Reeve begins with two very general introductory chapters: (1) Introduction and (2) Transport of Pollutants in the Environment and Approaches to Their Analysis. This introductory material is followed by a discussion of analytical techniques starting with simple volumetric techniques for water quality analysis and ending with a discussion of ultra-trace analysis methods.

The analytical techniques discussed earlier, begin in Chapter 3 which is entitled "Water Analysis—Major Constituents." Discussed are analytical techniques for determination of the concentration of suspended solids, dissolved oxygen, oxygen demand (BOD), total organic carbon, pH, acidity, alkalinity, hardness, electrical conductivity, ion analysis (using ultraviolet and visible spectrometry, emission spectrometry, ion chromatography, and ion electrodes).

To illustrate the "learning technique" employed in this series of books, I reproduce later the learning objectives for the chapter "Water Analysis—Trace Elements" (Chapter 4).

Learning objectives:

- To understand the need for extraction and pretreatment in the analysis of trace water components.
- To choose and apply suitable analytical methods for organic trace pollutants in water.
- To choose and apply appropriate methods for trace metal analysis in water samples.
- To understand what is meant by the term "speciation" and describe how it may be investigated for metals in water.

The author begins this chapter with a discussion of the analytical methods to detect and quantify organic trace pollutants. The techniques of analysis he discusses include gas chromatography, liquid chromatography, and immunoassay. Attention is paid to analysis for DDT as well as fingerprinting of oil spills. The final part of the chapter deals with the analysis of metal ions. The analytical methods covered are atomic spectrometry, inductively coupled plasma-optical emission spectrometry, inductively coupled plasma-mass spectrometry, anodic stripping voltammetry, and liquid chromatography.

In his preface, Reeve notes "the original book was aimed largely at background monitoring of the environment. Current interest requires a much wider area of coverage, in particular in monitoring liquid and gaseous discharges and surveying areas of past pollution. In this present text, there is a larger section on sold sampling and extraction and sections on analysis of contaminated land and landfill are also included. More emphasis is placed on source monitoring. There is an expansion of quality assurance and quality control and more detail on quantification of the techniques."

Reeve starts this process of expansion in Chapter 5 entitled "Analysis of Land, Solids and Waste" which he says is an introduction to the methods for sampling and extraction of solids, especially contaminated land.

Logical follow-ons are Chapters 6 and 7, titled "Atmospheric Analysis—Gases" and "Atmospheric Analysis—Particulates", respectively. Discussed are methods for stack sampling, personal monitoring and remote sensing (Chapter 6). Chapter 7 deals with particulate sampling methods using high volume samplers, cascade impactors, isokinetic sampling, PM10 sampling, and air pollutant solid analysis (including asbestos).

The final chapter in the book discusses ultra-trace analysis. Discussed in detail is the analysis of dioxin (more properly called 2,3,7,8-tetrachlorodibenzo-*p*-dioxide), one of the most feared trace pollutants.

The final section of the book contains answers to the self-assessment questions, a bibliography, a glossary, and a list of units of measurement and physical constants.

While Reeve does not discuss the analytical methods in great detail, he does present on overview of their basis and use. Given this preparatory material, the student can turn to a discussion of the methods of analysis with confidence.

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