Ozone Treatment of Industrial Wastewater, by R.G. Rice and M.F. Browning, Noyes Data Corporation, Park Ridge, New Jersey, 1981, $32, 371 pages.

The book is an authoritative treatise, written by two well-known experts, on the use of ozone to oxidize contaminants in industrial wastewater. It is based primarily on their 1980 report to the U.S. EPA, entitled "Ozone for Industrial Water and Wastewater Treatment: A Literature Survey" (U.S. EPA Report No. 600/2-80-060).

Ozone, a powerful oxidant, has been shown to render a variety of hazardous chemicals, i.e. cyanide and phenols, harmless. It appears to have a real potential in fixed-based industrial facilities.

However, for spills, Lafornara presented, at the 1978 Control of Hazardous Materials Spills Conference in Miami, the results of an EPA study which was directed at the utility of a mobile ozonolysis treatment system with or without UV radiation. He concluded that his studies did not warrant future work using ozone alone because of the high cost, but that because of the rapidly advancing state of the art, UV/ozone might be more practically used in the future.

The book by Rice and Brown is certainly a thorough review of the state of the art of oxidation by ozone and UV/ozone systems. They discuss not only the treatment of specific chemicals (cyanides) but also the application of the process to many industries: electroplating, food, hospitals, iron and steel, leather, mining, paints and varnishes, refineries, pharmaceuticals, photoprocessing, plastics and resins and pulp and paper.

Fundamentals, mechanics, results and costs are all discussed. For anyone interested in ozone's utility, this book will be a very valuable reference.

GARY F. BENNETT

The Pesticide Chemist and Modern Toxicology, edited by S. Kris Bandal, Leon Golberg, Gino J. Marco, and Marguerite L. Leng, Symposium Series 160, American Chemical Society, books Dept., 1155 16th St., N.W., Washington, DC, 20036, 1981, 582 pages.

The recent controversy, which was fueled by the aerial application of a pesticide over large highly populated areas of California and other states to combat the Medfly, again demonstrates the need for a good "in depth" scientific reference as the basis for further development, manufacture, regulation, and application of pesticides and other chemicals. This volume, which resulted from meetings sponsored by the ACS Division of Pesticide Chemistry at the 1980 Downington, PA conference, contains thirty-nine extensive review chapters, each with voluminous references, intended to put the problems of pesticides and other chemicals in perspective and to suggest future trends.

Four major areas of concern are covered by the authors: (1) Toxicological Aspects (in which the status of toxicity and toxicology as a science and as

a regulatory input is discussed), (2) Biochemical Aspects (in which the metabolic mechanisms and pathways are considered including interesting new strategies in biochemical studies), (3) Analytical Aspects (including the limits of detection, trace contaminants, and pitfalls in analytical studies in toxicology), and (4) Regulatory Aspects (including the now popular risk benefit analysis and human risk assessment from animal data, with interesting comments on the pesticide control and regulation in Europe, Canada, and the People's Republic of China).

The report of eight workshops, in which 10 to 75 participants informally discussed the issues at hand and attempted to suggest actions, are extremely significant and well reported by Dr. Leng. Especially significant is the influence the Conference has already exercised on the regulatory process, to the end that more science and less emotion and political compromise seems to have already infused the regulatory process. The book is recommended as an update review of the current scientific/economic/regulatory scene, and will doubtlessly be widely read and referenced. Toxicity, like sin, has few absolutes, and the considered judgments and input of outstanding scholars, scientists and regulators, once drawn together, is bound to have favorable catalytic reactions.

H.H. FAWCETT

Assessment of Health Effects at Chemical Disposal Sites, Proceedings of a symposium held in New York City on June 1—2, 1981 by the Life Sciences and Public Policy Program of the Rockefeller University, edited by William W. Lowrance, available from William Kaufmann, Inc., 95 First St., Los Altos, CA 94022, 1981, price $11.50, 166 pages.

This symposium focussed on the issue of how to assess human health effects at chemical waste disposal sites. It consisted of papers on basic subjects such as geohydrological surveys at chemical disposal sites, experimental design for wastesite investigations, cytogenetic analysis: Problems and prospects, neurotoxicity assessment, selection of human reproductive effects for study, epidemiologic considerations in assessing health effects, and aspects of risk assessment strategy. In each case the speakers emphasized both the paucity of present procedural data and the lack of agreement on how to proceed when "flying blind", since it was a premise that neither the profiles of the chemicals nor of the exposed population are well understood.

The interactions of three health-sciences disciplines, namely toxicology, epidemiology, and investigative medicine, are reviewed, and it was noted that toxicological estimates from animal studies, useful for "modeling", have inherent weaknesses because people are not rodents, and comprehensive toxicological studies of the complex mixtures and sporadic exposures that might be encountered have not been performed. The epidemiological surveys can search directly for patterns of human health damage but, because of