

An Introduction to Atomic Physics

By Dr. John Thomson. Pp. ix+228+4 plates. (London: Methuen and Co., Ltd., 1935.) 10s. 6d. net.

THIS clear and systematic presentation of the fundamental facts and theories of atomic physics consists of three parts, each complete in itself. The first part deals with the experimental basis of the subject; starting with the atomic nature of electricity and the carriers of the atomic charge, the composition of the elements is developed with special reference to the contribution of the mass-spectrograph and Wilson cloud-track methods. The elementary quantum is introduced through Einstein's photo-electric equation and Millikan's verification, after which the work of Planck, and the quantum in X-rays and spectral series are described, concluding with a survey of critical potentials. Part II, on the theory of atomic structure, opens with a detailed survey of the Bohr atom, the deficiencies of which lead to a systematic derivation of the Hamiltonian functions used in general dynamics, as an introduction to a good account of the Schrödinger and de Broglie wave mechanics. This is illustrated by detailed application to the hydrogenic atom and to the theory of radiation. The compression of such a survey of wave mechanics into 40 pages naturally presupposes a good knowledge of mathematics. Part III is devoted to further applications and to molecular, atomic and nuclear radiations. Each part ends with a short summary, and an appendix gives a simple derivation of the leading results of relativity theory as used in atomic physics.

The author's aim is stated to be "to help the reader to gain a clear idea of the essential simplicity of atomic phenomena, and to see in their proper perspective the new principles which modern investigations have brought into being". There can be little doubt that this aim has been very satisfactorily fulfilled so far as the more advanced reader is concerned; in addition, there has been compressed into an easily accessible and digestible form a vast amount of modern experimental and theoretical work.

N. M. B.

Albert Einstein:

a Picture of his Life and his Conception of the World. By David Reichinstein. Pp. 255. (Prague: Stella Publishing House, Ltd.; London: Edward Goldston, Ltd., 1934.) 12s. net.

As an intimate friend of Einstein, the author of this work is in a position to reveal some interesting details of Einstein's life and mental outlook. The great scientific work of the founder of general relativity is thus placed in its proper setting as an aspect of the remarkable development of its author. The liberal spirit of Prof. Einstein is stressed; and in giving an account of his clashes with Prussianism and Nazism, Prof. Reichinstein shows much feeling for the persecutions to which Einstein has been subjected by his fellow-countrymen. There is little doubt that this book is a valuable source of information for any future biography of Einstein. T. G.

Potlatch and Totem: and the Recollections of an Indian Agent

By W. M. Halliday. Pp. xvi+240+24 plates. (London and Toronto: J. M. Dent and Sons, Ltd., 1935.) 15s. net.

MR. HALLIDAY has a personal experience of the Indians of British Columbia which goes back to 1873. He has been in personal contact with them for thirty-eight years, of which twenty-six were spent in charge of the Canadian Government Indian Agency of the Kwawkewlth (Kwakiutl), of Vancouver. His reminiscences of Indian custom fall into two parts. In the first, he describes an imaginary potlatch ceremony, that remarkable custom by which position and prestige was made to depend upon the lavishness with which gifts were distributed by the head of a clan at a feast; and in the second he records such of his experiences among, and impressions of the Indians, while acting as a Government official, as will serve to throw light on Indian character and mentality as expressed in religious belief, attitude to law and authority, and achievement under the white man's system of education. Mr. Halliday's views on racial origins are not to be taken seriously.

The author's outlook is that of a sympathetic official, whose duties and views of Indian character and custom coincide. Thus the potlatch, now forbidden by law, is regarded as detrimental to the interests of the Indian, because, involving a return with interest, often so high as two hundred per cent, it reduced the individual and his immediate group to penury, and was an increasing burden on the community. His account of the institution, however, is sufficiently objective to make it obvious that the potlatch was the integrating factor in the community, and its abolition the death knell of Indian tribal society. The Indians themselves, or at least the younger men, being shrewd and progressive, welcomed a change which set them free from tribal obligations. The tribal disintegration which has followed is a typical example of the results of the application of White philanthropic and moral ideas to the administration of the affairs of a non-European culture. That the results in this instance have not been universally unfortunate is to be attributed to a sympathetic administration, as well as to the abilities and character of the Indians themselves, though the author is inclined to assign their achievement to the infusion of white blood.

Law and the Social Sciences

By Huntington Cairns. (International Library of Psychology, Philosophy and Scientific Method.) Pp. xiv+279. (London: Kegan Paul and Co., Ltd.; New York: Harcourt, Brace and Co., 1935.) 12s. 6d. net.

WHAT comes out clearly in Mr. Cairns's study of the relations of jurisprudence to anthropology, psychology, political theory, economics and sociology is that law, regarded more especially as the judicial process, has become increasingly sociologically minded, and that if it is to achieve full power in ordering human society, "it must join with the other