

40-41). This is truly wonderful in view of the fact that Spinoza was dead eight years before Berkeley was born! But even with regard to the later philosophers, the statement is thoroughly misleading. Again, the author might have learned from any standard history of philosophy, without even looking inside Fichte's works, that the statement that 'Solipsism was first developed and upheld by Fichte, though he ultimately abandoned it' (p. 83), is wholly unwarranted. Finally, Mr. Mivart in denouncing the futility of the question: 'How is experience possible?' supposes that Kant and others who have formulated the epistemological problem in this form raised an absurd question as to whether knowledge does or does not exist, and apparently does not at all understand that they were inquiring what conditions its actual existence implies (pp. 56, 275).

Why should one write on a philosophical subject without special knowledge, any more than on biology or physics?

J. E. CREIGHTON.

CORNELL UNIVERSITY.

The Freezing-point, Boiling-point and Conductivity Methods. By HARRY C. JONES, Instructor in Physical Chemistry in Johns Hopkins University. Easton, Pa., Chemical Publishing Co. Pp. 64. Price, 75 cents.

In this book, which is intended as a laboratory guide, the author has not only included the mechanical processes, but has discussed briefly the principles upon which these methods are based. The subject is treated under three heads. In the first part the historical development and applications of the freezing-point method are discussed, as is the boiling-point method in a similar manner in the second part. In the third part the method used to determine the conductivity of solutions and the applications of this method are described. An apparatus for use in the boiling-point method is described by the author which is much simpler than the Beckmann apparatus and very rapid and accurate in its results. The methods described in this book can be carried out in a short time and should be tried by every student of chemistry who is interested in the methods which have done so much to advance our ideas of the nature of solutions.

J. E. G.

Outlines of Industrial Chemistry. A Text-book for Students. By FRANK THORP, PH.D., Instructor in Industrial Chemistry in the Massachusetts Institute of Technology. New York, The Macmillan Co. 1898. Pp. xx+543.

This book aims to furnish an elementary course in Industrial Chemistry suitable for students in the schools of technology. The subjects treated are broadly classified under the heads, 'Inorganic Industries' and 'Organic Industries,' about one-half of the book being devoted to each. Metallurgy has been entirely omitted. Otherwise the topics selected for discussion are essentially the same as in other similar works. The descriptions of processes, while necessarily concise, are clear and interesting. The author has evidently made a careful study of recent methods of manufacture as well as of older, standard processes. The frequent reference to American practice is an important feature which distinguishes the book from other works on chemical technology. A select bibliography follows each subject, and will be found very useful to those wishing to study any topic in greater detail.

W. A. NOYES.

Aperçus de taxinomie générale. Par J. P. DURAND (de Gros). Paris, Felix Alcan, Editeur. 1899.

The title of this book leaves one somewhat in the dark as to the nature of its contents, but a brief perusal shows that its mission is not so much to tell us how to classify as how not to classify. Not that the author does not believe in classification; on the contrary, he considers that everything should be classified and may be classified, provided we adopt the proper methods. What these methods are we are not told; for, after exhorting us to set about fashioning the general science of classification without delay, M. Durand hastens to add that he himself proposes to take no hand in so important an undertaking, preferring rather to stand by and criticise the efforts of others. Towards all existing schemes the attitude of the author is very much like that of the ship-wrecked Irishman who, as he crawled up the beach of the desert island, waved a piece of driftwood about his head, exclaiming: "Whatever form of gov-

ernment I'm under I object to it!" This general dissatisfaction with the present order of things is evinced even in the title, where we find taxinomy instead of taxonomy, this latter word being rejected on the ground that its formation is vicious, a view that should meet with the approval of sticklers for nomenclatorial purity.

Nevertheless, four chapters are devoted to as many orders, or categories, of classification, namely, those of resemblance, structure, degree, (*hierarchie*) and phylogeny (*evolution*), all of which are treated as if they were new discoveries. These chapters contain numerous familiar examples of taxonomic methods as well as sundry ingenious diagrams, all very good in their way, but all more or less familiar to everyone who has had to explain the principles of zoological classification. We are, then, given a discourse on 'the ternary correlation of the four taxonomic orders,' after which M. Durand proceeds to pour the vials of his wrath upon taxonomists and taxonomic systems in general and Haeckel and his genealogical tree in particular. After this we are told that genealogical classification is the only natural method, those founded upon remembrances all being artificial, since they are based upon arbitrarily chosen characters. It is hardly worth while to pursue the subject further, but it may safely be predicted that few will share the author's conviction that his statements are definite and firmly-established facts upon which we may confidently build.

F. A. L.

BOOKS RECEIVED.

Minerva, Jahrbuch der gelehrten Welt. Edited by K. TRÜBNER and F. MENTZ. Strassburg, Karl J. Trübner; New York, Lemcke and Buechner. 1899. Eighth year, 1898-1899. Pp. xxiv+1139.

Transactions of the American Climatological Association for the year 1898. Philadelphia, Printed for the Association. 1898. Pp. xxxiii+243.

The Second Washington Catalogue of Stars, together with the annual results upon which it is based. Prepared under the direction of JOHN R. EASTMAN. Washington, Government Printing Office. 1898. Pp. lxi+287.

The Last Link, Our Present Knowledge of the Descent of Man. ERNST HAECKEL. With notes and biographical sketches by HANS GADOW. London,

Adam and Charles Black; New York, The Macmillan Company. 1898. Pp. 158. \$1.00.

The Principles of Agriculture. L. H. BAILEY. New York, The Macmillan Company. 1898. Pp. xx+300.

The History of Mankind. FRIEDRICH RATZEL. Translated from the second German edition by A. J. BUTLER. With introduction by E. B. TYLOR. London and New York, The Macmillan Company. 1898. Vol. III. Pp. xiii+599.

SCIENTIFIC JOURNALS AND ARTICLES.

The Journal of Physical Chemistry, November. 'Potassium Chlorid in Aqueous Acetone,' by J. F. Snell; a study of what the author calls, at Professor E. B. Titchener's suggestion, the *dineric* surface for the system potassium chlorid, acetone, and water. 'On the Heat of Solution of Liquid Hydriodic Acid,' by F. G. Cottrell; liquid hydriodic acid proves to be an endothermic compound with reference to gaseous hydrogen and solid iodine, but its heat of decomposition is only a little more than a quarter of that of the acid in the form of gas. 'Note on the Transference Number of Hydrogen,' by Wilder D. Bancroft. 'Alcohol, Water, and Potassium Nitrate,' by Norman Dodge and L. C. Graton; a study of the concentration-curve.

December. 'The Conversion of Ammonium Thiocyanate into Thiourea and of Thiourea into Thiocyanate,' by John Waddell; the conversion of thiocyanate into thiourea takes place very slowly, if at all, below 110°, but above 150° is rapid and equilibrium is reached, whether starting from the thiocyanate or from thiourea, when the product contains a little more than 20 per cent. of thiourea. 'Solution Densities,' by H. T. Barnes and A. P. Scott; a study of the density curves for different concentrations of solutions of zinc, magnesium, cadmium, potassium and sodium sulfates, magnesium, zinc, potassium and sodium nitrates, potassium and sodium chlorids, hydrochloric and sulfuric acids. 'Electromotive Force between Amalgams,' by Hamilton P. Cady.

American Chemical Journal, January. 'Metathetic Relations between certain Salts in Solution in Liquid Ammonia:' By E. C. Franklin and C. A. Kraus. 'Some Properties of Liquid Ammonia:' By E. C. Franklin and C. A. Kraus.