

Ekco 600/676
gamma
spectrometry
gives
very high
resolution



N 600
RATEMETER
N 676
GAMMA DETECTOR

The EKCO N600 Ratemeter provides continuously variable control and meter monitoring of either threshold or gate voltages with automatic or manual scan at the flip of a switch. This makes full use of the high efficiency of a scintillation counter, especially in the improvement of resolution of low-activity mixed samples. Also by selecting suitable settings of discriminator bias level and H.V. supply to the scintillation counter the relation between sample count rate and background count rate is given a maximum value, permitting, for a given accuracy, much shorter times per count.

The EKCO N600 is not only a precision ratemeter but also a combined linear amplifier and ultra stable power unit for use with most high quality detectors, especially the EKCO N676 High Resolution Scintillation Counter. The integral precisely matched optical and mechanical assembly of the N.676 assures resolutions well surpassing older concepts. With the EKCO N600 Ratemeter it provides a system which meets today's needs for quality performance at surprisingly low cost. They are fully described in a brochure immediately available on request.



Isotope
Laboratory
Equipment

EKCO ELECTRONICS LIMITED
Southend-on-Sea, England
In U.S.A. contact associate company
AMERICAN TRADAIR CORPORATION
34-01 30th St., Long Island City 6, New York
Canada: **ELECTRONIC CONTROLS LIMITED,**
11 Water Street, Belleville, Ontario

pendices, one dealing with the computation of rotation operators in terms of spherical functions and the other with the elements of group theory.

The English translation of Dr. Mesiah's admirable treatise should be well received by the scientific community, especially, by those not well versed in the French language. The translation has been skillfully executed and, in so far as it is possible, both the style and contents faithfully follow the original text. The publishers and the translators deserve the gratitude of the readers, especially of the students and teachers. Indeed, it is difficult to find a superior, perhaps even a rival, text in the English language. We highly recommend it for classroom use in introductory and advanced-level courses on quantum mechanics.

Physical Science. Origins and Principles. By Robert T. Lagemann. 458 pp. Little, Brown and Co., Boston, 1963. \$7.50.
Reviewed by Thomas H. Osgood, Michigan State University.

Courage and sensitive judgment are needed by any author who hopes to write an introductory textbook on physical science that is fully acceptable at the college level. What he does must satisfy his own standard of performance; he must capture the enthusiasm of the non-science student; he must produce something that can be taught methodically, yet learned with excitement; and he must select his material with a discrimination that borders on genius in order to dramatize the vast panorama before him. What matters in the long run, however, is not so much the pieces he chooses, as how he puts them together to give his product a logical unity. In achieving this end, Professor Lagemann has wisely built his book around the topics that were agreed upon at the Carleton Conference in 1956 as being fundamental in an elementary study of physical science, viz., conservation of momentum, conservation of mass and energy, conservation of electric charge, wave motion, fields, molecular structure of matter, and the structure of the atom.

To develop these topics and concepts in positional astronomy, he uses about 20% of the book; in classical physics, including the periodic table

and simple chemical structures of molecules, about 50%; and in atomic and nuclear physics, somewhat more than 25%. Especially in astronomy and mechanics he lays stress on the historical foundations of the subject, with strong emphasis on the arguments and instruments of science since the time of Galileo. "Throughout," says the author in the Preface, "the purpose is to demonstrate—through the study of scientific laws and theories—what science is, how scientific knowledge is acquired, and how modern physical science has developed from the past. Consistent with this approach, frequent quotations from the original literature of science allow the reader to look into the mind of the scientist as he reaches a critical point in the process of discovery. Occasional allusions to contemporary figures in art and literature remind the student that science is but a part of the whole fabric of our culture." These well-chosen quotations range from Hippocrates and Ptolemy to Einstein and Rutherford.

Of mathematics, the student reader requires little beyond simple algebra, and he has his appetite whetted for subtle scientific problems by double sets of questions at the ends of all chapters. First, a set of what may be called confidence-building problems, followed by a second set requiring greater imagination and ingenuity than the direct application of a nearby formula.

The numerous line diagrams and photographs are large, clear, and intelligible; the double-column page is easy to read. The index is adequate. Attractive Lissajous figures embellish the paper jacket, but fortunately not the hard cover, for they receive no mention in the text.

On Formally Undecidable Propositions of Principia Mathematica and Related Systems. By Kurt Gödel. Transl. from German by B. Meltzer. 72 pp. Basic Books, New York, 1962. \$3.00.
Reviewed by Richard Schlegel, Michigan State University.

Kurt Gödel's paper on undecidable sentences was published in the *Monatshefte für Mathematik und Physik* in 1930. Since that time his work has come to be a common topic in scientific and philosophical discussions.