

sources of a scientific method. Much of current research in this area is dedicated to demonstrating precisely the opposite.

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Insect Life in the Tropics. T. W. Kirkpatrick. Longmans, Green, New York, 1957. xiv + 311 pp. Illus. \$7.

In the past century, science, and with it entomology, has become an area for the expert. The rigorous code of the latter, especially in the publication of results, has all but driven the amateur natural historian from the field. Yet, in the opinion of many scientists, the amateur is the primordium of the professional and, therefore, he should be attended. The large body of popular writings on science appearing under recognized names indicates that he is, and that popular works increasingly enjoy the regard of professionals.

Now this excellent little volume on tropical entomology joins the distinguished books of Hoyle, Gamow, and many others in its encouragement of the amateur. It may be too good for him. The opening chapters of the book are organized on the plan of a textbook on entomology; insect structure and classification are given—briefly, it is true, but with little sacrifice of technical accuracy to so-called popular appeal. The sections that follow comprise an entertaining potpourri of facts about tropical insects, in chapters rather loosely headed "Development," "Reproduction," "Food and feeding," "Defense and protection," and "Insect communities." These make delightful reading, although the expert will be mildly irritated by the lack of specific citations to literature and of rigid subject categories, in which the author had to make some compromises for the sake of brevity. The many diagrams, photographs, and drawings are well done. This book is highly recommended.

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Thermodynamics and Statistical Mechanics. A. H. Wilson. Cambridge University Press, New York, 1957. xv + 495 pp. Illus. \$9.50.

The author states that his aim is to give a somewhat critical account of thermodynamics and statistical mechanics intended mainly for theoretical physicists. However, the lucidity, charm, and succinctness of his style will doubtless appeal to a wider audience. Many physical chemists, physical metallurgists, and ex-

perimental physicists or graduate students needing a review of these fields will be included.

The initial four chapters (90 pages) are devoted to thermodynamics, starting with two on the classical development of the first and second laws of thermodynamics from first principles. The presentation is so clear and easy to follow that superior undergraduates could use it for collateral reading, even in a first course. Thermodynamic functions and the myriad equations in which they appear are neatly treated next, and Caratheodory's axiomatic foundation of thermodynamics is clearly presented in the fourth chapter.

Chapters five and six (88 pages) discuss statistical mechanics and some of its simple applications (general principles, connection with thermodynamics, fluctuations, quantum statistics, perfect gases, crystalline solids, radiation). In library copies, these pages will probably be particularly well worn by generations of graduate students. The next chapter, on the third law of thermodynamics, rounds out the discussion of general laws and their most immediate applications.

The last four-sevenths of the book (280 pages) comprise seven chapters, on applications to imperfect gases, heterogeneous equilibrium, electric and magnetic phenomena (mostly solid state), gas mixtures and chemical reactions, solutions, electrochemical systems, and some additional topics in solids (rubber and order-disorder). They are all fine graduate-level introductions, but as the book is a text rather than a reference work, those particularly interested in special topics may want to consult the references at the ends of the chapters. These are fairly current, and though far from exhaustive, include many important papers, texts, and reviews. Topics traditionally in the field of physical chemistry are treated in sufficient detail to satisfy most physicists, but chemists would probably want to go further. Though many topics in solid-state physics are treated (besides those cited, there are discussions of ferroelectricity, paramagnetic substances, ferromagnetism, antiferromagnetism, and superconductivity in the chapter on electric and magnetic phenomena), the theory of lattice defects, semiconductors, and thermionic emission is omitted, and theory of metals (treated by the author in another book) is barely touched. While cooperative phenomena might perhaps be treated most elegantly together, four such cases are discussed in the chapter on electric and magnetic phenomena, one in the chapter on additional topics in solids, and one (superfluidity) in the chapter on heterogeneous equilibrium, with a bit on rotational transitions tucked away in the chapter on the third law. But this

is a minor matter when balanced against the eminent success of the author's attempt to achieve his stated aims.

A number of misprints were found: "constant-value" appears where "constant-volume" should be (second paragraph, page 70); a subscript "II" should be "I" on page 27b, equation 9.42.2; summation over i should be indicated in the second term on the right of equation 11.321.1 on page 366; the reference to "fig. 8.9 of page 226" above table 11.1 on page 370 should be to figure 8.8 on page 224; on page 436, line 2, "grounds" should be changed to "groups," and on page 448 the "lo" has disappeared from paralleloiped.

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Induced Delusions. The psychopathy of Freudism. Coyne H. Campbell. Regent House, Chicago, 1957. xx + 189 pp. \$4.

This book is an attempt to "expose" psychoanalysis and to eject psychoanalytic theory from medical school curricula. The author believed that analytic concepts and theories were fantasies and hypnotically conditioned delusions of no scientific or therapeutic value. The entire volume is replete with strongly emotional statements which are frequently confused, contradictory, and inaccurate. It is much too revealing in ways that were not intended. It cannot be recommended for any serious reader.

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Dangerous Properties of Industrial Materials. A completely revised and enlarged edition of *Handbook of Dangerous Materials*. N. Irving Sax. Reinhold, New York; Chapman & Hall, London, ed. 2, 1957. vii + 1467 pp. \$22.50.

In this encyclopedic reference volume the author and his assistants have presented a rewritten and enlarged version of Sax' *Handbook of Dangerous Materials* (1951). This volume discusses 8500 materials in approximately 1500 pages, whereas the earlier volume devoted 850 pages to 5000 materials.

The objective of the earlier volume was to provide a conveniently arranged reference work on the hazardous properties of chemical compounds and other industrial materials with emphasis on what precautionary measures should be taken to handle them safely.

The 12 sections comprising the enlarged edition are conveniently thumb-