the chapters are organized; for example, in chapter 2 the authors discuss the synthesis of complexes according to the class of starting materials, whereas in chapter 3 the information is organized according to the metal ion.

In other parts of the book material is basically presented as lists of examples, each in a separate paragraph. Some of these parts suffer from a lack of continuity, and conclusions are not drawn and presented as one unit. Such sections do, however, serve as an excellent source of references for very specific areas of research.

The references are the most comprehensive ever published on the chemistry of metal β-diketonates, and the book is well indexed.

ROBERT E. SIEVERS
Department of Chemistry,
University of Colorado,
Boulder 80309

Planetary Explorations

The Saturn System. Papers from a workshop, Reston, Va., Feb. 1978. DONALD M. HUNTEN and DAVID MORRISON, Eds. National Aeronautics and Space Administration, Washington, D.C., 1978 (available from National Technical Information Service, Springfield, Va.). vi, 420 pp., illus. Paper, $13.25. NASA Conference Publication 2068.

NASA's program for the exploration of the outer solar system is in full swing, with the Voyager 1 encounter with Jupiter and the Pioneer 11 encounter with Saturn recently completed and encounters with Jupiter, Saturn, and Uranus programmed to occur in the next few years.

In *The Saturn System* we get a glimpse of the next "logical" step in the program: the planned SOP[2] mission that will orbit Saturn and probe the atmospheres of both Saturn and Titan (Titan is Saturn's largest satellite and is the only satellite in the solar system known to possess a substantial atmosphere).

Planning for complex deep space missions such as this one requires an enormous lead time; for example, Project Galileo (formerly JOP, Jupiter orbiter probe) was at a similar stage in 1975, its preliminary design stage has only just been completed, and the spacecraft will not be launched until 1982 and will not begin its 20-month scientific mission until it arrives at Jupiter in 1985. Thus, though the present volume contains neither a detailed nor a complete discussion of the accomplishments that will eventually be expected of SOP[2], we get a very human glimpse of the interaction that goes on between selected members of the space science community and NASA planning staff in setting out the scientific basis for a mission.

The book consists of papers and discussions thereof that are based on presentations given at a 1978 workshop. It is described by the editors as a compendium of knowledge of Saturn, its satellites, its rings, and its (possible) magnetosphere.

As an expression of the state of scientific research on Saturn, the book is, in this reviewer's opinion, without equal. It provides an excellent guide to the technical literature, and, in the papers that specifically address research topics, it conveys the spirit of the research that is going on. For example, the book contains three papers on the vertical structure of Titan's atmosphere, each promoting a quite different view. What is being presented in the papers is three different sides of a research debate that is irresolvable, given the precision of remotely sensed ground-based data. The papers give a clear sense of the competitive nature of space science and also of the inherent weaknesses, often poorly recognized, in remote sensing from the ground.

Other papers discuss the technical problems that face SOP[2] and the relationship of the mission to results that might be obtained from the Pioneer 11 and Voyager 1 and 2 Saturn flyby encounters. With two exceptions these papers will probably not add much to the book from a general reader's point of view. The exceptions are the paper by R. P. Rudd describing a possible SOP[2] baseline mission (this includes the important ion drive propulsion system, which is expected to be in NASA's 1981 budget for a new start) and the paper by J. Blamont of the Service d'Aeronomie of the French CNRS on a possible way to explore Titan's atmosphere with a self-buoyant, "solar Montgolfière" balloon.

The latter proposal shows all of the technical ingenuity and verve that have become the hallmark of French space scientists, and it is an idea that this reviewer believes should be taken far more seriously than it is in the chapter that reports the conclusions and recommendations of the workshop. As Blamont points out, with the descent of a single probe through an atmosphere one may learn very little (or possibly get a highly distorted view) of the dynamical and physical state (for example, cloud structure) of the atmosphere, although one would get definitive results concerning other aspects of the atmosphere, such as its elemental and isotopic composition. With its long lifetime, large payload capacity, and multiple traversals of the atmosphere, the French hot air balloon, versions of which have been tested in the earth's atmosphere and a version of which is scheduled for launch to Venus in 1983 in a joint Russian-French mission, solves this problem and presents an exciting prospect for atmospheric research on Titan.

MICHAEL J. S. BELTON
Kitt Peak National Observatory,
Tucson, Arizona 85726

Books Received

Aerobiology. The Ecological Systems Approach. Robert L. Edmonds, Ed. Dowden, Hutchinson and Ross, Stroudsburg, Pa., 1979 (distributor, Academic Press, New York). xiv, 386 pp., illus. $21. US/IBP Synthesis Series, 10.

Agricultural Terracing in the Aboriginal New World. R. A. Donkin. Published for the Wenner-Gren Foundation for Anthropological Research by University of Arizona Press, Tucson, 1979. xii, 196 pp., illus. Paper, $8.50. Viking Fund Publications in Anthropology, No. 56.

The Art of Software Testing. Glenford J. Myers. Wiley-Interscience, New York, 1979. xiv, 178 pp., illus. $17.95. Business Data Processing.

Arthropod Phylogeny with Special Reference to Insects. H. Bruce Boudreaux. Wiley-Interscience, New York, 1979. viii, 320 pp., illus. $21.50.

Biographical Dictionary of American Science. The Seventeenth through the Nineteenth Centuries. Clark A. Elliott. Greenwood Press, Westport, Conn., 1979. xviii, 362 pp. $45.

