

biscoordination proposed for Cd(II) flavin complexes by Hemmerich et al.⁸

The quadrupolar splittings needed to simulate the FH₂ase modulation curve do not correspond well to the pure nuclear quadrupolar resonance splitting for histidine or imidazole or backbone nitrogens; however, Ashby et al.⁹ have shown that these energy levels are sensitive to changes in environment. Table I shows some of the quadrupolar transitions obtained in other

systems. Recent EXAFS data¹¹ suggest multiple sulfur coordination to nickel in this enzyme.

The ESEEM study described here thus suggests a nitrogen nucleus from the protein or possibly the FAD coenzyme in the FH₂ase is close to the nickel paramagnet. Taken with the EXAFS data, these results begin to define the likely ligands to the nickel. The striking distinction between the FH₂ase and MVH₂ase data indicates the discriminating power of the ESEEM approach.

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Additions and Corrections

Electrocatalytic Oxidation of Carbon Monoxide in a CO/O₂ Fuel Cell [*J. Am. Chem. Soc.* **1983**, *105*, 7456]. JIANXIN WU and CLIFFORD P. KUBIAK*

Page 7457, second paragraph: The rate constant $k^h = 1.86 \times 10^2 \text{ cm s}^{-1}$ should be $k^h = 1.86 \times 10^{-2} \text{ cm s}^{-1}$.

Self-Diffusion of Water at the Protein Surface: A Measurement [*J. Am. Chem. Soc.* **1984**, *106*, 428-9]. C. F. POLNASZEK and R. G. BRYANT*

Page 429, lines 24-28: The sentence should read as follows—The neglect of these effects can be shown to result in a calculated diffusion constant that is somewhat *larger* than the correct value and a calculated distance between the centers of the interacting particles that is *smaller* than the correct value.⁸

Book Reviews *

Atmospheric Pollution, Its History, Origins and Prevention. 4th Edition. By A. R. Meetham, D. W. Bottom, S. Cayton, A. Henderson-Sellers, and D. Chambers. Pergamon Press, Oxford and New York. 1981. xi + 232 pp. \$15.00.

This book covers a wide range of topics on air pollution, including the sources, measurement, effects, and control of pollution. It also provides a brief discussion on the air pollution laws administered in the Western European countries and the United States of America. While the initial chapters of the book appear remotely related to the atmospheric pollution, it is not until one reads past Chapter 10 that the usefulness of the book can be realized. While I trust the authors had some good purpose to scope the book which includes a lengthy discussion on the sources of pollution such as fuels, furnaces, and other industrial equipment, this discussion could have been brief without losing the purpose served. For example, the engineering drawings of the archaic boilers, such as Cochran and Lankashire types, occupy so many pages; the book could have been just as useful without them.

The chapter of measurement of air pollution is succinct, clear, and reflects the start-of-the-art, though it is limited to two pollutants, namely the particulates (smoke) and sulfur dioxide which are of major concern in England. In fact, the whole book places much emphasis on these two pollutants, only having a brief reference to others. The discussion on atmospheric dilution processes and their effect on spacial variability of pollution is given in simple terms requiring little special training for the

reader to understand the subject. The discussion on the British approach of using tall chimneys as effective means of reducing ground-level concentrations of pollution is skillfully handled which leaves a novice to air pollution with the impression that the solution to pollution could be just as simple. The effect of using tall chimneys at large distances away from the sources is not explained well. The long-range transport of pollutants and their effect in acid participation is a major concern in North America and Scandinavian Countries where dilution with the use of tall chimneys is not considered as a solution to pollution. As such, the air pollution law in the United States limits the maximum height of the chimneys that industry can use while the British regulate the minimum height of the chimneys which places no limitation on how tall they can be.

All this and the discussion on air pollution laws and their administration in several countries provides a good start for the reader in learning about air pollution, its sources, effects, and control methods.

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Survey of Contemporary Toxicology. Volume I. Edited by Anthony T. Tu (Colorado State University). John Wiley and Sons, New York, NY. 1980. ix + 357 pp. \$39.50.

It is difficult to review a book that is one volume in a series designed to survey the field of contemporary toxicology when the editor does not give a list of the topics that will be covered in other volumes. The reader is forced to place Volume I in a perspective about which he is uncertain.

The real strength of this book is the comprehensive manner in which it treats the toxicology of substances in foods or that have food related origins. Indeed six of the seven chapters (Chapters 2-7) deal with this

*Unsigned book reviews are by the Book Review Editor.