have been used to cite complete titles of those references for which only the names of authors and journals were cited. The book is reasonably priced.—B. J. STOJANOVIC, Professor of Soil Microbiology, Mississippi State University, State College, Miss.

**Water and Water Pollution Handbook—Volume I**


The formal structure of this four-volume set consists of two parts: Part I—Environmental Systems and Part II—Chemical, Physical, Bacterial, Viral, Instrumental, and Biossary Technique. This book represents Volume I of Part I and is divided into nine chapters. Chapters 1, 2, 3, and 7 deal with chemical, physical, and biological characteristics of water resources, estuaries, irrigation and soil water, and waste and waste effluents, respectively. The balance of the chapters are concerned with self-purification in natural waters, use of computer technology to develop mathematical models for natural water systems, the effects of pollution upon aquatic life, chemical and physical purification of water and waste water, and biological waste treatment.

The 12 authors who contributed to this timely volume have drawn from a wealth of empirical findings produced by a large number of scientists with interdisciplinary backgrounds. The volume is written for potential users who must understand and appreciate the general characteristics of the environmental system before they attempt to make meaningful measurements of it. Any treatise of this nature, however, requires a certain period of time for the information to be compiled and written. This volume was assembled over a three-year period and must be considered to have a substantial lag with respect to the most recent developments. This is deduced from the fact that research into water pollution is moving very rapidly and that most environmental systems are not constant in time. Hence, the effect of time on the kind of reactions taking place and the analytical treatment of their kinetics must constantly be evaluated and appraised. Norwithstanding, much of the material reviewed should provide good background reading for those who plan to specialize in the field or those who were trained only in limited aspects of it.

The volume is printed on good quality paper and is relatively free from printing errors. References are listed at the end of each chapter and range from 25 to 299. Chapter 5, the use of computer technology, even though useful, detracts from the continuity of the material presented in this volume. A more logical place would have been at the end of the volume. An author and subject index would have been useful. Owing to the high price of this book, it is unlikely that many scientists will be able to afford purchasing their own copy.—B. J. STOJANOVIC, Professor of Soil Microbiology, Mississippi State University, State College, Miss.

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**LETTERS TO THE EDITOR**

**Kohl, Shearer, and Commoner Method**

Prior to and during the 1972 annual meetings of the American Society of Agronomy, I received several requests to clarify the method which Kohl, Shearer, and Commoner (1971) used to quantify the sources of nitrate in drainage waters. Also, I was asked to comment on the response by Kohl et al. to our critical review of their method. Both our review and their response were published in Science (Hauck et al., 1972).

The method merits our critical comment for several reasons: (i) it provided information of great public interest, but of questionable accuracy; (ii) this information had already been widely disseminated before either its critical evaluation or publication in a technical journal; (iii) in our opinion, the details of the method and its inherent limitations were not adequately discussed by Kohl et al.; and (iv) we sought to point out some of the complexities involved in the interpretation of data obtained by their method. Finally, because we are concerned about and engaged in research on the effects of nitrogen in the environment, we must object to the publication of information which we consider inaccurate and misleading. I suggest that interested readers refer to the original paper by Kohl et al. in evaluating our criticisms of it.

Many persons thought that their reply to our technical comment was confusing. It was confusing because Kohl et al., unfortunately chose to avoid direct response. In fact, they directly answered none of the four main points we made in objection to their original article. They began their reply by erroneously restating our main points. Further, they introduced new data (e.g., Figure 1) which had nothing whatsoever to do with the discussion of nitrate in drainage waters.

Neither I nor my colleagues propose to respond to the tangential arguments offered by Kohl et al. because this would serve no useful purpose and would give unwarranted weight to their unsupported assumptions. Rather, we will continue to provide primary data relevant to this matter. The interested reader will find such data in a number of papers which are now in press or have been submitted for publication. In addition, I will be willing to answer questions concerning the original article by Kohl, Shearer, and Commoner, our evaluation of it, and the reasons why I believe that they did not directly respond to criticisms of their method. The method is justifiably questioned, and it is their responsibility to produce primary data in support of their assumptions and not specious arguments to validate their approach.

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**LITERATURE CITED**
