are colorless, most of them appearing as beautifully lustrous plates. The characteristics of the salts are summarized in Table I.

Summary

Twenty-eight salts of hydroxylamine with organic acids have been prepared and described. The Kjeldahl-Gunning and the Krüger methods have been successfully applied to the determination of the nitrogen content of these compounds.

CINCINNATI, OHIO

NEW BOOKS

Lehrbuch der Physik in Elementarer Darstellung. (A Text book in Physics presented in an elementary form.) By ARNOLD BERLINER. Third edition. Julius Springer, Linkstr. 23–24, Berlin W 9, Germany, 1924. x + 645 pp. 734 figs. 17 × 25 cm. Price, bound, 18.60 gold marks.

This is a comprehensive text in physics intended for students specializing in such fields as medicine and chemistry. It is well balanced in plan and covers the whole field in much more detail than do our ordinary American texts for college use. The book is written in an unusually clear style and the author has avoided involved sentence structure. The publishers have aided by printing the book so that various forms of type assist the reader in quickly comprehending the ideas. The illustrations consist of a large number of very simple, clear-cut drawings. A further attractive feature of the book is the stress laid on the biographical side of the subject. This is very neatly done in the body of the text and again in a chronological table at the end. As would be expected, there is considerable of the new physics included, such as the Einstein theory of relativity and Bohr's theory of atomic structure.

It seems to an American teacher that the book would have been more valuable if the material had been more carefully selected. There is too much obsolete physical apparatus described in detail; for instance, tangent galvanometers, influence machines, Atwood's machine, Sprengel's pump, Nernst's lamp, the cells of Daniell, Grove, Bunsen and Clark. Curiously enough, the electron (or 3-electrode vacuum) tube is not even mentioned, nor is there any discussion of the mercury-diffusion pump and rotating, mechanical, oil-sealed, vacuum pumps, which are used so extensively to back up these diffusion pumps. It is a pity that the electron theory of electricity should not be referred to in the discussion of electrostatics and electrodynamics but is postponed until cathode rays are taken up. In fact, all of the earlier treatment of electricity is purely the traditional one. To English-speaking readers it will be a bit of a shock that J. J. Thomson is referred to only once and then merely as the man who improved the cloud

method of C. T. R. Wilson. Also, American chemists will be surprised that the theories of atomic structure of Lewis and Langmuir are not even mentioned, and the physical chemists will be chagrined to find that the great Willard Gibbs and his phase rule do not appear. This omission of certain English and American names would perhaps not be so striking if there were not such a large number of others mentioned who have contributed comparatively little to the science.

N. HENRY BLACK

Kolloides und Krystalloides Loesen und Niederschlagen. (Colloidal and Crystalloidal Solutions and Precipitates.) By Prof. Dr. P. P. VON WEIMARN. Kyoto, Japan, 1921. 3 vols. xviii + 743 pp., with illustrations and 108 plates. 19.5 × 13 cm.

As stated on the title page, these books represent a series of lectures, dealing with the author's dispersological (or colloidal) investigations for the years 1905–1916, which were delivered at the Imperial Universities at Tokyo, Sendai and Kyoto, in Japan. Von Weimarn, one of the intellectual giants of Russia, was driven progressively eastward by the political disturbances in his country, and is now Professor at Sendai, where a special laboratory has been given him. Russia's loss is Japan's gain.

The very form of the book bespeaks the indomitable spirit of the author. The lectures were written in Russian, translated into German by Dr. Ing. S. F. Slokasoff, carefully typewritten (with notes, tables, etc.), and then finally printed from zinc plates made from the typewritten sheets, just as was done with the *Literary Digest* some years ago, when there was a strike of typesetters. To avoid the cost of binding, the pages are clamped in a spring-backed binder. Although von Weimarn has been a frequent contributor to the *Kolloid Zeitschrift* and *Kolloid-chemische Beihefte*, many of the tables of experimental results are here for the first time given in German.

Although the idea was not an entirely new one, von Weimarn was the first to show by extensive and carefully coördinated experiments that (to use his own expression) the colloidal, as well as the crystalloidal state, is a universal form of matter. His classical experiments along this line are given here, the subject being treated mainly from an inductive standpoint, which the author's pedagogical experience had proved to be most desirable. The rather long historical section (123 pages) is a good review of colloid chemistry, wherein the author has achieved his aim to make it an objective presentation.

The book is being published in German by Steinkopff of Dresden-Blaseurtz, and some one would do a great service to colloid chemistry in particular, and to science in general, by publishing an English edition of this important work.

JEROME ALEXANDER