On the epistemological side, this book shows in an exceptionally realistic way how scientific knowledge edges forward unsystematically in unexpected directions. To draw an example: observations were under taken to test, in the few eclipsing stars suitable, the theoretical prediction that light from the limb of a star is slightly polarized. It was instead found that the light from many of the distant stars was polarized, with the consequence that the idea of a galactic magnetic field was introduced to account for the phenomenon.

Of the 462 references, approximately half are in the post-war period 1945–1955, but the contributions of radio astronomy, which fortunately are well-covered in more recent books, occupy less than 3 percent of this work.

In its area, the book should be invaluable to: 1) the professional astronomer who wants to review the state of knowledge to about 1955; 2) any scientist who has an interest in astronomical instrumentation, methods, and results; 3) the intelligent amateur astronomer; and 4) it should be useful as a text on the absorbing medium and solid particles in space.

WALTER E. MITCHELL, JR.

Journal of a Scientician. *Piero Modigliani.* Philosophical Library, New York. 1957. 136 pages. $3.75.

A collection of whimsical, sometimes allegorical, sketches, anecdotes and essays by a technologist (scientician) playing the role of philosopher. Several diagrams include *Crouching Nude*, a patent drawing of a pencil sharpener (called Jupiter) and two dozen historical flasks (antique whiskey bottles). "Yes, all of us are afraid that we might leave without a wake—and when we get panicky, we write books."

DUNCAN MCCONNELL

Introductory Botany. *Arthur Cronquist.* Harper & Brothers, New York. 1961. ix+892. $9.25.

Here is a truly superior textbook for general botany worthy of consideration by all botany instructors. Designed for a full year's course, the approach to the traditional material is fresh and up-to-date. The author, curator at the New York Botanical Garden, has made his best effort in the taxonomy, morphology, and ecology of plants, but other areas are not neglected.

The book begins with an historical survey, structure of cells, cell division, sexual reproduction, and introduction to taxonomy. This is followed by 17 chapters dealing with plant groups through coniferophytes. Next come chapters dealing with the morphology and classification of Angiosperms. Thus, the usual sequence of topics in general botany is reversed. The book closes with chapters dealing with genetics, evolution, and plant ecology. The appendix includes an extensive key to divisions, classes, and orders of plants of the entire kingdom.

Throughout the text there are excellent, new photographs and diagrams. Each chapter begins with a short historical account frequently including portraits of botanists who were involved in discovering the information presented. Substantially more attention is paid to botanical history than in any other botany textbook with which I am familiar. There are usually strong chapters on mineral nutrition and on plant movements. Accounts of photosynthesis, enzyme activity, and respiration are less satisfactory but adequate. Several taxonomic categories new to modern botany textbooks are introduced, as Eumycotina (Eumycophyta), Calamophyta (Sphenopsida), Lepidophyta (Lycopsida), and Anthophyta (Angiospermae). No attempt is made to avoid the use of precise botanical terminology, but terms are in bold face type and are fully defined.

Doubtless a few botanists will quickly decide the book is too "heavy" for class use. Such a conclusion might well be more of a reflection upon the level of botanical instruction in their college rather than on the author's wisdom in choice and presentation of materials.

ROBERT W. LONG