

The above goals are, in my opinion, met very well by the book's nine chapters (titles follow):

1. Basic Concepts of Hydrogeology
2. Well Design and Construction
3. Well Hydraulics
4. Supervision and Final Acceptance Tests
5. Water Well Protection
6. Water Well Management
7. Restoration of Water Wells
8. Management Tools
9. Conclusion

The book ends with (1) an extensive bibliography, (2) short appendices (conversion tables) and (3) a glossary.

What was missing, however, from my perspective was a discussion for the potential for man-made chemical contamination, especially organics, but, given the emphasis on supply, that is not surprising.

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Chemical Exposures: Low Levels and High Stakes, 2nd Edition, Nicholas A. Ashford and Claudia S. Miller, Van Nostrand Reinhold/Wiley, New York, NY, \$39.95, 1998, 440 pp., ISBN: 0-471-292400.

Readers of the Journal, I am sure, are aware of the consequences of exposure to moderate (workplace) and high (excursion events) concentrations of toxic (hazardous) chemicals. But few of us (especially myself) have read much about the impact (real or imagined) of low levels of chemicals. To correct the lack of knowledge (concern), the authors wrote the book, the first edition of which was a 1990 report from the New Jersey Department of Health, which received the prestigious Macedo Award of the American Association for World Health (representing the World Health Organization) for the most outstanding contribution to public health funded by a state health department.

The controversy is—are the effects of low level chemicals on human beings real or imagined? Based on interviews of individuals in various medical disciplines, including allergy, clinical ecology and occupational medicine, the authors concluded that there was “scientific and clinical evidence to support plausible hypotheses concerning the disorders.”

The authors later state: “Much, but by no means all, anecdotal evidence for chemical sensitivities has been reported by clinical ecologists—physician practitioners whose clinical practices have come under intense criticism. However, chemical sensitivity is by no means the exclusive property of clinical ecology. The fields of occupational and environmental medicine contain sufficient examples to suggest a real medical problem. Our focus was on the problem of chemical sensitivity, not on the history of interprofessional conflicts surrounding clinical ecology.”

The original edition had six chapters divided into three major sections:

I. Defining Chemical Sensitivity

- Chemical Exposures and Sensitive Populations
- Key terms and Concepts
- Origins of Multiple Chemical Sensitivity and Effects on Health

II. Mechanisms, Diagnosis, and Treatment

- Mechanisms of multiple Chemical Sensitivities
- Diagnosis and Treatment

III. Responding to the Problem

- Needs, Concerns, and Recommendations

Perhaps the most interesting chapter (for me) was the third that dealt with offending substances including: outdoor air pollutants; indoor air pollutants, domestic and work-place; foods, food additives, and contaminants; water contaminants and additives; and drugs and consumer products.

In conducting their role as editors of a second edition, the authors took a different approach than most. They state, "We deliberately chose to add updated material to, rather than rewrite, the original edition of *Chemical Exposures*, both because we believe that our earlier observations remain accurate and because the earlier material provides a useful "time capsule" against which to evaluate progress in understanding the condition(s) known as chemical sensitivity. Since the first edition, two new patient exposure groups have emerged with features strikingly similar to those of chemically sensitive persons: sick veterans from the Persian Gulf War and women who trace a myriad of adverse health symptoms to silicone breast implants. Both fit what we and others believe to be a two-step model of chemical sensitivity: an identifiable initiating chemical exposure event, followed after a short period by a myriad of symptoms triggered by low-level exposure to a large number of chemically unrelated substances."

The book is clearly a 'medically-oriented' text, but one I found extremely readable and very interesting. I spent many hours reading it. It is well-written, understandable and very well referenced (over 700 references).

Prior to reading the text, I was one of the many who did not believe in the health (human) impact of very small concentrations of chemicals. Not so after reading this text. The authors make, I believe, a compelling case (not yet accepted by the majority of the medical community) for MCS [multiple chemical sensitivity] and for the important role indoor air pollution plays in that effect.

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The Sea: Volume 10—The Global Coastal Ocean: Processes and Methods, Kenneth H. Brink and Allan R. Robinson, John Wiley & Sons, New York, NY, \$145.00, 1998, 604 pp. ISBN: 0-471-11544-4

With one exception, the papers printed in this volume are beyond the interests of the usual reader of this Journal. The single exception was a paper by Roland Wollast of the