Basic Organic Stereochemistry. By *Ernest L. Eliel, Samuel H. Wilen* and *Michael P. Doyle.* Wiley-Interscience, New York 2001. xiv + 688 pp., softcover $ 79.95.—ISBN 0-471-37499-7

Stereochemistry is essential for understanding the physical, chemical, and biological properties of organic molecules. Its many different aspects are fascinating, but some are also difficult and confusing, and therefore it is especially important to have good monographs and textbooks on the subject. E. L. Eliel is probably the most widely known writer on stereochemistry. His books *Stereochemistry of Carbon Compounds* (1962) and *Conformational Analysis* (with three co-authors, 1967) represented milestones for the field, and *Stereochemistry of Organic Compounds* (with S. H. Wilen and L. N. Mander, 1994) is currently the standard work on the subject, while *Elements of Stereochemistry* (1969) serves as a short introduction.

The book reviewed here is not actually a new work on the fundamentals of organic stereochemistry, but a shortened version of *Stereochemistry of Organic Compounds.* The latter work treats the subject with a nearly encyclopedic breadth of scope, and therefore it is hardly suitable as an introduction, and certainly not as a student textbook. The authors of *Basic Organic Stereochemistry* have set out to fill the gap with a more concise text, omitting a whole chapter and many sections of other chapters. The resulting book is certainly more manageable and convenient than the original, both in its content and its physical form (with the number of pages almost halved from 1267 to 688), but it cannot truly be described as a "textbook". To achieve that would need a completely new concept, or at least a more rigorous tightening of the material. This book has more of the character of a "compendium of stereochemical knowledge" (see *Angew. Chem. Int. Ed. Engl.* **1996**, *35*, 555) than an introduction to the subject. Thus, it is not the clear and concise textbook on the stereochemistry of organic compounds, concentrating on the fundamental concepts and basic principles, that one might have hoped for. As this is not a new work, it is unnecessary to review its contents in detail here; for that the reader is referred to the review cited above.

To achieve a significant shortening of the original work without having to rewrite large sections, the authors have unfortunately had to leave out some important parts. One that has gone is the whole of Chapter 12 of the original work, that on stereoselective synthesis. That decision is certainly regrettable, as it is an important topic that should be covered in every book on organic stereochemistry. Instead some less important sections elsewhere could have been omitted completely or replaced by very short summaries. Literature references are given for the parts that have been cut out. No new sections that were not in the original work appear to have been added (possible topics that might have been considered, for example, are nucleotides, proteins, and other macromolecules, organometallic compounds, transition metal complexes, or enantioselective catalysis). Thus, the only significant updating that has occurred is in the literature citations (the most recent are for the year 2000). However, for some areas it would have been desirable to give references to more recent studies. For example, those cited for ring inversion and for the shift of the double bonds in cyclooctatraene date back to 1957 and 1964, respectively. For metallocenes, which are mentioned briefly in Chapter 13 ("Chirality in Molecules Devoid of Chiral Centers"), the reader is referred to review articles that appeared in 1967 and 1970.

For some topics it is questionable whether the amount of detail was necessary or appropriate in a book with the above title. For example, is it essential for students to understand the difference between the terms "eutomer" and "distomer" (p. 135). On the other hand, several important points are not adequately covered. Thus, the rules formulated by Cram, Felkin, Anh, and Sharpless, which are important for understanding chirality-inducing factors, are mentioned only briefly or not at all. Also it seems incomprehensible that thalidomide (Contergan) has been removed from the paragraph on "Biological Properties" in Section 6-4. The removal of the glossary that was provided at the end of the original work to explain important terms of stereochemistry is also regrettable, especially with regard to students' needs.

Some other weaknesses of the larger work are, of course, still present in the concise version. I especially regret that, instead of using a consistent nomenclature for conformation, the authors have persisted with the previous confused mess. Although the Klyne–Prelog definitions are introduced in Section 2-4, they are then hardly used at all; for example, in discussing 1,3-butadiene the text refers to the *s-cis* and *s-trans* forms rather than to the synclinal and antiperiplanar conformations. An unambiguous system of nomenclature, which distinguishes clearly between configuration and conformation, is certainly possible, and needs to be universally accepted in the interest of the whole subject of stereochemistry.

The "compression" to produce this version is apparent not only in the reduced size of the book but also in a smaller typeface, and as a result the print quality has unfortunately suffered to some extent. Furthermore, although the size of the formulas and figures has mainly been kept unchanged, their quality is unsatisfactory in some cases. Also, to save space, the arrangement of the literature references no longer follows the useful and informative name-and-year system, but is replaced by a numbering system.

The main strengths of the book, the conception of which goes back to 1962, are in the area of static stereochemistry, and there it serves as an excellent reference source. On the other hand, its treatment of dynamic stereochemistry (i.e., the stereochemistry of reactions) is much too brief. Therefore I can only recommend the book to students with some reservations, since in my view it does not compare well with other introductions to organic stereochemistry.

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