the second, which includes both gas and solution reactions, with catalysis by group or electron transfer. The third chapter deals with reactions catalyzed by enzymes; this subject has become a rather complicated one, but Ashmore brings out the general principles very clearly and applies them to a few typical examples.

The subject of heterogeneous catalysis is dealt with in four comprehensive chapters which describe the modern theories of chemisorption and their application to the problem of the mechanisms of surface-catalyzed reactions. Three chapters treat the catalysis and inhibition of chain reactions and, among other topics, deal with pyrolyses, polymerizations, and oxidations.

Ashmore treats the subject at a fairly advanced level, and his book will be of great value to research workers. At the same time, the book is written in a lucid and sufficiently explicit style so that it will undoubtedly be much consulted by many students of chemistry and chemical engineering who are embarking on a study of chemical kinetics.

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Theory and Applications

Aerodynamics. John E. Allen. Harper and Row, New York, 1963. 128 pp. Illus. $2.95.

Allen has packed into ten dozen pages a quite astonishing amount of information on aerodynamics and its applications to a wide range of subjects. Aerodynamics is presented in a much broader sense than the conventional one that implies the science underlying aeronautical engineering: Allen discusses airflow over mountains, wind effects on buildings and towers, galloping power lines and oscillating bridges, boomerangs, re-entry, and magnetohydrodynamics, to name only a few of his concisely treated topics. That he succeeds in saying something useful about each one of so many topics in so small a book is the result of a tight style and well-selected illustrative numerical data.

The book is not a text, but neither is it merely a chatty commentary on its subject. It is an effective and readable introduction to the theory and applications of aerodynamics. For the benefit of graduate students in numerous fields who should read Allen's book, I hope it will soon be published as a paperback and thus become available at an even more modest price. This is a very good little book.

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Physical Inorganic Chemistry

The Inorganic Chemistry of Nitrogen. William L. Jolly. Benjamin, New York, 1964. xii + 124 pp. Illus. $5.75.

This is a volume in the Physical Inorganic Chemistry Series, a series designed to illustrate the applications of concepts from physics and physical chemistry to inorganic problems. The editors of the series state that the volumes are suitable for use as supplementary textbooks for an advanced inorganic chemistry course, as reference treatises on inorganic chemistry, and as introductions, for specialists, to specific research fields in which attention is directed to unsolved problems. In his preface, the author, William L. Jolly, comments on the wide variety of molecular structures and properties among nitrogen compounds, on the practical importance of many of them, on the fact that the chemical reactions of nitrogen compounds are seldom thermodynamically controlled, and on the efforts of kineticists to unravel and systematize the mechanisms of these reactions.

The book contains 11 chapters that cover the unique features of nitrogen; elementary nitrogen; the compounds of nitrogen with hydrogen, the halogens, oxygen, sulfur, phosphorus, carbon, and boron; hydroxyl amine; the oxy acids; and the thermodynamics of nitrogen compounds. Each chapter is followed by a short list of references (2 to 11 references, with an average of 5.3). The presentation is lucid and well illustrated. Naturally, in a book of this size, the coverage represents only a sampling of a large field of investigation. Although the author successfully arouses a desire to learn more, the references are too few and too general to aid the reader directly in his pursuit of more information. Modern concepts of physics and physical chemistry are frequently utilized, but the reader will not appreciate their full significance unless he consults other works. The book would be much more useful had it included a series of problems or exercises based on the material covered. This is particularly true of the last chapter in which the thermodynamics of nitrogen compounds are treated.

The quality of the typesetting, the paper, and the binding are excellent. Errors are very few indeed.

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Notes

Metallic Solid Solutions. J. Friedel and A. Guinier, Eds. Benjamin, New York, 1963. Unpaged. Illus. $19.75. This volume contains the 1962 Orsay Lectures, 52 papers given at an international symposium supported by the French Centre National de la Recherche Scientifique and held in July 1962. The editors write in the preface that the "meeting dealt with the structure of metallic solid solutions . . . and that the main object was to induce physicists dealing with both crystallographic and electronic aspects of that field to come together to describe and discuss their latest results and ideas. The papers vary in length from a one-page abstract to a 38-page essay, but the majority are short.

Progress in Reaction Kinetics. vol. 2. G. Porter, Ed. Pergamon, London; Macmillan, New York, 1964. viii + 391 pp. Illus. $15. Eight papers: "The rate constants of halogen atom reactions," by G. C. Fettis and J. H. Knox; "Mercury photosensitized reactions," by R. J. Cvetanović; "The reactions of methylene and some simple carbenes," by H. M. Frey; "The kinetics of *cis-trans* isomerizations," by R. B. Cundell; "The kinetics of propagation of anionic polymerization and copolymerization," by M. Szwarc and J. Smid; "Rate constants of protolytic reactions in aqueous solution," by M. Eigen, W. Kruse, G, Maass, and L. De Maeyer; "The rates of reaction of some haem compounds," by Q. H. Gibson; and "Kinetic treatment of consecutive processes," by R. M. Noyes. The reaction index (pp. 363–375) tabulates 1000 reactions for which rate data are given in volumes 1 and 2 of this series.