

NEW BOOKS.

Leitfaden für den Unterricht in der anorganischen Chemie didaktisch bearbeitet. Von DR. JOACHIM SPERBER. Dritter Teil. Zurich, Verlag von E. Speidel, 1910. 536 pages.

The first part of this general treatise on inorganic chemistry appeared in 1899 and was reviewed by Prof. Henry Fay in *THIS JOURNAL*, **22**, 222. The second part appeared in 1901 and was reviewed by Prof. Fay in *THIS JOURNAL*, **24**, 197. The present volume bears the date 1910 and constitutes the third and final volume of the work.

The first two volumes dealt primarily with the non-metals and general theories of chemistry. The third volume is essentially a discussion of the metals and their compounds. About forty pages at the beginning of the volume are devoted to the halogen and sulphur compounds of the non-metals and a few pages at the end to the periodic law and the author's theory of valence. The periodic classification is adhered to in the order of the discussion of the metals. The treatment is clear and comprehensive and the volume is deserving the same general approval as was given to the earlier volumes by Prof. Fay. In the "Schlussbemerkung" the author states that because of the increased cost in publication some of the illustrations as well as table of contents had to be omitted. The omission of an index from such a publication needs no comment.

WILLIAM MCPHERSON.

Physical Chemistry for the Electrical Engineers. By J. LIVINGSTON R. MORGAN. John Wiley & Sons, 1909. Second edition, revised. \$1.50.

It is becoming necessary to offer courses in electrochemistry to electrical engineering students but a considerable knowledge of physical chemistry is a necessary preliminary and as these students are generally lacking in this, Professor Morgan's little book is a welcome supplementary text. The first six chapters (184 pages) are devoted to the properties of gases, solutions, chemical mechanics, equilibrium in electrolytes, etc. The author has followed Ostwald's idea and avoided as much as possible the use of hypotheses and has succeeded in presenting these things concisely but still in an interesting way. Some have questioned the advisability of neglecting our ideas of atoms and molecules since the student is already familiar with this point of view from his beginning chemistry and will come across it in his future contact with things chemical. The objection has some weight; on the other hand the presentation is sufficiently different from what the student might have expected to arouse his interest and attention and this is essential, as otherwise little or nothing is thought out or retained. The essential principles of electrochemistry proper are briefly presented. A more frequent mention of the application of these principles to things which are familiar to the electrical engineer would