the dicots, general chemical features of dicots (a series of generalizations that I do not find especially helpful), alkaloid-families of dicots, and the occurrences of pseudoindicans and salicylic acid; and a list of general chemotaxonomic references. The main body of the book, however, represents a disciplined survey of the families in alphabetical order. For each family there is a brief taxonomic description, a reference to the size of the family, discussion of some salient anatomical features, and, finally, consideration of the chemical characteristics. This last topic represents, of course, the bulk of the discussion. Natural groups of chemical components are discussed under separate headings. At the end of each section there is a brief résumé of key observations concerning possible taxonomic implications of the chemical data as it is presently known. The nonchemical material on each family is presented succinctly, without being overextended, and serves to complement the chemical treatment.

Perhaps the single most emphatic point that the book makes (although it is made indirectly) concerns the tremendous amount of data which remain to be obtained. For example, the family Amaranthaceae contains approximately 64 genera and 850 species. It is a betacyanin-producing family, and these compounds are probably mutually exclusive with anthocyanin pigments. Though anthocyanins are lacking, closely related flavonoid pigments occur in the family, and it would be of interest to know in detail which flavonoids are synthesized in the Amaranthaceae. Yet, as shown by Hegnauer, who summarizes our knowledge of the flavonoid chemistry of the Amaranthaceae in about one-third of a page, practically no useful information on flavonoids is presently available, despite the occurrence of a rare isoflavone-type flavonoid in *Iresine celosioides* L.

A well-known alkaloid chemist recently stated that ". . . tens of thousands of new alkaloids remain to be discovered in the vast plant kingdom" [E. Leete, *Science* **147**, 1000 (1965)]. If this is a reasonable estimate, then our present knowledge of even these most intensively investigated compounds is quite fragmentary. The question of whether or not it is possible, or perhaps feasible, to collect the necessary chemical data primarily for taxonomic purposes introduces many subjective factors, but despite all these Hegnauer has shown that even the fragmentary data have very interesting taxonomic correlations. More data may be expected to reinforce such correlations sufficiently to provide many important taxonomic insights.

The book should prove to be valuable to many biologists who wish to correlate a variety of specific observations with plant chemistry—for example, the correlations between insect feeding or breeding patterns, plant taxonomic groups, and prominent features of their secondary chemistry.

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Nucleic Acids

Die Nucleinsäuren. Eine einführende Darstellung ihrer Chemie, Biochemie, und Funktionen. Eberhard Harbers, gemeinsam mit Götz F. Domagk und Werner Müller. Thieme, Stuttgart, 1964. 315 pp. Illus. DM. 68.

This is a very well produced book, beautifully printed on good paper and adequately illustrated, though perhaps with too much reliance on graphs that are simply borrowed from the literature rather than prepared to serve the didactic purpose of an introductory textbook. I do not consider the book successful as an introduction into the chemistry, biochemistry, and functions of the nucleic acids. One could, it is true, question whether such a task can be performed, at the present time, with a reasonable hope of success. A scientific discipline can best be reviewed, especially in a book of moderate dimensions, at the beginning logarithmic stage of its development and again in the stationary phase. In the middle stage of development, with the daily avalanche of facts and fancies, the view becomes obscured.

Of the less than 250 pages occupied by the text, only one-fifth is concerned with the chemistry of the nucleic acids, and this quite sketchy section includes the nucleic acid constituents. The imbalance thus created is felt throughout the book; there can be little doubt that chemistry remains the only true and solid basis for an introduction into this field. There follow chapters on metabolism, biosynthesis, the nucleic acids of tumor cells, the effects of drugs and radiations, and other topics. The so-called genetic code is hidden, rather weirdly, in the section on RNA metabolism. The book impresses me as poorly organized and lacking in authority. An appendix of 21 pages purports to describe the experimental procedures used in nucleic acid research. It is essentially useless; this difficult field requires more than a bird's-eye view.

A large bibliography comprising roughly 2000 references creates high hopes which are disappointed when the rather bizarre selection of papers is noted; moreover, in the short text, only passing reference can be made to most of the papers cited. There is no author index, nor does the bibliography include references to the pages on which the particular papers are cited. The subject index of less than five pages is most inadequate. The writing is undistinguished and turgid, though not more so than a large part of German scientific literature. I was amused by this passage: ". . . die mit einer UV-Lampe lokalisierten 'Spots' . . . ." When I was a child, we would have called these things *Flecke* and not *Schpotz*.

There are footnote references to papers published as late as 1964. One may feel some apprehension that a textbook so crammed with the newest things will age very fast. I must conclude that, like the "Great American Novel," the good textbook on nucleic acids remains unwritten.

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Indian Woody Plants

Indian Woods: Their Identification, Properties, and Uses. vol. 2, *Linaceae to Moringaceae.* S. S. Ghosh, K. Ramesh Rao, and S. K. Purkayastha, Eds. Forest Research Institute and Colleges, Dehra Dun, India, 1963. x + 383 pp. Plates. $11.70.

Volume 2 of a projected six-volume work on Indian woods has been published within 5 years of the first volume. Much of the text is based on compilation from the literature, but this does not detract from its usefulness. The anatomical diagnoses, determinations of physical and mechanical properties, decay resistance tests, and