

than five thiocyanate groups is undermined by the appearance of  $\text{UO}_2(\text{NCS})_6^{4-}$  in a table of synthesized ions on page 266 and the inclusion of  $[\text{Co}(\text{en})_3]_2[\text{UO}_2(\text{NCS})_6](\text{NO}_3)_2 \cdot 5\text{H}_2\text{O}$  in a table of preparable compounds on page 255; the procedure for the preparation of this compound described on page 270 omits the use of a thiocyanate salt! The thermal data on page 428 for a series of sulfate complexes of  $\text{U}^{+4}$  suggest the formula  $3(\text{NH}_4)_2\text{SO}_4 \cdot (\text{NH}_4)_2[\text{U}(\text{SO}_4)_3(\text{H}_2\text{O})_3]$  in which all waters are in the coordination sphere of  $\text{U}^{+4}$ . This suggestion is at variance with the interpretation given in the text.

The number of typographical errors is tolerably small and of minor importance. The reader will have to adjust to several awkward or unfamiliar expressions, e.g., "genetic series," "intraspheric coordination," and "localization" (for "location").

The authors occasionally point out those areas of the chemistry of uranium complexes which either are unexplored or are explored but whose results lend themselves to interpretations which are moot. Very little synthetic work has been done on cyanate complexes; only Pascal's study in 1914 represents this area. Chapter 15 lists over 200  $\text{UO}_2^{+2}$  complexes with organic ligands (amines, phenols, hydroxyquinolines, polyprotic acids, and miscellaneous organics including adrenaline). The formulas given by various investigators, most of them from outside of Russia, are based on only chemical analyses. The structures are unknown and can only be guessed within the framework of modern coordination theory.

*Complex Compounds of Uranium* is an adequate survey which will serve as good background for workers in uranium chemistry and in reactor fuel processing.

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## AN EMPTY PROMISE

*Title* Successful Engineering Management

*Author* Tyler G. Hicks

*Publisher* McGraw Hill, 1966

*Pages* xii + 287

*Price* \$8.50

*Reviewer* Joseph H. Bach

In 1890, this volume might have passed muster as an elementary description of industrial management techniques. The subtitle, "Modern Techniques for Effective and Profitable Direction of the Engineering Function," appears to be a promise to guide the reader through the new techniques specifically developed to control the ever growing complexity of the engineering manager's job. It is an empty promise. While CPM, PERT, OR, etc. are mentioned, the description and analysis of these and other management techniques is compressed into a few uneven pages. The reader is then advised to read all about it in the references which follow each chapter. The balance of the text is a mish-mash of banalities and generalities, which indicate that the author is unqualified to discuss the subject and that the publisher did not have the fortitude to reject a worthless manuscript.

Written in three parts, the first of these deals with the advantages of becoming a manager (you get two extensions on your phone!) and equally puerile advice on how to get there. This is followed by chapters listing various functions often performed by managers, ranging from technical writing through labor negotiations. With minor exceptions not a single subject is adequately described, nor are alternatives or application critically discussed. Typically, the chapter on proposal writing shows the last 4 of 8 major (sic!) steps as "Typing, Binding, Final Check and Submission." Not a word on proposal organization, what to put in, or how to describe the work program. Twelve pages on contract negotiations can be summed as "be alert, and nice to the customer."

The planning process, although mentioned often is left to the readers' imaginations, as are other major engineering management problems such as Evaluation of Alternatives, R & D Program Selection, etc.

The final part of the book describes some typical management jobs which usually fall to an engineer, and repeats the generalities of the first two parts. Redundancy is not the least of the book's many deficiencies. Whole paragraphs are repeated, often three or four times throughout the text, leading one to suspect that the editor was too bored to read either the manuscript or the proof in its entirety.

The book's high price need not discourage anyone who may wish to own it. This reviewer predicts that it will appear shortly on the shelves marked "Any 3 for 50¢."

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## INTERESTING AND THOROUGH RECAPITULATION

*Title* Scientific and Managerial Manpower in Nuclear Industry

*Author* James W. Kuhn

*Publisher* Columbia University Press, 1966

*Pages* xv + 209

*Price* \$7.50

*Reviewer* R. L. Doan

This book represents a study of the role of manpower in the development of nuclear technology, with particular reference to the nuclear power industry. It is part of a