

obscured or confused, and their correct interpretation rendered difficult if not impossible by reason of the employment of currents of very high E.M.F. and large currents. He accordingly employed in his study of the phenomena very small E.M.F. and very small current. By this method, he claims, the difficulties which beset earlier investigators disappear and the phenomena are seen in their purity. Then on raising the E.M.F. successive superadded phenomena appear, which would have been extremely puzzling had the start not been made in this manner. Then follows a detailed account of numerous experiments under varying conditions with a great variety of tubes.

A second part of the book describes the author's observations on the effects produced upon electric discharges in rarefied gases when placed in the magnetic field. W.

Report of the Commissioner of Education for the year 1900-1901. Washington: Government Print, 1902.

This publication, comprising nearly 1,300 pages octavo, exhibits very creditably the thoroughness with which this Bureau conducts its business of inquiring into the questions bearing on education in the United States.

In all there are nineteen chapters treating respectively of the following themes: Co-education of the sexes in the United States; Education in the Philippine Islands; foreign universities, etc.; education in Alaska; domestication of the reindeer in Alaska; Consular reports, city school systems; universities, colleges and technical schools; professional and allied schools; agricultural and mechanical colleges; normal schools; secondary schools; manual and industrial training; commercial and business schools; education of the colored race; reform schools; schools for the defective classes; instruction in mining engineering; current topics; miscellaneous educational topics. W.

Report on the Engineering Trades of South Africa. By Ben. H. Morgan, Special Commissioner, etc. (With numerous tables, appendices and reproductions of special plans, drawings and photographs.) 8vo, pp. xii + 192. London: P. S. King & Son (for the National Industrial Association), 1902.

The author was named by the English "South African Trade Committee" as special commissioner to visit South Africa, and, after personal inspection and inquiry on the ground, to report upon the condition of the engineering trades of that country, in the general interest of British manufacturers and merchants.

The work contains the results of the author's mission. American manufacturers especially will be interested in consulting it. W.

Outlines of Electrochemistry. By Henry C. Jones, Associate Professor of Physical Chemistry in the Johns Hopkins University. 8vo, pp. vi + 106. New York: D. Van Nostrand Company. (Price, \$1.50.)

This volume, in a concise and lucid manner, presents the most recent theories of chemical action which have caused so radical a change in the views of chemists. None is better qualified than the author to present this subject in the most intelligible and interesting manner. W.