

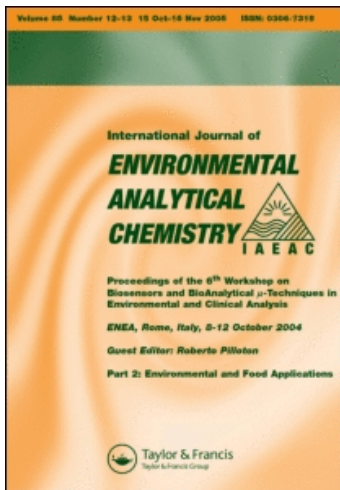
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Book Reviews

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BOOK REVIEWS

TROUBLESHOOTING IN DER HPLC (*Fehlersuche in der HPLC*) by N. Vonk, B. G. J. Baars and H. Schaller, Birkhauser Verlag, Therwill (Switzerland), 140 pages, ISBN 3-7643-2400-7, SFr 44.80.

Chrompack (Middelburg, the Netherlands) is a well known instrument company active in all areas of GC and HPLC. They frequently organize seminars, courses and workshops, and the obvious success of one of these, *Troubleshooting in HPLC*, has now led to the compilation of the present book which, by the way, is written in German. Three workers active in HPLC have combined their own, their colleagues' and customers' experiences with HPLC-at-the-bench, and try to help out analysts with their daily problems of instrumental breakdown, column performance, voids, leakages, t_0 shifts, unexpected changes in flow-rates, etc.

The book can be used by anyone with a working knowledge of HPLC (it does not contain an introduction on theory and/or general practice of the technique). There are eight chapters: Introduction into troubleshooting, Pumps, Injection, Columns, Mobile phases, Detection, Systematic troubleshooting, and Diagnosis of the chromatogram. In other words, a useful general introduction about how to proceed when having to carry out troubleshooting is followed by a series of chapters dealing with the main parts of an HPLC system e.g. analysis with, finally, a multiple choice chapter (17 examples of often occurring problems; answers provided) to find out whether one now really understands what it all is about.

The text, with its 20 tables and 26 figures, is systematically organized, and easy to read and understand. Most of the well known problems and pitfalls are considered, and many of the more important parameters are discussed—though, often, rather briefly: in total, there are less than 140 pages of text! Aspects not in the book in any detail include column packing, fluorescence detection, post-column reaction detection systems, and micro/capillary HPLC. This critical remark certainly is not intended to say that the present book does not fulfil a useful purpose. On the contrary—any worker at the bench should at least be familiar with the topics discussed in *Troubleshooting* and, consequently, have such a text at his disposal. In due course of time, however, (s)he will have to know more about a number of aspects, and will have to scrutinize more advanced texts. Having read the authors' preface, I am certain that they are of the same opinion.

U. A. TH. BRINKMAN

WATER SAMPLING, ed., J. M. Krajca, Ellis Horwood Ltd., Chichester, U.K., 212 pages. £39.95, ISBN 0-853128138.

The Ellis Horwood books published in the series "Water and Wastewater Technology" reflect the awareness of the importance to the world of water, wastewater treatment and related subjects. The present book—the text of which was written already a few years ago (1985) and for which Jeremy Joseph acted as translation editor—discusses the relevant aspects of an all too often neglected but, nevertheless, highly important topic, viz. sampling—in this case, water sampling.

As Jaromil Krajca or, rather, he and his collective of authors state, the term "sampling technique" covers the entire sampling operation, from the selection of sampling points to the delivery of samples for analysis. Their book is therefore concerned with the drawing up of a suitable sampling programme, the discussion of the representative value of certain types of samples, the sampling instrumentation and equipment to be used, as well as the characteristics of various sampling situations. Rationalization, standardization and automation are the goals that have to be kept in mind here. For the rest, almost all information not connected directly with the technology of sampling has been omitted—that is, analytical procedures are not discussed in any detail, and no information is provided on, e.g., the properties or composition of natural waters.

The sequence of the book follows the natural circulation of water through the atmosphere, hydrosphere and lithosphere. That is, the book opens with an extensive chapter on the general considerations and common aspects of sampling and, next, discusses the sampling of atmospheric precipitation, surface water, soil water and groundwater. The chapter on groundwater—which is the largest one in the book by far (70 pages)—deals with aspects such as sampling equipment and techniques, sampling from natural sources, in mine workings, from pumped sources and unpumped boreholes, sampling for specific (radiochemical, isotopic, bacteriological) analyses and specific purposes (during drilling, hyperthermal waters and vapours). The book also contains two short chapters on auxiliary measurements, observations and equipment, and the legislation, standardization, organization and economics of sampling. Two interesting appendices provide information on the principal properties of materials commonly used in the manufacture of sampling equipment, and on the parameters and components which should be determined or preserved at the time of sampling. There is a list of 156 references; the majority of these, unfortunately, stems from the pre-1980 period.

The text of the book—which contains over 70, often very detailed, illustrations—is highly readable and provides a clear insight into the many aspects and pitfalls of water sampling. If the sampling step is not carried out properly, the generated analytical data lose much of their value. In other words, a text like the one reviewed here should be available in every laboratory dealing with environmental water analysis.

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