Koji Hidaka Volume

Studies on Oceanography. A collection of papers dedicated to Koji Hidaka. Kozo Yoshida, Ed. University of Washington Press, Seattle, 1965. vi + 568 pp. Illus. $20.

Koji Hidaka, who was born in Miyazaki Prefecture in 1903, was educated as a theoretical physicist at Tokyo Imperial University and joined the Kobe Imperial Marine Observatory in 1926. During the next 10 years, despite averaging more than 100 days a year at sea in the *Shumpu Maru*, he found time to publish more than 40 papers on theoretical oceanography. In 1942 he was appointed professor of geophysics at the University of Tokyo and, in 1962, he was also made director of its new Ocean Research Institute. When he retired last year, some 75 of his friends, colleagues, and former students in Japan and abroad joined in publishing this handsome commemorative volume.

Of the 61 studies in the book, four-fifths are in English. Japanese, German, French, and Russian are also represented; all have English abstracts. In view of Hidaka's own interests, an emphasis on theoretical physical oceanography in a dozen papers is not surprising. Techniques of measurement and descriptive oceanography nevertheless receive attention, and such features as the East China Sea, the North Pacific, the Caribbean, Kuroshio, and the Pacific North Equatorial Current are described.

Surface waves, internal waves, and tsunamis are also well covered, and three papers deal with sea level oscillations or the effect on sea level of wind. Three papers are concerned with optical properties of sea water, and one with the electrical conductivity of sea foam. Ice in the Okhotsk Sea, carbon dioxide micrometeorology over crops, and insolation at Ocean Station PAPA are other topics treated.

In the geophysical area are a comprehensive theory of the growth of ocean basins and continents, descriptions of current work in the western South Atlantic, and an analysis of coherent electrical and magnetic fluctuations in the sea off Honshu. Of geological interest are accounts of eustatic movement, buried rivers, and Rias coasts along the Japanese littoral and of the distribution of oceanic sediments in general and turbidites in particular. Chemical oceanography is represented by a study of uranium and radium in the North Pacific, paleontology by an analysis of Upper Jurassic climate as inferred from reef corals, and biological oceanography by a review of studies with continuous plankton recorders.

The volume includes a brief biography of the propositus and a bibliography of his works in European languages. It lacks an index, even an index of authors, a curious omission from an otherwise comprehensive portrayal of the present state of the art in oceanography.

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Astrometry

Fundamental Astrometry: Determination of Stellar Coordinates. V. V. Podobed. Translated from the Russian edition (Moscow, 1962) by Scripta Technica. A. N. Vyssotsky, Translation Ed. University of Chicago Press, Chicago, 1965. xii + 236 pp. Illus. $7.50.

This is the first English language text of the century to be devoted entirely to the subject of positional astronomy. It supplements but does not replace any of the existing texts on practical and spherical astronomy. The book is based on lectures given at the Moscow University to students who were specializing in astrometry and to those who were just beginning their study of positional astronomy. It is not an advanced text. A number of positional astronomy instruments are described, and methods commonly used to determine their errors are presented. The author also shows how these instruments may be used to determine both "relative" and "absolute" positions of the stars for the improvement of the fundamental celestial coordinate system.

The fact that many of the instruments and methods dealt with are those likely to be available to the student in Moscow does not detract greatly from the general usefulness of the book. Positional astronomers everywhere will find this text interesting and helpful, even though they prefer to use methods other than those described in the text for some of their work.

Chapter 10 presents the general principles involved in the determination of the positions of the stars by photographic methods. The presentation is quite conventional and stops at the point where troubles usually begin.

The last two chapters should appeal to a broader group of astronomers than any of the others. A brief history of the development of star catalogs and fundamental systems, from ancient times to the present, precedes a summary of the methods used to exhibit the errors of star catalogs and an outline of the programs now in progress for improving the fundamental reference system used by astronomers.

Fortunately, good editing eliminated most of the difficulties with technical terms usually encountered in translations. It is regrettable, however, that the names Backlund, Fabritius, and Uhink were allowed to come out as Baklund, Fabricius, and Whink.

Apart from a number of typographical errors and two references to a frontispiece that was not published in this edition, the translation and editing of the text were quite well done. This is a book that any astronomer could read with profit if he wishes to gain a general knowledge about star catalogs and the meticulous care that goes into their preparation.

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Berkeley Physics Course

Mechanics: Berkeley Physics Course. vol. 1. Charles Kittel, Walter D. Knight, and Malvin A. Ruderman. McGraw-Hill, New York, 1965. xxii + 480 pp. Illus. $5.50.

This book is the first of five volumes prepared for a 2-year elementary physics course for college students majoring in science and engineering. The course is intended ". . . to present elementary physics as far as possible in the way in which it is used by physicists working on the forefront of their field." In this first volume the authors have succeeded admirably in this objective. Their lively style, the liberal use of order-of-magnitude estimates, and the inclusion of verbatim extracts, ranging from Newton to Einstein, all contribute toward the attainment of their goal. In this respect the