

tion of random cases. Second, the book attempts to arm the corporate officials with information concerning the legal consensus associated with the various liability theories so that he can conform or reform his conduct accordingly.

GARY F. BENNETT

Major Technological Risk, by P. Lagadec, Pergamon Press, Oxford, 1982, 516 pages, £30.00, U.S. \$60.00.

In many ways, this book is both very rewarding and extremely frustrating. If I can emphasise the more positive aspects first, Lagadec has made a sincere and thoughtful attempt at grappling with the problems of technological risk. In particular, he focuses attention on the extreme technical and political difficulties involved in the development of effective regulatory policies for major hazards. On the other hand, this book was originally written as a French doctoral thesis and, because of this, it suffers in terms of its accessibility to the wider audience it deserves. In addition, *Major Technological Risk* has been translated into English in a less than inspired fashion which includes some obvious errors and, for example, may cause persistent confusion for English-speaking readers due to its lack of recognizable quotation marks. There is no doubt that ruthless editing could have improved this book by cutting out areas of repetition, but giving greater emphasis to the more important passages.

Major Technological Risk is certainly ambitious in scope. The author tackles the issues at the most general level, covering major hazards of every type and developing an international analytical perspective. Having begun by presenting the challenge of risk to modern societies, Lagadec goes on to provide useful background information on the nature and scale of the problems involved. Brief case-studies are provided of five incidents (Flixborough, Seveso, the *Amoco Cadiz*, Three Mile Island, and the Toronto railway accident in 1979). Following this, we are presented with a sobering litany of industrial disasters from the eighteenth century to the present day — from the *Titanic* to Aberfan, from Summerland to the 1906 San Francisco earthquake. Whilst this list is not original, its presentation in condensed form certainly has the desired effect of provoking thought about the control of hazards.

In Part Two, the management of risk is addressed directly. Questions such as the value of risk analytical techniques for policy-making deserve serious attention, but this section seems unconvincing and difficult to grasp. Part Three is more enlightening with its discussion of the roles of operator, public authority and citizen in the social regulation of hazards. It is, however, in the fourth and final section that Lagadec deals with the fundamental political issues posed by risk. Should the state simply impose its assessment on the public — as the author argues has happened in France over its nuclear power pro-

gramme? What possibilities are there for taking the will of citizens into account when formulating policies? Which organisational forms can ensure both effective decision-making and democratic accountability? For Lagadec, major risks pose a direct challenge to our systems of government and he has much to say about the "easy temptation of authoritarianism" in the face of these. However, the author also appreciates the difficulties for the ordinary citizen in coming to terms with complex and uncertain threats to health and safety. It is for this reason that Lagadec advocates a general "training for responsible doubt" (although he is less than explicit about what this training would actually entail).

The book concludes with a plea that we should look again at the regulatory bodies which are responsible for managing hazards in the 1980s. Lagadec has strong doubt about the effectiveness of many of these authorities; he argues that we may well be embarking onto the "ocean of major risk" in "skiffs" which are far too frail. The obvious consequence of this would be that "at the first real storm we shall drown".

G.A. IRWIN

Handbook of Carcinogens and Hazardous Substances: Chemical and Trace Analysis, by Malcolm C. Bowman (Ed.), Marcel Dekker, Inc., New York and Basel, 1982, 750 pages.

If ever a book appeared at the right time, this volume qualifies. When the US and other nations are concerned about chemical contamination from a variety of sources, including hazardous wastes, the need is great for an authoritative work of reference to the analytical methods which may be used to determine the degree to which a substance, alone or in combination, is present in air, water, and soil. In addition, this volume presents short but definitive statements on the toxicology of the materials about which analytical methods are described.

The ten chapters are written by scientists with excellent credentials in the toxicity/analytical interface. An overview of chemical carcinogens by Thomas J. Haley brings this topic into perspective and contains 119 references. Chapter 2, on alkylating agents, is co-authored by Alexej B. Borkovec and Charles W. Woods and contains an excellent table on conditions for gas chromatographic analysis of alkyl halides both by the NIOSH and OSHA references. Similar data are tabulated for sampling and chromatographic conditions for phosphate esters and epoxides; 117 references end this chapter. Aromatic amines and azo compounds, by Charles R. Nony, discusses the analytical methods developed for use in the aromatic amine program of the National Center for Toxicological Research during the past eight years. Spectrophotometric (SPF) and gas chromatographic (GC) analysis approaches to various amines and azo compounds in foods and urine are well presented,