niques, especially in the laboratory. The treatment is sophisticated in a technical sense and the comments reveal a true and thorough understanding of the subject matter by the authors—a sympathetic soul can sense the suffering the authors had undergone in their own laboratories in learning the experimental truths which are here revealed for the guidance of others.

The first and longer part of the book treats the principles of the chief components used in infrared instrumentation. There are chapters on radiation sources, radiation detectors, optical materials, and amplifiers, and an excellent one on dispersive systems that includes the design of spectrometers. The second and shorter part deals with selected practical applications, specifically the calibration of detectors, the description of a simple monochromator, and a brief recounting of instruments used for gas analysis and plant control and in radiation pyrometry.

Copious references, chiefly to journal articles, are given at the end of each chapter for the further information and guidance of the interested reader. Speaking quantitatively, of the five chapters of the main part of the text, there are 99 references for one chapter, 24 for another, with an over-all average of 55 per chapter. This feature alone will be of great utility to the earnest user of this most valuable little book.

The Hall Effect and Related Phenomena. By E. H. Putley. 263 pp. Butterworth Inc., Washington, D. C., 1960. $9.50. *Reviewed by Stuart A. Rice, University of Chicago.*

STUDIES of the Hall effect have provided valuable information on the electronic properties of solids. Indeed, recent applications of this technique to the study of liquid metals by Wilson, Cusak, and others provide some of the best supporting evidence for current concepts of the liquid metallic state. Putley's monograph is a very fine survey of the Hall effect and related phenomena with primary emphasis on the study of semiconductors. The material is presented in a concise and easily understandable form. Numerous tables are provided which collate large amounts of information and present it in a very usable manner. These tables range from the characteristics of thermometers through equations for transport properties under a variety of conditions and include magneto-resistance functions, saturation magneto-resistance for multi-ellipsoidal surfaces, etc. The descriptions of most phenomena are detailed enough to be useful but not so detailed that further reference to the literature is unnecessary. For example, six pages are devoted to impurity band conduction, but the description concerns experimental details and no discussion of the theory is given.

I believe the book will be extremely useful to graduate students starting research on aspects of the solid state and can also be wholeheartedly recommended to those investigators interested in the properties of semiconductors.