Hooke's law follows from an assumption of infinitesimal straining of a homogeneous isotropic continuum. An unusual feature is the derivation of explicit relations between the adiabatic and isothermal elastic moduli.

The basic theory is then applied to several problems —Hertz contact problem, elastic properties of crystals, deformation of rods and plates, elastic waves, and vibrations. The theory of shells and the stability of elastic systems are mentioned in a qualitative manner which gives considerable insight into their fundamental character.

The final chapter concerns thermal conduction and viscosity in solids. Such material is not ordinarily found in books on the theory of elasticity. Included are the differential equation for thermal conduction with the correction for the effect of the deformations, thermal conduction in crystals, dissipation of energy through viscous behavior of the continua, the absorption of sound in solids, and a mention of highly viscous fluids.

Although the text is nearly void of examples, there are, at the end of each section, about eighty in all for which the complete solution is given. These problems include the usual examples in a text on the theory of elasticity.

Since the book is concise and easily read, it can be highly recommended to the casual but mature reader. Moreover, the ideas on the philosophical basis of elasticity and thermoelasticity are of great interest to the specialist.

Interactions nucléaires aux basses Energies et Structure des Noyaux: Proc. Internat'l Cong. of Nuclear Physics (Paris, July 1958). Edited by Mrs. P. Gugenberger. 950 pp. Dunod, Paris, France, 1959. 9500 fr. *Reviewed by Kamal K. Seth, Duke University.*

THE need for rapid publication of research in physics was recently brought into focus when the American Institute of Physics inaugurated publication of a journal entirely devoted to brief communications on outstandingly important contributions to physics. However, the editorial restrictions in this sort of a journal are, of necessity, rather stringent. Lots of physics goes on from day to day yielding important information—not necessarily sensational—but extremely valuable to the physicists working in the field. Topical conferences fill the need for dissemination of such information in a way that a journal could not possibly do. The publication of comprehensive proceedings of these conferences makes them even more valuable. Such a conference on nuclear interactions at low energies and the structure of nuclei was held in Paris in July, 1958. The detailed proceedings were published in early 1959 and provide an excellent account of current interest in nuclear physics.

Nearly three quarters of the papers, with the accompanying discussions, are in English—the rest in French. They cover a wide range of nuclear physics, elastic scattering, range of nuclear forces, direct inter-

actions, heavy-ion reactions, photonuclear reactions, nuclear models, weak interactions, polarization, etc. It is impossible to comment on the excellence of the physics presented here—suffice it to say that after the first reading, the reviewer has felt the need to go back to this book literally dozens of times in the last few months. It has become an almost indispensable companion and after a while one no longer minds the few misprints and misplaced figure captions.

New Pathways in Science (Reprint of 1934 Ed.). By Sir Arthur Eddington. 333 pp. Ann Arbor Paperbacks # 29. The U. of Michigan Press, Ann Arbor, Mich., 1959. Paperbound $1.95. *Reviewed by J. C. Polkinghorne, Trinity College, University of Cambridge.*

ALMOST any book published in the last hundred years and attaining some original measure of success is to be found reprinted somewhere in an inexpensive paperbacked edition. No doubt a great service is being performed in making such classical treatises as Rayleigh's *Theory of Sound* available to all for about the price of a meal, but can we say the same about popular scientific expositions? Their purpose is to explain the discoveries of a decade in the idiom of that decade. Is not their proper place thirty years later in the waste paper basket?

Four reasons can be given why this is not so for *New Pathways in Science*. Firstly, Eddington's style is always witty and pleasant to read. Secondly, his philosophical remarks, which with their insistence that the physical world is nothing but a set of symbols giving a structure to our mental percepts and not a "real world out there", are provocative and interesting. Thirdly, it gives a realization of the enormous advances in physical knowledge that have taken place in the past thirty years. The neutron is spoken of as a bound state of electron and proton with the observation that some experimenters rather surprisingly think it is heavier than its constituents. Fourthly, it conveys in its final chapters the flavor of Eddington's reasonings that led him later to write *Fundamental Theory*. In most popular expositions the speciousness and the nonsequiturs which the acute mind detects are due to the effort to express in imprecise everyday language what can only be expressed in precise technical language. However, in this book they accurately reproduce the character of their technical counterpart.

On Understanding Physics (Reprint of 1938 Ed.). By W. H. Watson. 146 pp. Harper & Brothers, New York, 1959. Paperbound $1.25. *Reviewed by M. W. Friedlander, Washington University.*

UNDERSTANDING of physics rests not only upon the ability to follow the mathematical description of phenomena and the deduction of detailed results, but also upon the assumptions underlying the formalism and the recognition of the regions of validity of these assumptions. This book is con-