ever, is evidently intended for a younger class of students than Ostwald intended his work. The author has so condensed the subject, and has attempted to cover so much ground, that it is believed it will be difficult for the student to grasp the real significance of the subject. It would have been a much more valuable book if the theory of solutions had been presented more simply, perhaps at some greater length, and with more numerous discussion of examples.

Some of the statements will, undoubtedly, give the student a false impression. On pages 19 and 21 it is stated that the amount of dissociation is increased by heat, giving the impression that this is a general law. Again, on page 21 one gets the idea that the greater the dilution the greater is the chemical activity. The explanation of the effect of a salt of a weak acid on the strength of a strong acid is merely a statement of fact.

That portion of the book, pages 27–157, devoted to the processes of qualitative analysis is well arranged, practical and progressive, including all the more recent and approved methods of separation. Considerable stress is laid upon spectroscopic analysis. The application of normal solutions to laboratory reagents is to be commended. H. F.

Laboratory Instructions in General Chemistry. By Ernest A. Congdon, Professor of Chemistry, Drexel Institute. Philadelphia, P. Blakiston's Son & Co. 1901. Pp. viii + 110.

It is difficult to review justly a laboratory book of experimental chemistry which is primarily intended for the author's own students, because there is no means of knowing what instruction the student has received from the lectures which accompany the laboratory course. When, however, it is stated that the book can be used with any standard text-book, the reviewer's task becomes much simpler, since the laboratory guide is supposed to follow somewhat closely the text of the standard work.

The first 21 pages of this book are devoted to experiments illustrating principally the laws of physical and chemical changes, and chemical reactions. These experiments, if the student is expected to follow them in order, are poorly selected and badly arranged. Indeed many of them are entirely out of place. Some of the experiments involve the use of substances, the properties of which must be entirely unknown, and it would be impossible to explain at so early a stage the nature of the reactions taking place. The student is asked, on his second or third day in the laboratory, to try the following experiments: the action of sulphuric acid on a mixture of potassium chlorate and sugar, the preparation of gunpowder, and red and green fires. These experiments undoubtedly do represent physical and chemical changes, but perhaps too violently for a beginner. Under the chapter on reactions, the student is asked to write the reactions between ferric chloride and ammonia, and ammonium sulphocyanide, ferric hydroxide and hydrochloric acid. All this before oxygen has been studied!

Beginning with oxygen, however, the experiments are the standard experiments to illustrate the properties of the various elements.

An appendix of fifteen pages contains quantitative experiments to illustrate the laws of definite and multiple proportions and the various gas laws. It is believed that some of them are too difficult for first-year students in chemistry. H. F.

The Chemists' Pocket Manual. A Practical hand-book containing tables, formulas, calculations, physical and analytical methods for the use of chemists, assayers, metallurgists, manufacturers and students. By R. K. Meade, B. S., Instructor in Chemistry in Lafayette College, Easton, Penn. Easton, Penn., The Chemical Publishing Co. Price, $2.00.

The nature and general contents of this book are described in the title. The book is well printed and contains such information as a chemist is almost daily in need of, and can be highly recommended as a reference book. The only feature of the book about which anything else than praise can be expressed is the price at which it is sold. The book is about 4 x 6 inches and contains 193 pages. The 'Chemiker Kalender,' the general nature of which this book follows, with its supplement, contains about three times the amount of material found in this book and only costs one half as much.

J. E. G.