agent. Here the author gives deserved attention both to verbal communication with patients and to signals conveyed by the doctor's behavior, his manner of speech, and his "ahh" and "ohh." The remainder of the book, notwithstanding its medical slant, is devoted to matters important to all in the scientific professions who must speak or write for publication.

The helpful advice for public speakers concerns not only oral presentation but also the commonly used physical aids. Ten pages are devoted to slides alone—their makeup and showing. Anyone who has suffered from viewing slides overcrowded with data will appreciate the stress the author lays on this common fault, pointed up by an illustration of "an overcrowded slide resembling a page from a railway timetable" (actually a timetable showing 28 stations and their train times in 19 columns). The chapters on writing offer excellent discussions of "the pursuit of clear English," faults of writing and how to avoid them, and the mechanics of preparing a manuscript and illustrations. The author, an English physician, sustains the reputation of his countrymen for lucid writing, and gentle humor enlivens the pages. In a section on multiple authorship, he suggests to department heads who insist on routine inclusion of their names in by-lines that "this way of achieving reputation should disappear."

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Chemical Reactions

Reagents for Organic Synthesis. LOUIS F. FIESER and MARY FIESER. Wiley, New York, 1967. 1469 pp., illus. $27.50.

Reagents for Organic Synthesis is well on the way to becoming the reference book of choice for everyone concerned with techniques of synthesis in organic chemistry. The reasons for this are easy to identify. First of all, there is a great need for additional guidance to the vast literature of organic synthesis. In spite of the availability of extensive abstracting and title-listing publications, the task of locating a suitable method for carrying out some particular transformation can be exceedingly difficult. This is especially true with substrates that possess some complicating characteristic, such as a high degree of steric hindrance, an especially sensitive functional group, or even some unusual solubility properties. In these circumstances, if one can recall an analogous problem that has already been solved the task is made very much easier. Of course, the lack of emphasis on synthesis in much contemporary teaching of both undergraduate and graduate courses in organic chemistry contributes to the difficulties. This lack is particularly regrettable, since a strong synthetic background would enrich the currently favored areas of molecular spectroscopy, structural theory, and reaction mechanisms. In the meantime, the number of chemists with a large and critical knowledge of useful reactions is both small and decreasing. The present volume provides a most convenient way in which to ease the search for half-remembered techniques or to uncover methods previously unknown to the reader.

Of course, an equally important reason for the success of this undertaking is the well-known talent of the authors for writing and compiling. The Fiesers have devoted a significant portion of their lives to the study of organic chemistry and its literature and have been in close contact with many of the most active organic chemists all over the world. There are very few chemists with a comparable background, and fewer still who have had the energy and devotion to transmit their knowledge in book form. This breadth of experience has resulted in the production of a book which is at once personal in flavor and catholic in scope.

The book presents an alphabetical list of "reagents," along with much valuable information on their commercial sources, physical properties, preparation, and uses. Small comments of practical significance abound. The documentation is impressive. Most important, the Fiesers have interpreted their task so broadly as to have compiled a treatise on organic-chemical methodology rather than a mere index. It is, of course, unusual to find organic synthesis organized in dictionary form. The result of this kind of arrangement is a book full of fascinating juxtapositions, and one which rewards the browser in the same way a good dictionary does. This volume will serve chemists well for many years to come.

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Medieval Astronomy

Ibn al-Muthannâ's Commentary on the Astronomical Tables of al-Khwârizmî. Two Hebrew versions, edited and translated, with an astronomical commentary, by BERNARD R. GOLDSTEIN. Yale University Press, New Haven, Conn., 1967. 418 pp., illus. $17.50.

The unique role of Arabic culture in the history of the Western world is nowhere more evident than in the story of the descent of science from the ancient Middle East to the quickened activities of Renaissance Europe. This is a story not too well known, though specialists have been sketching its development for at least a half century.

From the 9th to the 13th centuries Muslim Spain provided a meeting ground for Latin and Semitic learning. Here, where the two cultures touched and intermingled, facilitated by the intermediary scholarship of Christian and orthodox Jew, historians have located the bridges of continuity, not only linking the achievements of antique Babylon and Greece to the growth of modern science, but even uncovering connections with ancient India. The vehicle of such enterprise is invariably humanistic—surviving texts and commentaries, such as these before us, and their analysis. To this task the scholar must bring not only the traditional linguistic and historical skills but a full understanding of the science involved. This Goldstein has done in the translation of Ibn al-Muthannâ's Hebrew commentary on the no-longer-extant astronomical tables of the 9th-century astronomer al-Khwârizmî. In its alloy of Greek and Hindu astronomical methods, the text illustrates clearly the transit of Hindu astronomy to the West.

Operating from the two Hebrew versions of the text (both of which are translated into English in this volume) Goldstein directly elucidates its meaning and character. Though he succeeds thus in clarifying the contents of the work, his all-too-sparse introduction (nine pages in a volume of over 400) unfortunately does little to set the material on which he has labored so well into a full historical perspective. A broader essay on Islamic astronomy, even if it were limited to the relevant epoch alone, would have been very welcome indeed.

The relative paucity of such scholarship as we have here at hand has pre-