field of luminescent solids should refer frequently and *critically* to the literature." (The italics are Leverenz's.)

Frank Urbach
Eastman Kodak Company

One of a Series

FUNDAMENTALS OF RADIO-VALVE TECHNIQUE. **By J. Deketh. Philips Technical Library, Eindhoven, Netherlands. Elsevier Book Company, Inc., New York, 1949. $5.00.**

This volume, the first of a new series of books published by the Philips valve factory at Eindhoven in the Netherlands, deals with the physical principles, manufacture, and properties of modern valves. The style is exceptionally clear and is largely descriptive, although important details (mathematical or otherwise) are always given. The first five chapters provide an introduction to electron emission and to the basic principles of radio valves, including a short chapter on secondary emission. The text is illustrated by numerous helpful diagrams. In particular, the frequent use of a standard form of diagram to illustrate the potential distribution through a valve under many different conditions is an excellent idea. There follow three chapters describing the manufacture of valves in the Philips factory, which illustrate fully the construction and assembly of their many components. The author compares three methods of construction, namely, glass valves with pinch, glass valves with pressed glass base, and metal valves. The techniques referred to are entirely those of one manufacturer, and are typical of European rather than American practice.

The ninth chapter describes briefly the problem of reception and the operation of typical receivers, leading to the classification of valves according to their functions, while six further chapters outline the valve properties. Characteristic curves are described and two excellent chapters are devoted to the action of the various grids in multi-electrode valves and to the influence of inter-electrode capacities on operating characteristics.

Chapter XV, entitled "Consequences of Curvature of the Characteristic," describes the various types of distortion and cross-modulation arising from this cause. The criteria used in numerical examples relate to commercial standards and distortion figures quoted as "permissible" may seem rather high to the physicist. The analytical representation of the transfer characteristic is discussed in the succeeding chapter.

Use of valves for power amplification, rectification, oscillation, frequency conversion, gain-control, and automatic volume control is described in later chapters. The treatment is sufficiently thorough for most design purposes, but it appears that these subjects will be greatly expanded in later volumes of the series. The clear presentation of material is fully maintained in these chapters. Also included is a section on negative feedback which presents this subject clearly and touches on the criteria for stability in feedback circuits. The remainder of the book deals with thermal and valve noise; undesirable phenomena such as mains, hum, and microphony; and faults due to such factors as intermittency and leakage in the valve electrode assembly.

A comprehensive appendix provides a good account of the relation between various systems of units—the author uses the Giorgi (mks) system—and includes a large number of formulae and graphs for the electronic designer. References are included in the text of the book but the bibliography provided relates only to Philips' publications.

The book is a model of clear, straightforward presentation. It assumes very little prior knowledge of the subject but does not shirk the more difficult aspects. It is highly recommended for students, for specialists in other fields, and for all who desire the clearest possible introduction to electronics. In fact the subject is so clearly presented that many experienced in electronic techniques will find it useful as a reference work.

Other books of the Philips series already announced are: Books II, III, and IIIa, *Data and Circuits of Receiving and Amplifying Valves;* Books IV, V, and VI, *Applications of the Electronic Valve in Radio Receivers and Amplifiers;* and Book VII, *Transmitting Valves.* The aim of the series is to make available to the users of electronic apparatus a clear account of the properties and applications of electronic valves. Books II, III, and IIIa will be of interest to those wishing to have data on the valves of this particular European manufacturer. The other three volumes will be of more general interest as they deal with the applications of valves to circuit problems.

J. R. Whitehead
British Ministry of Supply

How to Write It

AUTHOR'S GUIDE FOR PREPARING MANUSCRIPT AND HANDLING PROOF. **80 pp. John Wiley and Sons, Inc., New York, 1950. (Formerly published as** THE MANUSCRIPT.**) $2.00.**

With the intent of reducing confusion and keeping alterations—and therefore expense—to a minimum, the *Author's Guide* is a detailed set of explanations and instructions to authors of technical books on how to bring up a well-mannered manuscript. The fact that it explains as well as dictates means that there is much in it which should be of use to those who are seeing papers through publication in the journals though it should be borne in mind that all publishers have local ground rules.

Anyone with a book in mind could well profit by referring to this book about books before preparing his final manuscript draft. A flow chart included up front, which shows what happens to a manuscript once it disappears into the publisher's hands, is of a complexity sufficiently awe-inspiring to soften even the most unregenerate author and make him receptive to the suggestions that follow. The suggestions themselves are sensible and flexible. They cover such matters as preparation of the manuscript and of illustrations, checking the editing, minimizing the effect of alterations, correcting galley and page proofs, etc. A glossary of terms should help the uninitiate penetrate the mysterious world of the printer and might save him from the embarrassment of altering instructions to the printer in the mistaken belief that gross editorial liberties have been taken.