pleasant reading for those who wish a refresher in the field.

Introductory Nuclear Physics. Second edition. David Halliday. John Wiley and Sons, Inc., New York (1955). 493 pages.

The first edition of Professor Halliday's book, published in 1950, won immediate favor with many students then studying nuclear physics at the upper undergraduate and beginning graduate levels and with their instructors. Among its few competitors the book was distinguished for the wide breadth of material surveyed and for the clarity with which the many topics were presented.

Although the number of books on nuclear physics has grown rapidly since 1950, the second edition of *Introductory Nuclear Physics* should hold much of the popularity of its predecessor. It is still frankly an introductory text, covering the broad field of basic nuclear physics briefly and clearly. Topics include cosmic rays, subnuclear particles, and molecular beams, for example, as well as the standard fare of nuclear decays and radiations, particle detection, accelerations, reactions, fission, etc. The arrangement of the material has been improved over the first edition, and the early introduction of new chapters on elements of quantum mechanics and two-nucleon systems should be helpful to the reader. The reviewer recommends the book not only for pedagogical purposes, but also for the library of the nonspecialist in nuclear physics who wishes to have readily available one book in which clear, concise answers to his questions can probably be found.

GEORGE F. PIEPER

Electrons, Atoms, Metals and Alloys. William Hume-Rothery. Revised edition. Philosophical Library, New York (1955). 387 pages. $10.00.

This book, originally published in 1948, represents an attempt to teach modern concepts of atomic structure and the theory of the crystalline state of matter by means of a dialogue between a "Young Scientist" and an "Older Metallurgist." The latter, who took his degree in the period 1910-1920, is unable to keep up with modern advances in metallurgy and seeks the help of a member of the newer generation who brings him up to date in these matters. Topics covered begin with an introduction to quantum mechanics and proceed through the theory of atomic structure, free-electron theory of metals, Brillouin zone theory, ferromagnetism, and the theory of alloy formation. Also included are short sections on the theory of plastic deformation and the structure of the nucleus, both of which have been modified in this new edition as a result of recent developments.

Hume-Rothery states that the book is intended primarily for industrial metallurgists who wish to become acquainted with modern physical theories of metals and alloys and the dialogue form was chosen to make the material more palatable to such readers. How successful he has been in this objective is hard to say. Undoubtedly, a review of this book would best be given by an "Older Metallurgist" who has tried his hand at this novel form of education. It is hard to believe, however, that the few in this category who would have the perseverance to read this book