km/sec. Extragalactic radio sources—possibly distant galaxies in collision—seem to indicate a greater density of the universe at large distances, i.e., at an earlier time in the past; this would contradict steady-state models and agree with the concept of an expanding universe. The statistical results, however, cannot be interpreted unambiguously and are not yet conclusive.

The volume contains a wealth of material in current research, illustrated by tables, figures, and theoretical formulas, and is a valuable contribution to the various fields of astrophysics.

Great Experiments in Physics. Edited by Morris H. Shamos. 370 pp. Henry Holt & Co., New York, 1959. $4.40. *Reviewed by M. W. Friedlander, Washington University.*

TWENTY-FOUR great experiments have been chosen for discussion. After an introductory chapter which sketches the development of the scientific method and of physics in particular, the remaining chapters are each devoted to an experiment of major importance. First comes a brief historical note which sets the scene for the experiment to be discussed; then follows the text of the experiment copied from its original publication (translated where necessary). In the margins, alongside the text, the editor has added many illuminating comments which deal with both the scientific aspects of the experiment and, where necessary, with the altered meaning of words used. There are many references—to the original works, to papers, and to books.

The book was developed "mainly for use by liberal arts students in the new laboratory physics course . . . designed on the 'great experiments' idea". While the content and aim of a general introductory physics course can be debated at length (but not here), there can be no gainsaying the fascination of this book. Well produced, well annotated, well selected, the procession from Galileo to Chadwick's experiment on the neutron encompasses an impressive demonstration of the growth of our physical knowledge through painstaking experiment and inspired interpretations. Those more advanced than freshmen will better appreciate this, and will gain much from perusal of these pages.

The Physics of Electricity and Magnetism. By William Taussig Scott. 635 pp. John Wiley & Sons, Inc., New York, 1959. $8.75. *Reviewed by Jacques Romain, University of Elisabethville, Belgian Congo.*

MORE is contained in this book than its title claims. Not only is the physics of electricity and magnetism explained in detail, but also a good deal of mathematical reasoning is included. Although not written on an advanced theoretical level, it does offer a sound theoretical and experimental basis for understanding, and as such it can be used either as a reference book or as a textbook, especially since the contents are up to date and include many topics not currently found in introductory textbooks. Since the book covers more territory than is likely to be condensed into a one-year course, the instructor must be selective in choosing the material he deems most appropriate. A standard grounding in differential and integral calculus is assumed.

The main topics are: charges, fields, and potential; conductors; dielectric and magnetic materials; steady and alternating currents; an introduction to semiconductors, thermoelectric and electrochemical effects; signal propagation in coaxial conductors and lines; electromagnetic radiation; and an introduction to the special theory of relativity in the four-dimensional formulation.

A full list of abbreviations and symbols is welcome, as are the carefully prepared index and a detailed table of electromagnetic quantities, units, and physical constants. The bibliographical references are unfortunately given only in footnotes, and authors are not indexed or otherwise listed.

Care in the writing is apparent throughout the book and definitions and explanations are neat and precise. Numerous worked out examples of direct physical interest clarify each new concept step by step, and many problems (without answers) are included at the end of sections.

The main unit system used is the rationalized mks system, according to the modern trend, but the important equations, as well as the table of units, are written both in the mks and the cgs Gaussian systems.

High-resolution Nuclear Magnetic Resonance. By J. A. Pople, W. G. Schneider, H. J. Bernstein. 501 pp. McGraw-Hill Book Co., Inc., New York, 1959. $13.50. *Reviewed by D. J. E. Ingram, University College of North Staffordshire.*

NUCLEAR magnetic resonance has now become recognized as a standard research technique in most physics and chemistry laboratories of any size. Its development has followed the trend of all the earlier branches of spectroscopy, the original ideas and concepts having arisen in physics departments where the basic experimental techniques and theory were established. It was then rapidly taken over by the chemists, however, and it would probably be fair to say that the major applications of nuclear magnetic resonance are now in the fields of physical and organic chemistry. The techniques and possibilities of this new form of spectroscopy have been outlined in several reviews and books of general character, and one or two elementary texts on its chemical applications have recently appeared. An authoritative treatment of "high-resolution nmr" has so far been lacking, however, and the present volume by three well-known workers in the field should go a long way to meet the growing demand for just such a book.

The contents are divided into two major groups: "principles" and "applications". In the first section, the general magnetic properties of nuclei are considered