orthogonal to the protection of ecology. A useful quote: “The standardization of toxicological tests led to the elimination of the very variables that contributed to ecological realism.” Static temperatures, genetically narrow test subjects and stress-free environments are the sorts of variables the author meant.

The second chapter is by a sociologist who has studied ecotoxicologists and ecotoxicology. He seems pessimistic about the chances for a merging of toxicology and ecotoxicology. Perhaps the same can be said for ecology and ecotoxicology. The barriers are related to differences in administration, scientific journals, and professional associations.

Chapters three and four deal with endpoints and scale. The point is made that endpoints should not be chosen simply to control test costs and reproducibility, a common theme throughout the book. The resolution in Chapter 3 is interesting . . . the endpoint should reflect what the risk manager knows the public expects. On the subject of scale, it can be argued that any scale will prove inadequate to allow perfect prediction of ecological impacts. This clearly is a call for the professional judgement skills of true ecotoxicologists.

The fifth chapter discusses the statistical analysis of ecotoxicology tests. Much of it is rudimentary, but it leads to discussion of the special problems related to multispecies tests. With higher per test costs, replication of multispecies tests is limited. The most interesting part of the chapter is a few pages on multivariate methods. These are intriguing but more information would have been beneficial. The sixth chapter is on validity, and gives an excellent description of false-negative and false-positive results. Surprisingly, false reports were only 16% of the cases in one validation study.

The next three chapters deal with various types of aquatic microcosm tests. Chapter six is about a discrete method where inert blocks colonized in natural streams are then used for toxicity tests. The next two review pond and stream microcosms. These chapters are quite specific to aquatic ecotoxicology, and I found little applicable to terrestrial ecotoxicology.

I enjoyed the next chapter most of all, because it deals with true ecological issues in the context of contamination events. It deals with impacts in the landscape, and describes how slight contamination of certain population-source areas could have far greater impact than more severe contamination of other population-sink areas. This recognizes that local extinction can be routine and natural, and only a concern when the local population is critical to the broader population.

The last two chapters comment on the future of ecotoxicology. Clearly, the issue of protecting the environment is extremely complex, and when we cannot afford conservatism, our methods must reflect reality very well. The challenge is substantial. A large part of the challenge, as outlined by Cairns in the final chapters, is to increase the public ecological literacy.

I recommend this book to anyone interested in the scientific basis of ecological toxicity testing. Lecturers may find it opposite in some aspects to the book "Pesticides in the Atmosphere: Distribution, Trends, and Governing Factors" written by Michael S. Majewski and Paul D. Capel.

The presence and significance of toxic organic chemicals in the atmosphere is a topic that has received attention from the scientific community during the past 25 years. This hardcover book reviews monitoring studies of agricultural pesticides in air, airborne particles, precipitation, and fog in the United States and Canada. It is called "Pesticides in the Hydrologic System," of comprehensive reviews and analyses of our current knowledge of pesticide residues in the atmosphere. The book is organized into eight chapters, each covering the details of past monitoring studies, national and trends in the use of agricultural pesticides, atmospheric transport and removal processes, and their impact on environmental systems. The pesticides are divided into four categories: (i) organochlorine insecticides, (ii) carbamate insecticides, (iii) triazine and acetanilide herbicides, and (iv) other herbicides. Data on agricultural usage, geographic distributions, and the physicochemical properties of about 200 agricultural chemicals are provided. The book is well documented with more than 300 references.

This book will be very helpful to anyone interested in transport and deposition of toxic organic chemicals in the atmosphere. It brings together a large amount of data that are not readily accessible elsewhere. There are some significant limitations on the scope of the book covers only agricultural pesticides, even though the most important environmental effects of toxic organic chemicals involve other, chemically related pollutants (e.g., PCBs). Monitoring studies in the United States and Canada are thoroughly reviewed, but there are few references to studies in other locations. In most cases, monitoring data are presented in terms of occurrence and time detection. References to actual concentrations of contaminants are scattered throughout the text, but it is not always necessary to consult the original references for this information.

The book is organized into two parts. The first part covers the individual studies reviewed, national trends, and governing processes. The second part is devoted to analysis of key topics including environmental significance. Many topics are covered in both book, which makes access less convenient. The book focuses primarily on the concentrations of pesticides in the atmosphere, but it is not recommended for readers who are not interested in this topic.