

# BOOK REVIEWS

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Selection of books for review is based on the editor's opinions regarding possible reader interest and on the availability of the book to the editor. Occasional selections may include books on topics somewhat peripheral to the subject matter ordinarily considered acceptable.



**Progress in Solid State Chemistry,  
Volume 9**

*Editors* J. O. McCaldin and  
G. Somorjai

*Publisher* Pergamon Press  
(1975)

*Pages* 317

*Price* \$37.50

*Reviewer* R. K. Skogerboe

This book is a continuation of the rather popular series on solid-state chemistry. While the topical coverage is fairly diverse, there are some common features throughout the book. Prominent among these is the theme that structure on a micro scale, approaching the atomic dimensions, is the principal determinant of technological properties. The opening chapter considers the polyanion framework of zeolites and the facilitation of chemical reactions within the pores of such systems. Models

for the formation and growth of supported metal crystallites are reviewed together with the recent status of knowledge regarding unusual structures of small atom clusters. The role(s) of such crystallites as sites for catalyzed reactions is thoroughly examined in a very readable presentation. The chapter on graphitizable materials emphasizes the complexity of the crucial structures formed during the mesophase transformation, while the following chapter on steels suggests that the understanding of these has reached the point that unique alloys can be produced. The chapter on oxidation of thorium, uranium, and plutonium is an outstanding review with an extensive list of references. The chapter on polymers is well done; it is particularly appropriate for the nonspecialist. The closing chapter presents the chemist's view of superconductivity in a manner that should be of use to chemists, physicists, and materials scientists. The book should be quite useful to specialists

and nonspecialists in these fields. It contains a wealth of useful information, the figures and tables are unusually well done, and it is clearly and concisely written. Perhaps the most negative aspect of the book is the fact that the literature citations cover only the period up to 1973.

*R. K. Skogerboe, professor of chemistry at Colorado State University, specializes in research in the area of trace analyses. Before accepting his present position, he was a member of the staff of the Materials Science Center at Cornell University. He has done extensive work on the development of analytical methods for the characterization of the chemical and physical properties of materials. He has worked cooperatively with numerous chemists, metallurgists, and physicists in elucidating the effects of trace constituents on the chemical and physical properties of materials. Skogerboe has published extensively in his field.*