

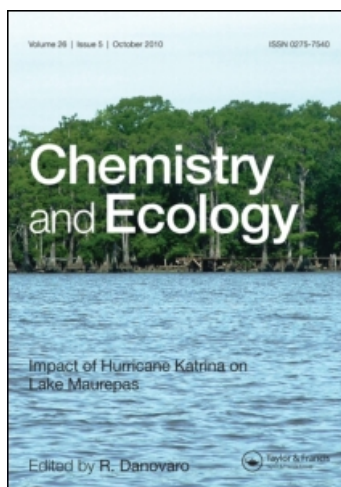
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Book Review

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BOOK REVIEW

AN ENVIRONMENTAL ODYSSEY: People, Pollution and Politics in the Life of a Practical Scientist. Merrill Eisenbud, published University of Washington Press, March 1991, 276 pp., illustrated, indexed. ISBN 0–295–96949–0.

This is a remarkable and readable book, a personal and professional record over a 50 year career encompassing a period of changing environmental awareness. The author's career began in occupational safety and industrial hygiene. The demands of the developing defence industries in the 1940s lead to a wide experience in occupational exposure to toxic chemicals, among them asbestos and other dusts, mercury, beryllium and fluoride, radiation via X rays and luminous paints. Throughout this period, Eisenbud pursued the causes and consequences exposures by rigorous and scientific analysis, gathering wide experience and developing a wisdom and philosophy on occupational safety issues.

A major opportunity came at the close of wartime hostilities, when the Atomic Energy Commission in New York took up the task of developing the peaceful uses of atomic energy. The AEC decided to set up an industrial health and safety laboratory in New York and within a short time Merrill Eisenbud became its director. Thus began a new career in radiation safety which soon broadened to include aspects of environmental protection, risk assessment and development of a national research policy. In the following two decades, not only did Eisenbud guide the New York HASL laboratory to a leading position on radiation health and safety, but also took on a unique task of assessing the health of Japanese exposed to the atomic bombs, and the wider effects of fallout from nuclear weapons testing. Without any earlier investigation of this kind, this called for a challenging degree of ingenuity and improvisation. It is astonishing to read that until the 1950s, there was little information about the transfer and transformation of fallout materials through to man. Since that time, an enormous effort has been directed to this in laboratories throughout the world, with great advances in our understanding of the behaviour of both stable and radioactive materials. In turn, this has provided a more quantified approach to ecology from which, among other developments, biological sciences have advanced from "natural history".

In the 1960s, Eisenbud developed broader environmental interest, possibly as a consequence of this experience. Another significant career change took him to the developing Institute of Environmental Medicine of New York University. Here a multidisciplinary programme of investigation into environmental and human health problems was to extend to ecological studies in the adjacent Hudson River and to locations as far afield as Brazil. Growing scientific confidence and environmental interest brought a strong scientific group of scientists to the laboratory. This programme demonstrated Eisenbud's flair for coupling industrial interests and problems to research and academic opportunities.

This broad and successful approach to problems of New York and its environs, as well as more distant locations, as well as Eisenbud's skills as administrator and negotiator as well as scientist, led to his appointment as head of a new Environment

Protection Agency in New York, anticipating the formation of a national EPA in Washington DC.

In a unique way, this autobiography reveals more of the development of environmental science over the last half-century than many a conventional scientific review. It is recommended to all who enjoy a personal and historic perspective of this environmental age.

Gwyneth Howells

8 August 1991

“Chemistry, Agriculture and the Environment” (Ed. M.L. Richardson) 546 pages, published by Royal Society of Chemistry, 1991. ISBN 0-85186-228-4 £69.50.

This is an extremely useful and informative book which complements the two existing titles on related themes already published by the Royal Society of Chemistry. The aim is to present chemistry, and the wide range of agrochemicals it has given rise to, in a rather better light. I think this collection of 28 papers goes a long way towards achieving this.

The book is divided into five sections (or chapters), the first two being of an introductory or scene setting nature. These initial papers, which cover a wide range of topics, were very stimulating and thought provoking. Emphasis is placed on the importance chemical technology plays in the majority of modern agricultural production systems. The associated risks and potential impacts of these chemicals are discussed, not as a separate entities, but rather set in a wider context of changing farm practices and land management options. This whole area is hampered by difficulties faced in actually defining whether a substance has reached toxic levels or not. The importance of exposure time, combined doses of mixed substances and the sensitivity of an ecosystem to pollution are discussed. This book provides a comprehensive source of information on legislation and maximum permissible levels of potentially toxic substances for a range of situations and products. It is often the residues or by-products of a production system that give rise to disposal problems and, therefore, the potential for pollution incidents. A paper concerned with alternative uses of waste products is therefore particularly apt. A well balanced book should have a few words from the ‘accused’ and this is achieved, with a paper that presents the farming viewpoint.

The remaining sections discuss pollution of the biosphere by either fertilisers or pesticides and assess the consequences of these with regard to human health. Numerous factors combine together to influence a compound’s efficiency and therefore its potential for becoming a pollutant. The authors, who come from a variety of countries and organisations, help to highlight the tremendous range of possible scenarios that may occur.

I do feel, however, that too much emphasis is placed upon human health aspects and, consequently, there is insufficient discussion of effects on the environment as would be expected from the title. Some overlap between papers is inevitable, but this has been kept successfully to a minimum by the editor. While being aimed at a wide audience, it is perhaps rather too detailed in places for less technically aware readers. It will be of interest to scientists and engineers from both academic and research backgrounds, together with members of regulatory bodies, and provides a valuable point of reference. The text quality and general overall presentation of tables and

figures is reasonably clear and readable. This book fills important gaps bringing together up-to-date information regarding the environmental/health problems facing modern agriculture and is well worth a read.

A.C. Edwards