"The Solution Theory of Iron and Steel." The terms solid solution, mixed crystals, and isomorphous mixtures are used synonymously and would lead to misconception.

A valuable list of references is placed at the end of each chapter. Throughout the text credit is not always given where it belongs and one obtains the impression that the author's distinguished preceptor is responsible for more than he would claim for himself. HENRY FAY.

Inorganic Chemistry, by E. I. LEWIS. University Press, Cambridge, England, and G. P. Putnam's Sons, N. Y., 1907. viii + 408 pp. Price, $1.25.

This text was written primarily for beginners at Oundle School, England. Part of the class had had some science, part none. "The course had, therefore, to be both a revision and an introduction." "In preparing the course, an endeavor was made to follow the strictly logical method; hence no compound of unknown composition could be employed for chemical purposes except with the object of determining its composition." "This imposed a somewhat unusual order....." These statements in the preface describe the book. The author has adhered throughout to the scientific method of thought and it is a pleasure to find facts and experimental evidences so bountifully presented before reasoning from them is begun. The atomic and molecular theories do not appear until the eleventh chapter, and no symbols nor formulae are used before this, although volumetric and gravimetric relations in many compounds, such as water, chlorides, oxides of sulphur and of carbon, are experimentally determined. The reviewer heartily agrees with the author that " There is perhaps no more insiduous enemy to sound thinking than an undigested formula"..... and congratulates him on the effective way in which he has provided for their assimilation before adding them to the diet.

But it is questionable whether such wide divergence from the usual order in elementary texts is necessary or advisable. The book is divided into four sections: the first contains six chapters, "Leading to Equivalent Mass;" the second, six chapters, "Leading to the Atomic Theory;" the third, seven chapters on the "Application of the Atomic Theory;" and the fourth, fourteen chapters, called Part II, "Leading to the Classification of the Elements." This arrangement necessitates recurring to the same subject several times: for instance, Chapter II is on "The Elements of the Air," and Chapter XIX is on "The Atmosphere;" Chapters X, XV, XVI and XXIX are all on carbon and its compounds: fluorine, bromine and iodine are not mentioned until chapter XXII, and hydrogen peroxide appears first in chapter XXVI, rather far along in a book consisting of thirty-three chapters.

The dissociation theory is treated a little like an unwelcome intruder. It is all there, even to the grotesque 'idion and 'osion nomenclature

(which it is devoutly to be hoped may not gain a foothold in this country), but it is held in the background and is not utilized effectively.

Many details are highly commendable. There are numerous excellent problems and the historical sources are often mentioned. This adds interest, and simultaneously teaches a little of the history of chemistry. The Latin and Greek derivations of new words are always given,—without doubt the best way to impress their meaning on the memory. The line drawings of apparatus are unusually clear and instructive, and there are but few misprints; the reviewer noticed only three. A fairly good index completes a book well worth reading. S. LAWRENCE BIGELOW.

Die Chemische Affinität und Ihre Messung. By DR. OTTO SACKUR, Privatdozent, University of Breslau. Vieweg & Sohn, 1908. viii + 129 pp.

This volume is one of the monographs of the series called "Die Wissenschaft" and is intended to present the problems of chemical affinity and the methods for attacking them in a form convenient, compact and intelligible to all classes of chemists. The treatment of the subject on the basis of the rigorous definition and formulation of chemical affinity as a thermodynamic entity (van't Hoff's definition making the maximum work which a reaction can produce the measure of the affinities involved) is up-to-date, thorough and perspicuous. To any one interested in this most fascinating field, containing one of the ultimate goals of all chemical effort, the present book will serve as good introduction to, and will give a convenient survey of, the subject.

On p. 71, line 18, in the calculation of the equilibrium constant for potassium sulphate and potassium carbonate in contact with the corresponding barium salts, by a printer's error the concentrations of the non-ionized potassium salts are spoken of instead of the ionized parts. The degrees of ionization should also have been calculated with the aid of Arrhenius' theory of isohydric solutions. J. STIEGLITZ.

Laboratory Manual of Qualitative Analysis. By WILHELM SEGERBLOM, A.B., Instructor in Chemistry at the Phillips Exeter Academy. Longmans, Green & Co., 1908. xiii + 136 pp.

This manual presents the method of teaching qualitative analysis that is said to have worked well with the classes at the Phillips Exeter Academy. The analytical methods are the standard ones in general use, the best works on this part of qualitative analysis having been ably and conscientiously used. The directions are clearly stated, with full details. The theoretical treatment of the subject is extremely meagre and unsatisfactory. No use is made of the rôle played in analytical reactions by the laws of equilibrium or of the application to analysis of the conclusions of the modern theories of solutions. The insight into the chemistry of the reactions is necessarily defective, as a consequence.