cover vectors and vector mechanics; and the remainder of the text deals with the subjects that are now quite standard in a beginning course on celestial mechanics: the two-, three-, and n-body problems, properties of solid and fluid bodies, perturbations, the motion of the moon, and the determination of orbits. In addition, there is a worthwhile chapter on numerical procedures and errors, which students, subjected to the rigors of lengthy calculation for the first time, should find most valuable.

Danby has a very lucid and entertaining style of writing which should soon make this text a favorite of astronomy instructors in many universities and colleges. Throughout the book there are numerous problems and examples and at its end there are handy appendices and an adequate index.

Although this text is not intended to be the successor to Moulton's classic, it undoubtedly will, in future years, be seen on many reference shelves. After comparing it with Moulton's book, I find *Fundamentals of Celestial Mechanics* a more practical, more humanely written treatise that will serve as a valuable text in many courses.

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Surveys of Pharmacology

Progress in Medicinal Chemistry. vol. 1. G. P. Ellis and G. B. West, Eds. Butterworth, Washington, D.C., 1961. ix + 262 pp. Illus. $11.25.

Advances in Pharmacology. vol. 1. Silvio Garattini and Parkhurst A. Shore, Eds. Academic Press, New York, 1962. xi + 474 pp. Illus. $13.

For many years a serious shortage existed in the literature pertaining to pharmacology, but suddenly the void is being filled at an exceedingly rapid rate. New books, journals, and compendia appear so frequently that it now becomes necessary to consider whether each new progress, advance, or whatever, actually has anything new to offer or is merely a duplication. Each of the books reviewed here is the first volume of a new series. I do not believe either has a counterpart in the existing literature.

Progress in Medicinal Chemistry is written for organic chemists and biochemists whose interests center on the pharmacological testing of compounds. Pharmacologists may be interested in the techniques by which new compounds are tested as potential drugs. Six topics are covered in some detail: pharmacological screening tests, hypotensive agents, tranquilizers, diuretic drugs, oral hypoglycemic drugs, and antifungal agents. In each instance the need for a particular type of therapy is discussed first, and this is followed by a brief description of the physiology of the organ under consideration and how its function may be modified by a drug. Although this section is, at times, too brief, it still may help the chemist understand the apparent mechanism of the drug's action. Some chapters are enhanced by biochemical explanations of the mechanism of action.

Each chapter includes excellent coverage of the drugs that have been found clinically useful. The side effects of some of the drugs are noted; in view of the present-day concern, this section could well be expanded in future volumes. An extensive bibliography completes each chapter.

Medicinal chemists are quite often concerned with the synthesis of new compounds as potential drugs, but authoritative references describing the biological tests to which these compounds must be subjected are scattered in various journals and, thus, are hard to find. This need is well answered in the *Progress* series.

Advances in Pharmacology, produced under the guidance of an international board of editors (a virtual "who's who" in the field) is written for advanced students and active workers alike. Of its eight chapters, four deal with drugs as related to hyperlipidemia, hypertension, mental illness, and anticoagulation; three, with general topics—drug metabolism, the binding of amines to tissues, and the effect of naturally occurring amines on the gastrointestinal tract—and the introductory chapter, with a new interpretation of the adrenergic nerve fiber. Each is a complete unit, with adequate charts, formulas, and tables. Particularly useful are the excellent outlines preceding each discussion and the remarkably up-to-date references.

The appearance of *Advances* will at once raise the question, "How does this series compare with the *Annual Review of Pharmacology?*" [reviewed in *Science* **137**, 663 (1962)]. They are different types of series, and can certainly supplement one another. *Annual Reviews* covers a topic over a finite span of years. *Advances* covers a single topic in depth. That the two series are in no way in competition can be seen from a detailed comparison of their tables of contents: *Advances* overlaps the first two volumes of the *Reviews* in only two short sections. A comparison of the references cited again shows that the overlap is slight. In fact, the editor of one is writing a review for the other.

Both *Progress in Medicinal Chemistry* and *Advances in Pharmacology* are well printed and quite free of typographical errors. The formulas are easy to read, and no blurred tracings confuse the issue. I recommend both highly for the pharmacologist, and the former especially for the chemist.

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Personality and Perception

Psychological Differentiation. Studies of development. Herman A. Witkin *et al.* Wiley, New York, 1962. xii + 418 pp. Illus. $7.95.

Ten years ago, Witkin and his colleagues hypothesized that the extent to which an individual can separate conflicting perceptual cues in laboratory test situations is pervasively related to a variety of personality characteristics. The two extremes of this broad dimension were called field-dependence and field-independence. Field-dependent persons were those who could not tell which way was straight up in orientation tests with misleading cues. Although the broad outline of Witkin's general theory was well supported by the empirical evidence presented in his first book, *Personality Through Perception*, the specific claims of high correlations between field dependence and personality traits proved sufficiently controversial to generate prolonged debate and scores of new investigations. Highly cognizant of the criticisms leveled at his earlier work, Witkin has now done a masterful job of mustering support for a slightly altered thesis, which he presents in this book.

Witkin places major emphasis on what he calls the differentiation hypoth-