when derived by either the Lagrangian or Eulerian viewpoints. There are, however, some who will argue that the use of Cartesian tensor notation is too advanced or sophisticated for the undergraduate student. This is a fallacy; any undergraduate who has mastered calculus and analytic geometry well enough to advance to the third year of a course in science will have little difficulty in getting used to the notation.

In general, the book is very well written and should prove useful, not only to the undergraduate in physics or engineering, but also to the student of mathematics who wishes to gain insight into and appreciation for the subject of mechanics.

Probability: A First Course. (319 pp., $5.00) and **Probability with Statistical Applications.** (478 pp., $6.50). By Frederick Mosteller, Robert E. K. Rourke, George B. Thomas, Jr., Addison-Wesley Publishing Co., Inc., Reading, Mass., 1961. *Reviewed by Robert J. Malach, Eastman Kodak Company.*

FOR the individual seeking a sound, basic introduction to probability and an insight into statistical application, *Probability: A First Course* is an excellent book. The basic material on the probability theory includes discussions of sample spaces, events and sets, Bayesian inference, random variables, and expectations; this is instructive reading regardless of the background of the reader. Special emphasis is given to the binomial theorem and its probability applications. Two of the tables include the individual and cumulative terms of the binomial distribution. All topics are well illustrated with a broad scope of applications. The concluding chapter consists of examples of statistical applications of probability. With an understanding of high-school algebra, the reader will have very little trouble following the text material and working the wide range of problems.

The same material can also be found in the book, *Probability with Statistical Applications*, in which the authors have extended the statistical applications of probability theory in three new chapters. These include good and well-illustrated discussions of joint and continuous distributions, the normal probability distribution, sampling theory, correlation, curve fitting, and the application of least squares to regression analysis. The latter three items compose an additional chapter to the material covered in the continental classroom text, *Probability and Statistics*, by the same three authors.

Viscoelastic Properties of Polymers. John D. Ferry. 482 pp. John Wiley & Sons, Inc., New York, 1961. $15.00. *Reviewed by Stuart A. Rice, Institute for the Study of Metals, The University of Chicago.*

AS in many other fields, the study of the viscoelastic behavior of polymers can be conveniently divided into two categories. First: the development and application of a consistent macroscopic formalism character-

ized by a number of parameters which are experimentally accessible and which suffice to describe the behavior of the material accurately. Second: the development of a molecular theory which can be used to interpret and predict the parameters of the macroscopic treatment in terms of the (presumed known) forces between molecules. This book deals with both aspects of viscoelasticity, and does so rather well.

Supplemented by an amazing amount of experimental data, the author has given an excellent description of the phenomenological approach and the various experimental techniques, their utility, and restrictions. Of considerable value to the experimenter will be the sections dealing with interrelations between the variously defined mechanical spectra, the appraisal of possible calculational errors, and the extensive discussion of the treatment of data.

The treatment of the molecular theory is adequate but less successful than the treatment of the phenomenological theory. The physical basis of the molecular approach is discussed, but only the results of the calculations are presented. It would have been preferable to present some detail, since an appreciation of the nature of the theory is difficult to convey with only the final equations. This is, however, a relatively minor drawback.

This book can be wholeheartedly recommended to all those interested in polymer physics.

BOOKS RECEIVED

Current Trends in Scientific Research. Survey of the Main Trends of Inquiry in the Field of the Natural Sciences, the Dissemination of Scientific Knowledge, and the Application of such Knowledge for Peaceful Ends. By Pierre Auger. 245 pp. UNESCO, New York, 1961. Paperbound $6.75.

Absorption Spectra in the Ultraviolet and Visible Region. A Theoretical and Technical Introduction. L. Láng, J. Szőke, G. Varsányi, M. Zizesy, eds. 413 pp. Academic Press Inc., New York, 1961. $18.00.

Argon, Helium and the Rare Gases. The Elements of the Helium Group. Vol. 1, History, Occurrence, and Properties. Gerhard A. Cook, ed. 394 pp. Interscience Publishers, Inc., New York, 1961. $17.50.

Reports on Progress in Physics, Volume 24. A. C. Strickland, ed. 424 pp. The Institute of Physics and The Physical Society, London, 1961.

Problems of Continuum Mechanics. Contributions in Honor of the Seventieth Birthday of Academician N. I. Muskhelishvili. J. R. M. Radok, ed. 601 pp. Society for Industrial and Applied Mathematics, Philadelphia, 1961. $10.50.

An Atlas of the Moon's Far Side. The Lunik III Reconnaissance. N. P. Barabashov, A. A. Mikhailov, Yu. N. Lipsky, eds. Transl. from Russian by Richard B. Rodman. 147 pp. Sky Publishing Corp., Cambridge, Mass., and Interscience Publishers, Inc., New York, 1961. $7.00.