

add much to the book, particularly should some of the problems be from this standpoint.

G. A. HULETT.

Principles of Chemical Geology. By JAMES VINCENT ELSDEN. London and New York: Whittaker & Co., 1910. pp. vi+220. Cloth.

The title of this book is somewhat misleading, for it is not a general treatise on chemical geology. It is really and professedly an attempt to apply the theory of equilibrium to geological problems, and therefore it covers a well-defined but limited field. The specific questions to which modern physico-chemical ideas and principles are applicable are discussed with some detail in an elementary way, with abundant illustrations of their applicability and a wealth of references to literature. Such themes as viscosity, diffusion, surface tension, vapor pressure, eutectics and solid solutions are considered, and their bearing upon the magma and its solidification are clearly treated. The work of men like LeChatelier, Arrhenius, Doelter, Vogt, Ostwald, van't Hoff and Morozewicz is fully discussed, that of van't Hoff upon the Stassfurt salts being given considerable prominence. English and American workers are also extensively cited, showing that the author has gone quite thoroughly over the available literature. There are, here and there, minor errors in purely chemical and mineralogical matters, but they are so few that they do not lessen the value of the book to any serious extent. The volume will certainly be most helpful to many progressive geologists, for magmatic problems are coming more and more into the field of physical chemistry. What happens when molten rock solidifies, or when a bed of rock salt or gypsum is deposited from solution? Questions like these must be handled by modern methods, and the philosophical geologist can no longer be content with the chemistry of thirty years ago.

F. W. CLARKE.

Beiträge zu einer Kolloidchemie des Lebens. VON RAPHAEL ED. LIESEGANG. Dresden: Verlag von Theodor Steinkopff, 1909. 148 pp. Price, 4 mks.

This is a collection of heterogeneous experiments dealing with the formation of precipitation membranes of various phosphates, silver chloride, copper ferrocyanide, etc., in gelatin, which are supposed to, and possibly do in some particulars, parallel the processes of formation of membranes, growth, partial permeability, and resorption, occurring in living cells.

The experiments are not planned apparently with any definite end in view nor is any explanation given of some of the results. An idea of the scope of the experiments, of which there are one to several included under each heading, may be obtained from a partial list of the chapter headings of Part I, pp. 1-77. "Apparent membrane effects; the passage of circles of diffusion through each other; speed of diffusion; the apparent