

THE ARRANGEMENT OF ATOMS IN SPACE. BY J. H. VAN 'T HOFF. Second revised and enlarged edition, with a preface by JOHANNES WIS-LICENUS, and an appendix, Stereochemistry among Inorganic Substances, by ALFRED WERNER. Translated and edited by ARNOLD EILOART. London, New York and Bombay: Longmans, Green & Co. Cloth. xi + 211 pp. Price, \$1.75.

The writer recalls the amusement with which a modest brochure, entitled "La chimie dans l'Espace," was received in the leading laboratories of Europe, twenty years ago. Pleasantries, however, soon gave way to serious discussion, and that in turn was shortly followed by a widespread acceptance of the somewhat startling hypothesis of the young and comparatively unknown author, Professor J. H. van 't Hoff, of Amsterdam. Now he is recognized by all as the founder of what we term stereochemistry, and as having introduced into our science a concept as brilliant and daring as the theories which are associated with the names of Dumas, Laurent, Gerhardt, Kekulé, or Mendeléeff.

The present volume will be welcomed by the teaching profession as a standard text-book on stereochemistry. It presents all that is necessary for a student, in brief, compact form, and exhibits throughout the lucidity so characteristic of van 't Hoff's writings.

The historical portion is short and the question of priority with LeBel is handled in a courteous manner which does full justice to the talented French chemist. In the seven chapters devoted to carbon compounds, four are given to those containing one or more asymmetric carbon atoms, one to substances of the ethylene type, one to ring formation, and one to the important subject of the numerical value of the rotatory power. The presentation of theory and of experimental evidence is well balanced, while the lists of compounds involved are tabulated in a very clear and helpful manner. Points of existing controversy are fairly stated, and the author abstains from polemics. The fulness of bibliographic references and of the tabular statements is such, that the work rises notably above the level of a text-book and, despite its small size, can effectively replace Bischoff's large "Handbuch der Stereochemie." This result is attained in a great measure by a condensation of formulas. To a certain extent this practice is of doubtful advisa-

bility. The book will naturally be placed in the hands of comparatively young chemists. No device tending to bring out and emphasize the peculiar relations of the asymmetric carbon atom, should be neglected, at least in the early chapters. The use of a one-line formula, such as  $\text{CO}_2\text{HCHOHCH}_2\text{CO}_2\text{H}$ , while amply sufficient for the more advanced student, is to be deprecated at the beginning of the book. The additional space required for more ample graphic formulas, would be advantageously used from the standpoint of the teacher.

The chapter on the stereochemistry of nitrogen compounds is comparatively brief, as van 't Hoff's interest in this branch is less pronounced. The most recent results are, however, carefully summarized.

An appendix contains a note by Professor Werner on the stereochemical isomerism of inorganic compounds, confined, of course, to the amines of cobalt and platinum.

Dr. Eiloart has furnished an excellent translation and added in a few instances pertinent notes, introducing the results of recent investigations. It is a question whether the use of *right-handed* and *left-handed* for *dextro-rotatory*, etc., is to be recommended. A simpler expression for the Latin derivatives is undoubtedly desirable; but the introduction of the word *hand* recalls the Greek idiom, "bare-headed as to the feet," and certainly does not simplify the nomenclature.

Typographical errors are rare, but occasionally meet the eye, as in the formulas of malic and lactic acids, pages 29 and 163.

THOMAS H. NORTON.

BIBLIOGRAPHY OF THE PLATINUM GROUP, 1748-1896. BY JAMES LEWIS HOWE. Smithsonian Miscellaneous Collections, No. 1084. 8vo. pp. 318.

This forms a very valuable contribution to chemical bibliography, and will prove an indispensable aid to all workers in the field of the platinum metals. A glance at this volume is sufficient to show the great amount of labor expended upon it by Dr. Howe, and a closer examination will prove how faithfully and conscientiously the work has been done. Over one hundred sets of journals were consulted in its preparation, besides a large number of books, pamphlets, and single copies of periodicals. The total references number nearly 2500. They are first