

*Traité de Physique*. Tome supplémentaire: *La Physique de 1914 à 1926*, première partie. By O. D. Chwolson. Translated by A. Corvisy. Paris, Hermann, 1927. 339 pp.

*Investigations on the Theory of the Brownian Movement*. By Albert Einstein. Translated by A. D. Cowper. New York, Dutton. viii+124 pp.

*Three Lectures on Atomic Physics*. By A. Sommerfeld. Translated by H. L. Brose. New York, Dutton. 70 pp.

The first of these three volumes (translated from the Russian) contains a rather elementary account of the progress in physics from 1914 to 1926. It is divided into nine chapters as follows: the charge and the mass of the electron (chapter I), theory of quanta (II), the structure of the atom (III and IV), line spectra (V), X-rays (VI), band spectra (VII), ultra-violet and infra-red rays (VIII), excitation and ionization of gases by electrons (IX). The treatment is mainly physical in character, and the mathematical analysis is reduced to a minimum. Each chapter is followed by a bibliography indicating the sources of the material and giving references to further related matters.

During the period from 1905 to 1911 Einstein set forth the results of his investigations on the theory of the Brownian movement. Concerning this work of Einstein, F. A. Lindemann (in his article on Einstein, *Enc. Brit.*, 13th edition) says: "One of his [Einstein's] earliest publications gave the complete theory and formulae of the phenomenon known as Brownian motion, which had puzzled physicists for nearly 80 years. He showed that the heat motion of particles, which is too small to be perceptible when these particles are large, and which can not be observed in molecules since these themselves are too small, must be perceptible when the particles are just large enough to be visible, and gave complete equations which enable the masses themselves to be deduced from the motions of these particles." The second volume in the foregoing list contains five of Einstein's most important papers on the Brownian movement together with a substantial appendix of notes by R. Fürth, containing corrections, later references, and some expansions of the original text. The book will serve as an introduction to the study of the Brownian movement.

In his London University lectures on atomic physics (third volume in the foregoing list), Sommerfeld undertakes to set forth his "present opinions" on current problems of atomic physics. He deals mainly with recent developments of the quantum theory. In the first lecture he presents among other things a new theory of the hydrogen atom according to which it has a structure analogous to that of the alkali metals. The second lecture is entitled "The general system of the complex terms." In the third lecture the author deals with the periodic system of the elements and the general problem of chemical linkage. The lectures are of interest to students of physics rather than of mathematics.

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