more important gaps in present knowledge—what geographic areas have not been sufficiently explored and what unsolved problems exist in the better known areas. Illustrations are limited to a few geologic cross sections, detailed maps of small areas, and maps designed to correct or to supply more detail to the large map. The list of references at the end of each chapter is short, but includes papers to which an interested reader can turn for more complete bibliographies.

The volume holds to its purpose as a handbook, attempting no more than a concise description of the rocks and structural features shown on the map. There is no effort to synthesize an over-all picture of the geology of South America or to relate South American geology to the rest of the world. This means that the book is hardly suitable for reading from cover to cover by anyone without previous knowledge of South American geology and place names. But as a reference book it is excellent, providing an authoritative and convenient means of getting information quickly about the geology of any South American country.

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Handbuch der Physik. vol. XIX, *Electrical Conductivity,* 1. S. Flügge, Ed. Springer-Verlag, Berlin, 1956. 411 pp. Illus. DM. 82.

This volume is one of a series constituting the *Encyclopedia of Physics* edited by S. Flügge. It consists of four chapters. Each chapter is beautifully done with very little overlapping of subject matter. Some overlapping is found: J. C. Slater's figure 42 and Harry Jones' figure 4 illustrating the displacement of the electronic wave packet when a metal is subjected to a potential gradient are the same but with different notations. Other cases of repetition appear but these are, in general, necessary for a complete treatment of the subject and are helpful to the reader.

The volume opens with a thorough treatment of the electronic structure of solids (136 pp.) by Slater, and may be considered a discussion of methods of solving Schrödinger's wave equation for a crystal consisting of nuclei and electrons. Slater chooses typical solids to illustrate the principles involved in finding the potential in which an electron moves and treats in detail the periodic potential problem. He traces this from the free-electron theory, through the tight-binding and cellular approaches, to the augmented plane-wave method and shows the limitations or advantages of each. He is very lucid in pointing out that the free-electron approximation, although it appears to agree with more elaborate methods of calculation especially in describing conductivity, is not a true representation of the situation. Slater also carefully points out that the complete solutions are involved and have not been carried through in actual cases, although he sees hope for this in the advent of modern digital computers.

Slater's treatment of electric conductivity hits the high points. He outlines the relation of energy-band theory to electric conductivity, to semiconductors, and discusses the impurity problem. He closes his chapter with a treatment of electron interactions and discussions of chemical bonds and magnetic properties of solids.

The second chapter (90 pp.) by A. N. Gerritsen deals with the conductivity of metals. The emphasis is on experimental methods and results. He discusses the effects of melting, pressure, lattice defects, magnetic transformations, and impurities on the electric resistivity of metals and gives correlations between conductivity and atomic numbers and electronic configuration of the elements. His discussion of the conductivity of anisotropic metal crystals permeates the whole chapter and is generally good. However, on page 140 he states that experimental results for a polycrystalline material agree with Voight's equation and yet on page 155 he states that no experimental values are available for polycrystalline material. Apparently, Gerritsen's view is that all metal crystals are quasiisotropic. This chapter's great merit lies in the compilation of accepted values for resistivity and temperature coefficients of resistivity of metals.

In the third chapter (89 pp.), Harry Jones gives a thorough mathematical treatment of the theory of electric conductivity including thermal conductivity. He discusses the statistical and wave theories of conduction and proceeds to calculate the resistivity of a metal based on the Debye and Einstein solid models. He discusses the thermoelectric and galvomagnetic effects. Also he does not overlook a discussion of the anomalous skin effect where the electronic mean free path exceeds the classical skin depth. This chapter is highly mathematical and profuse with derivations but is an ideal companion for Chapter 1.

The volume closes with photoconductivity (80 pp.) by G. F. J. Garlick. This chapter is written clearly and the various diagrams illustrating the conduction band, the filled band, the Fermi limit, and the forbidden gap for the electronic energy-band of a crystal are excellent, indeed. His discussion of the barrier-layer theory of photoconductivity is especially good. The photovoltaic and photo-electro-magnetic effects are also discussed. This chapter closes with a discussion of the photoconductivity of specific solids, inorganic and intermetallic compounds, and organic systems. Nearly all materials of commercial import are considered.

This volume is highly recommended to those interested in the theory of solids. The electronics engineer would also do well to have this book as a reference. The book is especially valuable in that it indicates gaps in our knowledge and points the way for further research on the solid state.

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Psychology of Industrial Conflict. Ross Stagner. Wiley, New York; Chapman & Hall, London, 1956. 550 pp. Illus. $8.

Using the thesis that "wars begin in the minds of men; so do strikes and other forms of industrial conflict," Ross Stagner has attempted to construct out of the materials of psychological research a consistent theoretical framework for the analysis—and possible amelioration—of industrial conflict. Drawing upon his extensive experience and background in psychology and as a member of the Institute of Labor and Industrial Relations of the University of Illinois, he has performed an invaluable service in collating and organizing a great number of empirical studies in the field and of challenging both management and union people—those who have the motivation and background to stay with a complex treatise frequently written in technical language!—to reexamine their own insights and conclusions concerning management-union relations. But the framework itself seems to have only limited applicability to the problems at hand.

Although he does not deny the relevance or usefulness of the "macroscopic" approaches of sociology and economics, Stagner's framework is emphatically that of psychology—of individual psychology—and its principal structural members are the concepts of perception, motivation, frustration, and aggression. Although these concepts, as developed in recent research, do illuminate some small aspects of the problem, their overall inadequacy for the purpose of consistent analysis is reflected by the extent to which reference to them is absent from the treatment of major areas of concern.

The first six chapters develop the concepts of perception, motivation, and frustration and aggression, and the application of the psychological principles in these areas to management and union groups. Two succeeding chapters deal