

### Astronomical Photoelectric Photometry

Edited by Frank Bradshaw Wood. (A Symposium presented on December 31, 1951, at the Philadelphia meeting of the American Association for the Advancement of Science.) Pp. vii+141. (Washington, D.C.: American Association for the Advancement of Science; London: Bailey Bros. and Swinfen, Ltd., 1953.) 33s.

**I**N his preface to this publication, consisting of eight papers submitted at a symposium presented on December 31, 1951, at the Philadelphia meeting of the American Association for the Advancement of Science, the editor states that it is the intention of the volume to provide a summary of use to those actively at work in this field and yet provide guidance to astronomers embarking for the first time on a programme of photoelectric observations.

The first paper, on the topic of direct-current techniques, contains a valuable bibliography, the references including most of the important papers from the days of pre-multiplier photometry up to recent years.

The second paper, dealing with alternating-current techniques and sources of error in photoelectric stellar photometry, suffers in its first few pages from a lack of lucidity. The portions dealing with sources of error are the more interesting features of this communication.

Pulse-counting techniques are represented by two papers, one containing a detailed description of the photometer at the Cook observatory and the other the recent developments in Great Britain carried out at Cambridge by Redman and Yates.

A recent photoelectric installation at the Observatoire de Haute Provence is described in two papers by Lallemand and Lenouvel.

A photometer constructed by Walraven combines the advantage of the null method with the excellent properties of the phototube, the arrangement in effect constituting a servomechanism.

The final paper in this attractively produced little book is by Whitford and concerns a consideration of ultimate limits and a critical summary.

A. H. JARRETT

### Organic Peroxides

Their Chemistry, Decomposition, and Role in Polymerization. By Arthur V. Tobolsky and Robert B. Mesrobian. Pp. x+198. (New York: Interscience Publishers, Inc.; London: Interscience Publishers, Ltd., 1954.) 5.74 dollars.

**T**HIS excellent little book provides a general account of the chemistry of organic peroxides with special reference to their role in initiating polymerization reactions.

The first of the three sections of the volume gives a systematic and well-documented outline of the chemistry of the various classes of organic peroxides and hydroperoxides. In the second section the manner of decomposition of peroxides under various conditions is discussed. The formation of free radicals and the diagnostic tests which may be used to detect their formation are given special consideration. Other modes of decomposition such as the Haber-Weiss process and heterolytic cleavages are also included. In the final section the kinetics of polymerization of substances of the vinyl type, such as styrene and methyl methacrylate, are described, and the methods used for determining the characteristics of the process are discussed, including the rates of initiation of polymerization and the related catalytic efficiencies of various peroxides.

The physical properties and the explosive nature of known organic peroxides are presented in tabular form as appendixes. Literature references extend to 1953 inclusive, and there are complete subject and author indexes.

This volume will provide a useful introduction to the subject which should be of real value to senior students or research workers. G. M. BENNETT

### A Textbook of Sound

Being an Account of the Physics of Vibrations with special reference to Recent Theoretical and Technical Developments. By Dr. A. B. Wood. Third (revised) edition. Pp. xvi+610. (London: G. Bell and Sons, Ltd., 1955.) 42s. net.

**T**O treat in one text-book both classical and modern acoustics has now become impossible. Beranek needs more than nine hundred pages to deal with acoustical measurements alone. Electro-acoustics, communication theory, ultrasonics, speech, physiological acoustics, architectural acoustics and musical acoustics each need separate volumes. Dr. A. B. Wood resolves the difficulty by continuing to present a standard treatment of classical acoustics. New diagrams, new references and fifty more pages of letterpress are added to the second edition.

The point of view is still that of classical acoustics, with its emphasis on those features of vibrating systems which can be treated by simple mathematical or experimental techniques, that is, on the steady state. Yet, as soon as speech, music or noise reaches a steady state, it ceases to be speech, music or noise.

Phenomena contrary to the ideas of classical acoustics are apt to be treated with caution. For example, in 1924 Harvey Fletcher, using electric filters, showed that if several of the lowest components of a complex sound were removed, the pitch of the sound was unchanged. Referring to this effect in this 1955 edition, Dr. Wood still writes, "He [Harvey Fletcher] claims to have proved that only the quality and not the pitch . . . is changed". The student would be helped by the addition of a short annotated bibliography of the many excellent books on acoustics published during the past ten years and also by notes on such journals as *Acoustica* and the *Journal of the Acoustical Society of America*, especially as the latter journal publishes in each number a very comprehensive list of references to contemporary papers on acoustics. W. H. GEORGE

### Call of the River

By Mabel E. Byrt. Pp. 127+8 plates. (London: Country Life, Ltd., 1955.) 8s. 6d. net.

**T**HE "Call of the River" is a story of wild life, of otters in particular, on waterway and seashore. The tale is well told, the adventures of the otters making good reading in the tradition of that great master of Nature fiction, Ernest Thompson Seton, though unfortunately the standard of accuracy is not quite so high as that of the Canadian writer. Here and there the author slips—for example, the dramatic fight of the otter with the giant conger eel. This is staged in the river, regardless of the conger eel being a marine fish not in the habit of entering fresh water. Yet by and large the book gives a vivid picture of wild life on our English rivers and in particular of that remarkable mammal, the otter. The illustrations are from photographs, and the excellent coloured jacket is from a painting by Michael Lyne. F. P.