is no proliferation of illustrations for the purpose of enhancing the sales appeal of the encyclopedia.

Quite a bit of information is given about current prices, production, and other economic aspects of the plastics industry and related industries. This information will soon be outdated, but I feel that its inclusion is useful and well advised since, in the future, readers can readily obtain data for the intervening years by using the sources cited here.

The presentation throughout the work is as clear as that of a well-written textbook and bears out the editors' statement that particular care has been used in the choice of nomenclature and terminology. Technical jargon has been avoided, and specialized terms have been defined. This in no way detracts from the encyclopedia's usefulness to specialists in the polymer field, but it does greatly enhance its value to the student and the research workers in other fields. Polymer science is now related to so many different fields of endeavor, both academic and industrial, that the encyclopedia will find wide use.

The publishers have done their part by providing an attractive volume with type that is easy to read, good paper, and a binding designed to withstand the many years of use that the encyclopedia will undoubtedly receive.

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Circadian Rhythms

The Physiology of Diurnal Rhythms. Janet E. Harker. Cambridge University Press, New York, 1964. viii + 114 pp. Illus. $3.95.

This book is useful owing to its concise presentation of some general characteristics of circadian rhythms. The suggested explanation of "frequency demultiplication" phenomena in terms of a cycle in the organism's sensitivity to resetting is noteworthy (pp. 35 and 36). Also commendable is the emphasis placed on the desirability of studying rhythms in individuals, as a supplement to population data, to avoid possible pitfalls of interpretation (pp. 46–50).

There are, in the area of my immediate familiarity, instances of inaccurate discussion of the pertinent literature. The studies on the circadian rhythm in nucleic acid metabolism (p. 59) were not performed on liver *slices* in vitro but on liver in the intact animal. Halberg and his associates did not study a circadian rhythm in phospholipid *concentration* in liver (p. 73), but rather the rhythm in uptake of radioactive phosphorus by the phospholipids.

The discussion of the possible role of the adrenal gland in the maintenance of certain circadian rhythms suggests some confusion in dealing with information on the relative importance of the cortical and medullary hormones (pp. 73 and 74). There are also other regrettable inaccuracies and inconsistencies: for example—(i) The reference given at the top of page 14 does not bear on the topic of phase-setting as discussed, nor does that in the last paragraph on page 57; (ii) The ordinate of figure 11 (p. 28) is labeled in a confusing manner—the plus and minus values should be specified as minutes; (iii) The adjective "diurnal" is used in the title and throughout the book interchangeably with "circadian," but common usage of the term "diurnal" (for 24 hours), recognized by the author as ambiguous (p. 3), does not seem sufficient reason for its retention.

The author justly regards circadian rhythms as innate characteristics of biological systems. Her book can be recommended, if not for its bibliography, for its succinct handling of some time-tested aspects of circadian systems.

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