have found many applications in other types of laboratories. The steroids pose special problems to the analyst, and there is probably no class of substances in which chromatography has been of greater importance in securing the advances that have taken place during the last 30 years with respect to our knowledge of their chemistry, biochemistry, and biology. These problems are not completely dispelled by the use of chromatography, however, so many technical details are somewhat different from those encountered in other fields, or are of greater importance in the achievement of satisfactory results. However, workers in other fields will find this book useful because many of the practical details are potentially of great use in the general field of lipids, and some of them in other fields as well.

Neher has done an excellent job in fulfilling the aims expressed in the preface—to provide a full and reliable guide to the practical problems encountered in the chromatography of steroids, but to include only the minimum amount of theory required to support the practical recommendations given. The book also includes a valuable and complete account of the newer methods that have been applied successfully to the steroids (for example, gas-liquid and thin-layer chromatography), and it is notable for the many excellent figures and diagrams with which technical and practical details are conveyed. The thoroughness and completeness with which the literature has been surveyed will also contribute to its value as a reference work, which it will undoubtedly become. The practical instructions will make it extremely valuable to a variety of research workers: those already working on problems of steroid biochemistry as well as newcomers to the field who find that their work demands that they undertake the estimation or separation of steroids. Newcomers, however, would be well advised to seek expert guidance with respect to their choice of methods because the author, in being so thorough, tends to offer a surfeit of possibilities and sometimes errs on the generous side in not suggesting preferences. This is not a serious defect, however, and in most cases useful preferences are suggested.

There are also a considerable number of new details of techniques and interesting results of investigations of existing techniques with which experienced workers may not be familiar, features which will make the book especially interesting to those already working in the field. There are occasional slips in syntax and some abbreviated forms that jar, but on the whole, the book is well written, clear, and very readable. Neher's colleagues will find this volume most useful.

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## Popular Astronomy

**The Flammarion Book of Astronomy.** Prepared under the direction of Gabrielle Camille Flammarion and André Danjon. Translated from the French edition (1955–60) by Annabel Pagel and Bernard Pagel. Simon and Schuster, New York, 1964. 670 pp. Illus. $19.95 until 25 Dec.; thereafter $22.95.

This enormous exposition of modern astronomy comes to us under a very strange banner indeed. The original version of Camille Flammarion's *Astronomie Populaire* appeared in 1880, the first of many successive editions by a man who was one of the 19th century's great engines of scientific popularization. Astronomy has advanced so far beyond Flammarion's time and so many hands have since revised the first edition, that one may question the wisdom of promoting this lavish volume in the name of it's original author. But then this is not quite the case either for, although the title page does not carry the name of an author, the reader is informed that the volume was prepared under the direction of Gabrielle Camille Flammarion, who, together with André Danjon, of the Paris Observatory, reedited the book.

Actually, there are eight subdivisions. The first four, on the earth, the moon, the sun, and the planets, were rewritten by Danjon, with the assistance of A. Dolfus, an expert on lunar and planetary physics, for part of the essay on the sun; the balance (on solar physics) was completed by R. Michard, director of solar research at the Centre National de Recherche Scientifique. Part 5, dealing with comets and meteors, is by F. Baldet of the Paris Observatory; part 6, on the sidereal universe, is by C. Fehrenbach, director of Marseilles Observatory; part 7, on the instruments of astronomy, is by A. Couder of the Paris Observatory; while the last part, on artificial satellites and space vehicles, brings back Danjon, with the assistance of P. Muller, another astronomer on the staff of the Paris Observatory. Finally, it has all been brought up-to-date and translated by Annabel Pagel and Bernard Pagel of the Royal Greenwich Observatory. The original Flammarion has surely disappeared beneath this sea of current effort. Would it not have been better to publish this volume under the names of so distinguished and so qualified a group of collaborators?

As a whole, this detailed, surprisingly complete essay on astronomy is well done. In it's geocentric discourse, the reader leaves the earth for the moon, sun, planets, and the study of the strays of the system—comets, meteors, and meteorites—before the great leap into the sidereal universe. A separate, but not unimportant, appendage is the last two "books," which are devoted to a discussion of astronomical instrumentation from telescopes to rockets and satellites. The illustrations are lavish and adequate enough for the expository task, and there are occasional ventures into the history of astronomy, but, for half the price, and in half the number of pages, Fred Hoyle's recent book (*Astronomy*, Doubleday, 1962) is more than double the value in every respect.

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## Mathematics

**Elements of General Topology.** Sze-Tsen Hu. Holden-Day, San Francisco, 1964. x + 214 pp. Illus. $8.75.

Choose *Elements of General Topology*, by Sze-Tsen Hu, if you wish a top-notch, one-semester, rigorous, and up-to-date presentation of the topological foundation important to serious students of mathematics. The emphasis on, and the excellent choice and effective use of theorems on, mappings, commutative diagrams, and topological identification contribute to the unification and unique utility of this text. Another distinction is the first readily accessible and elementary treatment of CW-complexes (cellular polytopes, in chapter 4). Other recent results previously available only in the literature are incorporated naturally and simply, creating a spirit of freshness (for ex-