
Chemical Calculations. *H. V. Anderson.* McGraw-Hill Book Company, Inc., New York. Sixth edition, 1955. viii+305 pp. $4.75.

This volume provides a very useful arrangement and choice of information for the beginning student in college chemistry. Introductory sections on weights and measures, significant figures, dimensional analysis, and exponents should aid the student who wishes to help himself with these topics, which are sometimes overlooked or assumed as background in the course of instruction. The chapters in traditional problem areas are well supplied with understandable examples and include sound problems of varying difficulty. Problems and discussion are presented on the gas laws, Mole-weight-gas volume relationships, chemical formulas, electrochemistry, oxidation-reduction, concentration and equivalency, thermochemical processes, equilibria, and a number of other subjects. The approach is generally traditional and tends to emphasize an understanding of the relationships involved rather than mechanical manipulation of mathematical formulas.

In a few cases, the language seems unfortunate. For example, the simultaneous oxidation and reduction of chlorine upon contact with base is termed "internal oxidation and reduction". This phenomenon is probably more often termed "disproportionation". The use of the term "valence number" as synonymous with oxidation state may confuse the student who has previously studied the section on valency.

The scope of the discussion, which is, of course, entirely a matter of the author's choice, is occasionally difficult to appreciate. While a very clear and adequate treatment is given to most of the phenomena normally discussed at this level, some topics are omitted. The entire problem of complex formation, and the dissociation equilibria related thereto, is ignored. This seems strange since the relationships involved in the precipitation of sulfides, which are equally difficult and which find their pertinence at about the same stage of development of the student, are discussed. It might also be suggested that the discussion of the calculation of degree of ionization from experimental data would make the problems involving degree of ionization of weak electrolytes more meaningful.

There is no question but that this book will be of much value both to the student and to the instructor. The student will find the illustrative examples informative and easy to follow while the instructor will find much to aid him in the preparation of quizzes and problem assignments.

DARYLE H. BUSCH