
OBITUARY.

PROF. EDGAR McCLURE, professor of chemistry in the University of Oregon, Eugene, Ore., met his death on the ice slopes of Mt. Rainier, in the State of Washington, on the 27th day of July last. He was engaged at the time in the descent of the mountain, after having successfully made the ascent, and taken all the necessary measurements to determine the height of the mountain. When near the foot of the snowfield, night came on, and in the uncertain light his footing gave way, and he lost his life upon the rocks below.

NEW BOOKS.

THE PHASE RULE. BY W. D. BANCROFT. Large octavo. viii + 255. Ithaca, N. Y.: The Journal of Physical Chemistry. 1897. Price \$3.00.

In this book an attempt is made "to present the subject of qualitative equilibrium from the point of view of the Phase Rule and of the Theorem of Le Chatelier, without the use of mathematics." Such facts as bear upon the states and changes of equilibrium of a system of bodies, as determined by the temperature, pressure, and concentrations of its components, are here brought together and discussed in a methodical manner. Generally speaking, this has been admirably done, and the book should be of interest to chemists of every persuasion.

In an introductory chapter, the author defines and illustrates "phase" and "component," and states and explains Gibbs' Phase Rule and Le Chatelier's Theorem. He then passes to the consideration of a system consisting of one component; here the treatment of such familiar notions as boiling-point, sublimation, etc., will prove a revelation to many. Most of the book is devoted to systems containing two and three components, as the greater part of the experimental work on this subject has been confined to such systems. The concluding chapter gives the general theory of systems made up of four components, together with a *critique* of the meager experimental data pertaining to them.

The book has an especial value in that the author points out here and there in his theoretical discussions where further experimental work ought to be done, and, as has often been said,

the proposing of a good subject for research is often as difficult and as valuable as its experimental prosecution.

Also worthy of mention and commendation is the sharpness of definition of certain terms too commonly used in rather a loose sense. To be fair, however, it must be added that the author does not always show a just and impartial appreciation of experimental facts; if he can't give data a clear explanation in the light of his theory, then, he too often concludes, the data themselves must be in error. This is done, in one case, at least, where the author has not fully grasped the experimental facts.

The book, in places, is rather tedious reading, principally for this reason. The author often enters into the minutest details right in connection with general discussions and conclusions, which is somewhat bewildering and confusing. This might have been avoided, perhaps, by a more liberal use of foot-notes. There are also certain notions original with the author and occupying rather a prominent position throughout the work that do not seem to require so much emphasis, especially as they have not been adopted generally; thus the distinction between solvent and "solute," between "fusion" and "solubility" curves is hardly scientific or necessary.

Although the suppression of mathematics in the book may make it more acceptable to those chemists who are lacking in mathematical training, yet a certain amount of mathematical treatment of some points would have rendered them more intelligible as well as more in keeping with the historical development of the subject.

C. E. LINEBARGER.

BOOKS RECEIVED.

An Electrolytic Method of Determining the Temperature of Soils. By Milton Whitney and Lyman J. Briggs. Bulletin No. 7, Division of Soils, U. S. Department of Agriculture, Washington, D. C. 15 pp.

An Electrolytic Method of Determining the Soluble Salt Content of Soils, with Some Results of Investigations on the Effect of Water and Soluble Salts on the Electrical Resistance of Soils. By Milton Whitney and Thos. H. Means. Bulletin No. 8. Division of Soils, U. S. Department of Agriculture, Washington, D. C. 30 pp.