

The Electron Theory. By E. E. FOURNIER D'ALBE. London Longman, Green and Co.

This most interesting volume is charmingly written, and gives in a very succinct and lucid manner the best popular explanation of the electron theory of electricity which we have yet met with. As the veteran physicist Dr. Johnstone Stoney says in the introductory preface: "The electron dropped, so to speak, into the supersaturated solution of electrical facts and speculations, and furnished the condensation nucleus required for crystallization. One after another the molecules—the facts of electricity—fell into line, and one department of electrical science after another, crystal on crystal, clinked into its place—dispersion first, then electrolysis, then gas discharges, then radium rays, then metallic conduction, and lastly magnetism."

The new conception of the atomic structure of electricity, composed of discrete particles, subject only to the laws which govern the movements of solid bodies, is so far-reaching that it is not easy for those who have been brought up in the old faith to adapt themselves suddenly to the new and simpler belief.

The earlier chapters of Mr. Fournier d'Albe's book are devoted to the properties of the electron, which we may already be said to know more intimately than the atom. The explanation of the discharge through solid conductors, which has been one of the chief stumbling-blocks of all other theories of electricity, is here treated in a very able and lucid manner.

The explanation of magneto-optic phenomena and the so-called Zeeman effect reads like a fairy-tale, the theory fitting in with the observed facts in a weird and almost supernatural manner.

The chapter on voltaic electricity and that on radio-activity will probably more particularly interest the readers of this journal, although no part of the work can be neglected by anyone who would hope to have a working knowledge of electrical phenomena.

The last chapter is on the dimensions of electrical quantities. To the previously recognized fundamental quantities M, L, and T is added a fourth, E—the unit quantity of electricity, the atom of electricity or electron. This results in a considerable simplification of electrical formulæ.

The author concludes this very important work with the pregnant words: "The electron theory, with its logical corollary—the recognition of electricity as a fundamental quantity—gives a consistent and comprehensive view of all the facts of electricity and magnetism hitherto accumulated. Within the next few years we shall, no doubt, witness its application to every detail of electrical science."

Whatever its future may be, the exposition of the electron theory furnishes one with so keen an intellectual gratification that one cannot help exclaiming: "Si ce n'est pas vrai, c'est bien trouvé!"

RECENT LITERATURE.

- Carcinoma Cutis, Treatment by Roentgen Rays.** H. Kaintz (*Archiv. f. Derm. u. Syph.*, December, 1906, p. 351).
- Hair Diseases, Radiotherapy in.** R. Kienböck (*Archiv. f. Derm. u. Syph.*, January, 1907, p. 77).
- Lupus, The Roentgen Rays in the Treatment of.** J. Hall-Edwards (*Archives of the Roentgen Ray*, No. 78, January, 1907, p. 216).
- Lupus Treatment by Radium.** P. Wichmann (*Monats. f. prakt. Derm.*, December 15, 1906, p. 687).
- On Light Treatment in Dermatology.** Kromayer (*Berlin. klin. Wochenschr.*, January 21, 1907, p. 71; January 28, p. 105; February 4, p. 132).
- Photo-therapy, The Present Position of.** Winkler (*Monats. f. prakt. Derm.*, December 1, 1906, p. 617).
- Radium in the Treatment of Skin Diseases.** Wickham (*Ann. de Derm. et de Syph.*, October, 1906, p. 817).
- Rodent Ulcer, The Treatment of, by Zinc Ions.** Lewis Jones (*Brit. Med. Journ.*, February 16, 1907, p. 364).
- Warts (Verruca), The Treatment of, by Magnesium Ions.** H. Lewis Jones and J. M. Flavelle (*Medical Electrology and Radiology*, December, 1906, p. 260).
- X Rays in the Treatment of Carcinoma and Sarcoma.** Chisholm Williams (*Lancet*, January 26, 1907, p. 211).
- X-Ray Treatment of Cutaneous Epithelioma.** C. M. Williams (*Med. Record*, December 8, 1906, p. 907).