ports of fundamental studies; while, in contrast, the pages of our proceedings are more heavily weighted with papers bordering on engineering. Except for Strong's *Concepts of Classical Optics*, recent textbooks treating fundamental optical problems largely have been prepared by European authors. Born and Wolf's *Principles of Optics* appears to be the text most highly considered in this area on both sides of the Atlantic.

This same situation prevails in the area of trade school or technical institute texts. On this side of the ocean we have a number of native texts; most of which, however, treat the whole range of optical applications or of optical instruments in a single book of two- or three-hundred pages. The European trend, in contrast, is to treat a single optical instrument in an extended text.

Françon's *Progress in Microscopy* is one of these special-field books. In nearly three-hundred pages the author discusses specialized techniques of microscopy developed during the past two decades and describes commercial apparatus which is available to implement these techniques. The only comparable texts prepared on this side of the Atlantic are those written for the training of technicians in several fields, of which electronics is typical. Françon's text, therefore, clearly demonstrates a fundamental difference between philosophies regarding the place of optics and the training of optical workers on the two sides of the Atlantic.

The first third of *Progress in Microscopy* contains a review of the limits set to image formation by the wave nature of light and of the principles of phase microscopy. The remainder of the text contains discussions of the several specialized applications of microscopy with descriptions of apparatus available for these applications.

The author's treatment is lucid and his topics well chosen. The one matter which disturbed this reviewer was an unfortunate tendency on the part of the author to mention investigator's names without including specific references to their publications. The text is concluded with a bibliography of 92 entries, but it is not keyed to the text and does not include all of the names to which reference is made.

Magnetohydrodynamics. Symp. Proc. (Evanston, Ill., Aug. 1961). Ali Bulent Cambel, Thomas P. Anderson, Milton M. Slawsky, eds. 393 pp. Northwestern Univ. Press, Evanston, Ill., 1962. $15.00. *Reviewed by R. E. Street, University of Washington.*

INASMUCH as a collection of twenty-four papers given at the fourth biennial gas-dynamics symposium reflects the particular research interests of the authors, this volume will not give the reader an introduction to or a broad survey of the field. Most workers in the field of magnetohydrodynamics will probably find one or more of the papers of interest. The emphasis is primarily on problems of engineering interest rather than plasma physics, although the latter topic is embodied in some of the contributions.

Almost half of the papers are concerned with theoretical solutions of the macroscopic equations. These present fluid-dynamic solutions for inviscid and viscous flows, particularly for certain aerodynamic configurations. One, for example, obtains a solution of the highly rarefied plasma flow about a thin airfoil, solving a fluid-dynamic equation derived from the Boltzmann equation. The macroscopic point of view predominates except for two papers. One of these is an excellent review of moment methods in transport theory, although entirely concerned with a neutral gas. The other considers the Lorentz gas as an application of a new approximation analysis for linear Boltzmann-type equations.

There are several papers on MHD power generation and ion propulsion, including a good review paper on this development. Two papers give new calculations of the transport properties of high-temperature air and carbon dioxide. Another is a critical discussion of the theory of high-temperature radiative properties of hydrogen with some new results. Four papers are experimental and give new measurements on a blunt-nosed body of stagnation-point heat transfer in argon up to Mach 14, wave velocities of Alfvén waves in a hydrogen plasma, of ion densities in seeded hydrogen and ethylene flames, and the energy transfer to a plasma accelerated by Lorentz forces. Another paper discusses the design of a plasma accelerator to make use of the Lorentz force, concentrating upon the loss mechanisms to be expected.

Most of the papers are clear, well written, and present sufficient detail so the reader can follow the argument without too much effort. This is especially true of the review articles.

Molecular Biophysics. By Richard B. Setlow and Ernest C. Pollard. 545 pp. Addison-Wesley Publishing Co., Inc., Reading, Mass., 1962. $11.75. *Reviewed by Joseph G. Hoffman, University of Buffalo.*

THE authors point out in the preface that this book is set at a level for seniors and first-year graduate students. The exposition is superb in that it describes the pertinent biological systems simply and clearly, and then gives the essential discussion in terms of basic physics and chemistry. The factual presentation is excellent. Even though it is a textbook, with problems assigned after each chapter except the first, it makes for easy and exciting reading. The language and approach to the topics are definitely those of the basic scientist in chemical physics. I am sure that most physicists advanced beyond the authors' specified level of the first-year graduate will be intrigued by the phenomena described and particularly the methods employed in the physical analysis.

The unusual nature of this textbook is shown, for example, in the discussion of the information content of a bacterial cell. The authors show how to calculate the physical entropy per cell for comparison with the information content. The principles are sound, but the figures used may be way off. The entropy content of a