of the pressure of light. The chapter on ether and relativity is interesting. The usual unconvincing statements are made about the relativity of time and space. The author says, "Relativity is consequently now accepted as a faith. It is inadvisable to devote attention to its paradoxical aspects." The warning perhaps means that 'this way madness lies', and many will agree with him. It is pointed out that if we adopt Einstein's theory, since every observer has his own system of space and time, it is easier to abandon the conception of an ether and think of the light itself as having substance and moving through the void. A description of the Hilger interferometer, Moseley's work on X-ray spectra, cosmic radiation, and Kodacolor photography completes this useful volume.

The Physics of Solids and Fluids: with Recent Developments. By P. P. Ewald, Th. Pöschl, and L. Prandtl. Authorised translation by Dr. J. Dougall and W. M. Deans. Pp. xii + 372 + 4 plates. (London, Glasgow and Bombay: Blackie and Son, Ltd., 1930.) 17*s.* 6*d.* net.

ALTHOUGH of recent years the attention of physicists has been so much concentrated on electrons and quanta, the study of the properties of matter in the solid and liquid states has made great progress, with the result that text-books on the subject have been growing old-fashioned. This volume contains a number of articles which appeared as part of the eleventh edition of Müller-Pouillet's "Lehrbuch der Physik", and it is satisfactory to have them translated into English and collected in this convenient form. Prof. Pöschl, of Karlsruhe, contributes an interesting chapter on elasticity and strength of materials, and a short chapter on the friction of solid bodies. Prof. Ewald writes a chapter on the mechancial structure of solids from the atomic point of view, in which the lattice theory of crystals is described and a useful account of single crystals is given. Finally, Prof. Prandtl, of Göttingen, contributes three chapters on the equilibrium and the flow of liquids and gases. These are to be recommended to anyone taking up the scientific study of aerodynamics. The illustrations are noteworthy, and special mention must be made of the fine photographs of slip and fracture by Dr. G. Sachs and those of stream-lines in air and in water.

Einführung in die Theorie der Wärme: zum Gebrauch bei Vorträgen, sowie zum Selbstunterricht. Von Prof. Dr. Max Planck. (*Einführung in die theoretische Physik*, von Prof. Dr. Max Planck, Band 5.) Pp. vii + 251. (Leipzig: S. Hirzel, 1930.) 8 gold marks.

THIS book is the last volume of a series entitled "An Introduction to Theoretical Physics", and it is in keeping with Planck's work that the last volume is on the theory of heat instead of the theory of electricity and magnetism. Planck has shown that the theory of heat can be built upon the foundation of mechanics and electromagnetism.

It is not intended that this volume should replace the two works on thermodynamics and heat radiation, so well known to all students of physics. These branches of the study of heat are treated here in less detail, and an introduction to the theory of heat must have a more general character. It is in four parts, and the content of the first, third, and fourth is familiar to students of Planck's contributions to the theory of heat. These make very pleasant reading, especially the first part, for it is always a delight to read Planck on the laws of thermodynamics. The second part is on the conduction of heat, and is the only part which tends to relieve the work of its rather specialised character. It is an introduction to certain parts of the subject of heat rather than to the general theory.

Les quanta. Par Prof. Georges Déjardin. (Collection Armand Colin: Section de physique, No. 121.) Pp. 224. (Paris: Armand Colin, 1930.) 10·50 francs.

PROF. DÉJARDIN'S "modeste ouvrage" is actually an exceptionally good account of quantum theory. in which he shows a nice appreciation of the extent to which mathematics can be tolerated by the ordinary honours student of physics. The course followed is the historical one, the radiation problem being taken first, and, after that, specific heats, the photoelectric effect, the scattering of X-rays, elementary spectroscopic theory, and, finally, the new quantum mechanics. Details of experiments are not given, but there is no lack of illustrative results, generally from fairly recent publications. There is a great deal to be said for the omission of such details even from more pretentious treatises, the student being left to refer to original papers for these—with, of course, precise directions as to what he is to read. Prof. Déjardin has succeeded in covering much ground in this small and inexpensive volume, which, if read in conjunction with P. Bricout's "Ondes et électrons", in the same series, furnishes a very satisfactory course on modern physics.

Theoretical Mechanics: the Theory of the Potential. By Prof. William Duncan MacMillan. Pp. xiii + 469. (New York: McGraw-Hill Book Co., Inc.; London: McGraw-Hill Publishing Co., Ltd., 1930.) 25*s.* net.

To the author's remark that the theory of the potential is very useful from the point of view of the physicist and very beautiful from the point of view of the mathematician, we may add that it introduces a class of functions of fundamental importance in connexion with wave mechanics. Whether they are best approached for this purpose in the way given by Prof. Macmillan is perhaps questionable, but there is no doubt that anyone who had worked through this volume would be quite familiar with many of their properties. The ground covered is much the same as in several of the larger treatises on electricity, but the subject is here approached with a minimum of specific reference to the nature of the field. A knowledge of the theory of integral equations is not assumed. The one criticism offered is that rather much space has been devoted in the early chapters to the solution of distinctly elementary problems.