

through all parts of the book. When the reader notices that large quotations are being drawn from the work of others, let him beware! Often these have been rather uncritically selected. For example the final chapter on long-range transport has its obvious weaknesses.

The theoretical descriptions of dispersion (Chapters 9 - 11) are inadequate in that they omit several other valid theoretical approaches and they are not self-critical enough. Surprisingly comparisons with real field data are few and far between in this book. Surprisingly, because in such a complex physical field such comparisons are essential if reality is the objective.

So there are weaknesses and it would be amazing if there were not. Do not let this deter you, reader, from buying or borrowing the book. It is a lot of very good things in it and it is a pleasure to read. Other books in the same field that students should read are Scorer's book 'Environmental Aerodynamics', as we have already said, Oke's book 'Boundary Layer Climates', Brown's book 'Analytical Methods in Planetary Boundary-Layer Modelling' and Pasquill's book 'Atmospheric Diffusion' to mention just a few.

F B SMITH

### **Ion Chromatographic Analysis of Environmental Pollutants, volume 2,**

by J D Mulik and E Sawicki  
published by Ann Arbor Science, Ann Arbor,  
Michigan, 1979, 435 pp, price £20 50

Ion Chromatography (IC) is a relatively new technique in ion analysis. It has grown rapidly since its introduction in 1975 and has now become the method of choice for many anion and cation analysis problems — particularly in the inorganic area. There have been several symposia devoted to IC and this book is a compilation of papers from one such event. In some thirty three contributions we learn how IC has been used to determine ions such as fluoride, chloride, nitrate, nitrite, sulfate, sulfite, phosphate, azide, sodium, potassium and ammonium in such a wide diversity of applications and environments as industrial process waters, boiler feed waters,

rainwater, foodstuffs, drugs, blood, urine, nuclear fuel reprocessing, fertilizers, diesel exhaust, ambient aerosols, flue gas desulfurization and the thermal decomposition of plastics. Although the book is sparse on the theoretical basis of IC — for this the reader can consult the original papers — there is a great deal of practical information on chromatographic conditions, sample treatment and the approach to special problems. We learn, for example, of the challenge and problems of determining common anions such as chloride and sulfate at the part per billion level, their typical concentrations in the feed water to power station boilers. As is to be expected in a multi-author book, the style and quality of the chapters vary widely and there is some tendency to repetition and overlap in the problems tackled and methods used. Some mistakes have slipped past the editors — figure mislabelling mostly and not serious.

I believe the book will be very valuable to those involved in inorganic analysis since it describes some current action in a rapidly growing new technology. For those with just a casual or general interest in chromatography I feel it is too specialized to justify their buying their own copy.

HAMISH SMALL

### **Developments in Heat Exchanger Technology I**

by D Chisholm (Editor)  
Published by Applied Sciences Publishers, 300 pp,  
price £26

This is an interesting book for those concerned with the many facets of the design of heat exchangers.

The main emphasis of the book is concerned with two aspects of heat exchanger technology: a) shell and tube heat exchanger usage and b) the application of enhanced heat transfer in heat exchanger technology.

Chapter 1 gives a general overview of heat exchanger technology including reference to economics of their use.

Chapters 2, 3 & 4 give detailed quantitative analysis of the design of shell & tube heat exchangers for single phase, reboiler and condenser applications. These chapters I consider to be very good in their quality of content and presentation.