Biological/Biomedical Applications of Liquid Chromatography. Papers from a symposium, Boston, Oct. 1977. Gerald L. Hawk, Paul B. Champlin, Howard C. Jordi, and David Wenke, Eds. Dekker, New York, 1979. xviii, 736 pp., illus. $45. Chromatographic Science, vol. 10.

A Companion to the Life Sciences. Vol. 1. Stacey B. Day, Ed. Van Nostrand Reinhold, New York, 1979. xxii, 456 pp., illus. $24.50.

Competition for Space and the Structure of Ecological Communities. Peter Yodzis. Springer-Verlag, New York, 1978. vi, 192 pp., illus. Paper, $9.80. Lecture Notes in Biomathematics, vol. 25.

Directory of On-Going Research in Cancer Epidemiology, 1978. C. S. Muir and G. Wagner in collaboration with E. Demaret, A. Nagy-Tiborcz, and K. Schlaefer. International Agency for Research on Cancer, Lyons, France, 1978 (U.S. distributor, WHO Publications Centre USA, Albany, N.Y.). xviii, 550 pp. Paper, $17.75. IARC Scientific Publications No. 26.

Galaxies. Structure and Evolution. R. J. Tayler. Wykeham, London, and Crane, Russak, New York, 1978. xii, 204 pp., illus. $21. Wykeham Science Series.

Genesis of Glaucoma. Papers from a symposium. H.-J. Merté, Ed. Junk, The Hague,

(Continued on page 1306)

BOOKS RECEIVED

(Continued from page 1256)

1978 (U.S. distributor, Kluwer Boston, Hingham, Mass.). x, 320 pp., illus. $51. Documenta Ophthalmologica Proceedings Series, vol. 16.

Genetic Mosaics and Chimeras in Mammals. Proceedings of a symposium, Gatlinburg, Tenn., Apr. 1978. Liane B. Russell, Ed. Plenum, New York, 1978. xiv, 486 pp., illus. $39.50. Basic Life Sciences, vol. 12.

The Genetics and Biology of Drosophila. Vol. 2b. M. Ashburner and T. R. F. Wright, Eds. Academic Press, New York, 1978. xvi, 602 pp., illus. + index. $61.25.

Handbook of Thermoplastic Elastomers. Benjamin M. Walker, Ed. Van Nostrand Reinhold, New York, 1979. xviii, 346 pp., illus. $24.95.

Life Cycles. An Evolutionary Approach to the Physiology of Reproduction, Development and Ageing. Peter Calow. Chapman and Hall, London, and Halsted (Wiley), New York, 1979. x, 164 pp., illus. $14.95.

Logic for Mathematicians. J. Barkley Rosser. Chelsea, New York, ed. 2, 1978. xvi, 574 pp. $19.95.

Measurement of Two Phase Flow Parameters. G. F. Hewitt. Academic Press, New York, 1978. viii, 288 pp., illus. $22.25.

Mechanics and Energetics of Biological Transport. Erich Heinz. Springer-Verlag, New York, 1978. xvi, 162 pp., illus. $27. Molecular Biology, Biochemistry and Biophysics, 29.

Megalithic Remains in Britain and Brittany. A. Thom and A. S. Thom. Clarendon (Oxford University Press), New York, 1978. viii, 192 pp., illus. $23.50.

Navaho Symbols of Healing. Donald Sandner. Harcourt Brace Jovanovich, New York, 1979. xii, 290 pp., illus. Paper, $8.95.

Neurogenetics and Neuro-ophthalmology. Papers from a congress, Nijmegen, The Netherlands, Sept. 1977. A. F. Deutman and J. R. M. Gruysberg, Eds. Junk, The Hague, 1978 (U.S. distributor, Kluwer Boston, Hingham, Mass.). viii, 486 pp., illus. $84. Documenta Ophthalmologica Proceedings Series, vol. 17.

Origins of Inbred Mice. Proceedings of a workshop, Bethesda, Md., Feb. 1978. Herbert C. Morse III, Ed. Academic Press, New York, 1978. xvi, 720 pp., illus. $36.

Progress in Low Temperature Physics. Vol. 7. D. F. Brewer, Ed. North-Holland, Amsterdam, 1978 (U.S. distributor, Elsevier, New York). Two volumes. xxviii, 746pp., illus. + indexes. Each volume, $60; two-volume set, $106.75.

Renal Prostaglandins. Vol. 1, 1977. James B. Lee, Ed. Eden Press, St. Albans, Vt., 1978. xvi, 238 pp., illus. $24. Annual Research Reviews.

Reviews in Plasma Physics. Vol. 7. M. A. Leontovich, Ed. Translated from the Russian edition (Moscow, 1973) by Herbert Lashinsky. Consultants Bureau (Plenum), New York, 1979. xii, 380 pp., illus. $32.50.

Teaching Law with Computers. A Collection of Essays. Russell Burris, Robert E. Keeton, Carolyn P. Landis, and Roger Park. Published for EDUCOM by Westview Press, Boulder, Colo., 1979. viii, 150 pp. $15. EDUCOM Series in Computing and Telecommunications in Higher Education.

Textbook of Immunology. Baruj Benacerraf and Emil R. Unanue. Williams and Wilkins, Baltimore, 1979. viii, 298 pp., illus. Paper, $10.95.