

appeal to both sets of people. The text is interspersed with worked examples and exercises, and at the end of each chapter are lists of further reading, a summary of key points, and a further set of exercises and problems. Brief answers to the exercises are provided in one of the appendices. These examples and exercises provide an opportunity for individual study and self-testing.

The material of the book is divided into three major sections, together with some appendices. The first major section is entitled "Foundations" and deals with the usual items of atomic and molecular structure, shapes, structures of solids, acids and bases, essential coordination chemistry, and oxidation and reduction. The discussion of shapes includes an improved presentation of symmetry and an analysis of molecular vibrations.

The second major section of the book is concerned with the systematic chemistry of the elements. A new chapter on metallic elements has been added as compared to the first edition. Clearly the authors envisage that this should be read in the light of the principles expounded in Part 1. The reference to experimental techniques, together with photographs and diagrams of real apparatus, is especially welcome. There is a chapter on Main-group organometallic compounds, though boranes and fullerenes are dealt with only cursorily. What pleased me particularly was the emphasis throughout on systematic and IUPAC-recommended nomenclature, with both the general forms of Periodic Table Group notation used as synonyms.

The last major section of the book is entitled "Advanced Topics". These cover electronic spectra in enough depth for most chemists, reaction mechanisms of d-block elements, transition-metal organometallic chemistry, catalysis, structures and properties of solids, meaning oxides, fluorides, and sulfides, including non-stoichiometric compounds, and a short chapter on bioinorganic chemistry. These chapters are not intended to give complete coverage of their subjects, rather to show how research is developing, and the authors admit that there may be some divergence of opinion about the contents. Nevertheless, I found them easy to read and presented in a very useful manner.

The appendices contain more material on nomenclature, a brief introduction to NMR theory, more information on group theory including character tables, lists of ionisation energies and standard potentials, diagrams of symmetry-adapted linear combinations of atomic orbitals, and Tanabe-Sugano diagrams, as well as the answers to the exercises and the indexes.

This is a well presented book that is a pleasure to read or even to browse through, and in my judgement it will prove to be highly student-friendly. It should be a serious candidate for a principal inorganic text for many undergraduate and less-specialised postgraduate courses.

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Progress in Inorganic Chemistry, Volume 42

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This latest volume continues the tradition of varied and authoritative reviews for which "progress" has become esteemed. The present collection starts with a contribution on slow proton-transfer reactions by K.W. Kramarz and J.R. Norton. This includes a brief account of the phenomenon, how and why it occurs in organometallic and bioinorganic reactions, then discusses the extant examples. This is a useful review, but is an end-on bridging dinitrogen really η^2 ?

The next review is on oligopyridines in supramolecular chemistry, and is by E.C. Constable, who has contributed greatly to this subject. This is followed by a lengthy review of ternary transition sulfides by B.W. Eichorn. This very much reflects the current interests in solid-state inorganic chemistry, with heavy emphasis on physical techniques.

The next review is the major contribution to this book. It is on transition-metal organoimido complexes, and is by D.E. Wigley. It covers more than 240 pages, and lists 623 references. This really merits a book on its own, and does raise the question to a degree of what the editor has in mind for further volumes in this series. The review is probably the most significant summary of the area since Nugent and Mayer's splendid book. It is detailed and comprehensive. It is full of tables of compounds, and will undoubtedly be an invaluable source of reference. It is also rather densely written, and is not the kind of thing that I find easy to read. It would possibly be more appropriate as a Chemical Review or even as a book in its own right. Notwithstanding these comments, many researchers will be grateful to Wigley for his herculean labours.

The final review is also far from a lightweight effort, being almost 100 pages and citing 369 refer-

ences. It is on palladium-complex-catalysed oxidation reactions, and is by A. Heuman, K.-J. Jens, and M. Regliér. It discusses a process which has important industrial applications, and will doubtless prove useful to many.

In summary, therefore, this is another valuable volume of wide appeal, which maintains a high standard throughout, though in different ways. Organometallic chemists of many kinds will use it,

and the book should be available in every respectable chemistry library.

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