

oughly discussed in a very detailed and scholarly presentation. The evidence for the possible existence of RnF^+ is also reviewed (57 pp., 172 refs.). The 'Extraction of Metals from Sea Water', by K. Schwochau is a complete change of pace. This article brings together the varied and probably not widely known procedures for isolating metals in low concentrations from large volumes of water. For example the author notes that were one to isolate 1 ton of uranium from sea water per day, one would have to process 1 km³ of water! The energy cost of such an engineering feat might well exceed the energy value in the uranium. Nevertheless the sea clearly contains a wealth of important metals and this article presents an interesting survey of the problems and solutions involved (44 pp., 166 refs.). An author index for Vols. 101–124 is also included.

The Chemistry of Ruthenium, by Elaine A. Seddon and Kenneth R. Seddon, in *Topics in Inorganic and General Chemistry*, edited by R.J.H. Clark, Elsevier Science Publishers, Amsterdam, 1984, Dfl. 650 (ca. U.S. \$250.00), pp. 1374.

This enormous tome covers the coordination chemistry, organometallic chemistry, structural chemistry, kinetics, spectroscopy, photochemistry, etc. of ruthenium compounds in their many oxidation states. It is part of a series of books, in which a specific element (or related group) is thoroughly discussed (many now out of print!). The authors are to be congratulated for bringing together such a wealth of material on one element and its compounds. This book must become a bible for anyone working with ruthenium — though its price will preclude personal ownership. While many compounds are noted in the text by a reference, there are extensive tables of data listing spectroscopic information of many kinds (mainly UV/vis/NMR/IR), photophysical data, electron transfer constants and quenching constants. The presentation is divided into chapters each dealing with a different oxidation state of ruthenium. In addition there are specific chapters for ruthenium carbonyl clusters, ruthenium nitrosyls and the rapidly growing field of photophysics and photochemistry of diimine ruthenium systems. Much (X-ray) structural data are included in the text, but, curiously, these are not tabulated together for comparison purposes. It is difficult to ferret out such structural information from the text except where one is looking for a specific compound. The chapters are extensively sub-headed with a contents list which enables one to enter the book fairly readily. There is a subject index but it is rather less useful except as a means of finding specific blocks of compounds. The book is interesting to read with many preparative details. The authors do not say simply A plus B gives C, but frequently add

solvent and condition information. This is a two-edged sword; it adds interest but has undoubtedly contributed in a major way to the length of this book and hence its high price. With some 3000 references until 1983, the book is a ruthenium mine.

The Editor's Desk