

Book Review

Complexion of Trace Metals in Natural Waters. Kramer, C.J.M. and J.C. Duinker (Eds.)

Here is a book that not everybody will need. *Complexion of Trace Metals in Natural Waters* is a symposium volume (from the 1983 Texel Conference) with the usual weaknesses and the few strengths of the genre.

Because it includes contributions by the principal workers in that field (including some of the most famous and obscure authors), the book provides a convenient guide to the literature. It also gives a glimpse of the present status of a field whose importance keeps increasing despite the modesty of the available results. Experimental techniques for complexation capacity measurements are described, compared and discussed; current concepts of trace metal complexation, adsorption and biological effects in natural waters are presented. Yet, the editing is too uncritical, the articles too superficial and the novel contributions too few to make this book indispensable or even truly useful to anyone but the active specialist.

Camera ready typos and grammatical creations aside, the editors have exercised little discipline. Several very short articles – even an abstract – that contribute little are included. The organization in sections seems largely arbitrary, including, for example, bioassays of free metal ion activities in Biological Responses rather than in Techniques. The reviewing of individual articles seems to have been very loose; I was particularly distraught by the perpetuation of the misuse of Scatchard plots (mistakenly taking asymptotic slopes as estimates of complexation constants) in the very first chapter.

Many contributions are largely repeats of published articles – often little more than extended abstracts. However, my major criticism may be addressed to the field rather than to this book which merely reflects it: Present techniques, results and ideas are not discussed critically (except for Anodic Stripping Voltammetry, everybody's favorite scapegoat); central issues of kinetics or of geochemical sources, sinks and relevance, for example, are not squarely addressed. A refreshing exception is to be found in several chapters where the dogma of the central importance of free metal ion activities as determinant of biological effects is put into question. Though the obvious possible importance of lipid soluble complexes merits attention, the published results (by Florence, et al. and Lagreid, et al.) do not make a convincing case.

In reading that *compte rendu* of the first symposium on the Complexion of Trace Metals in Nature Waters, only one article captured my scientific emotions: I enjoyed the observations of Imber, et al. in their CEPEx experiments; they hint at the biological control of trace metal speciation through

the release of complexing metabolites by phytoplankton. Better techniques and more imaginative experiments are needed to go further.

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