years. Plutonium is not at present an important contributor, though it will remain as the chief contaminant after the fission products have decayed away.

In general the papers represent typical applications of the science of health physics to what is recognised to be one of the major problems of nuclear energy. The general reader will perhaps be comforted by Dr H. M. Parker's closing remark that acceptance of risk is 'a societal problem and all that we (scientists) can do is to place our concepts of the real risk before the public, honestly and forthrightly, and hope (for) . . . agreement on these risks sometime before we get to the nuclear economy of the year 2000'.

M. J. DAY

Clinical Toxicology of Commercial Products: Acute Poisoning. By R. E. Gosselin, H. C. Hodge, R. P. Smith and M. N. Gleason. 4th Edition. (Pp. 1783; $54·00.) Williams and Wilkins Co: Baltimore.

Anyone familiar with previous editions of this book will welcome the appearance of the fourth edition. Still under the same management, this compendious reference work should prove as popular as its predecessors.

Like previous editions, the book is divided into seven sections and it is essential for readers to understand how it is set out if they are to realise the full potential of the work. In order to make this clearer, the authors have incorporated a flow chart opposite the fifth page which guides the uninitiated through the (coloured) sections.

Section I contains a brief and unremarkable account of the first aid and emergency treatment of acute poisoning. This is a gentle introduction to the detailed systematic account of supportive management in Section IV. Both are written clearly, with the needs of practising clinicians in mind.

Sections II, III, V and VI are the real meat. Section II gives alphabetical and numerical indices (Chemical Abstract Service Registry Number) to short accounts of the toxicology of over 1300 substances, or classes of substances. Each entry categorises the compound into one of 80 'reference congeners' which are fully described in Section III. Each reference congener typifies a group of related compounds, stressing toxic signs and symptoms as well as appropriate programmes of treatment. Important references are also included. Section V is an alphabetical listing of 17 000 commercial products. Each entry details the manufacturer, and the ingredients, with an asterisk against ones likely to produce major toxic effects. Section VI describes the usual constituents of substances of unknown generic origin, and Section VII gives the addresses and telephone numbers of American manufacturers.

This book is obviously of the greatest value for American medicine. The fact that the commercial index is derived from compounds widely used in the United States reduces the value of Section V for physicians on this side of the Atlantic. However, British physicians involved with industrial medicine, toxicology and poisoning will find most of it appropriate and much of it useful.

MICHAEL D. RAWLINS

Poison Detection in Human Organs. By Alan Curry. 3rd Edition. (Pp. 356; $21·50.) Charles C. Thomas; Illinois. 1976.

Poisoning is now a major cause of acute admissions to hospital, and an important cause of death. This book is a laboratory manual for the detection and quantification of poisons, particularly drugs. The first part of the book is of a more general nature dealing with emergency toxicology, analyses of liver, alimentary tract, brain and kidney, as well as abuse screening. The second part is an alphabetical list of poisons with methods for their determination and information on the interpretation of the results.

The book contains some disappointments. The methods advocated rely heavily on spectrophotometry, the specificity and sensitivity of which are now very suspect. There is little mention of modern mass spectrometric and mass fragmentographic methods of identification and analysis, radioimmunoassay, and polarography. The volume will be of value to forensic scientists; its value to clinical biochemists will be less because of the increasing realisation that analytical data have a very limited place in the management of acute poisoning. Only for those drugs where specific methods of treatment exist, can such laboratory data be regarded as important. For the large majority, clinical management, irrespective of the quantitative findings, represents the only effective means of preserving life.

MICHAEL D. RAWLINS

Occupiers' Liability Act 1957 and the Liability of Hospitals. By B. Williams. (Pp. 69; £6 soft cover, £8 hard cover.) Ravenswood Publications: Beckenham. 1976.

This is one of the uniformly excellent series of Case Studies on Health Service Management Law and Practice, and fully maintains the high standard set by earlier volumes. The subject dealt with is a complicated one, the complications introduced by such factors as the danger on hospital premises being produced by independent contractors, or the damage being suffered by such classes of persons as children who can't read warning signs, or trespassers. It is not easy for a lawyer to judge whether what is plain to him is made equally plain to non-lawyers, but as far as this lawyer can judge, the treatment of the subject in this book is a model of clarity and comprehensiveness.

The method used is that of setting out an imaginary case of an accident occurring and dealing *seriatim* with the legal and factual points which will or may arise. The points are dealt with by posing direct questions, such as is the Hospital liable to visitors to houses and flats let to staff? The answers are direct and clear (so far as the state of the law allows) and are illustrated by copious citation of actual cases in the reports. The author is to be congratulated on producing a work which not only prepares students for the examinations of the Institute of Health Administrators, but which will also be useful as a reference book for administrators faced with accidents which actually arise in their daily work. The only reservation is, as usual with this series, the high price.

D. W. ELLIOTT

Environmental and Industrial Health Hazards: A Practical Guide. Revised Reprint. By R. A. Trevethick. (Pp. 214; £5·75.) William Heinemann Medical Books: London. 1976.

This reprint of a book designed for lay and medical staff in industry and for postgraduate medical centres comes only three years after the first publication which was reviewed in the *British Journal of Industrial Medicine*, (1974) **31**, 80. It has now been extended and brought up to date. It has the same format as before with facing pages dealing with a particular hazard; the right-hand page in black type is a Hazard Data Sheet for lay

persons and the left-hand page in red type is for medical and allied persons.

The idea is commendable. The Hazard Data Sheets are useful and authoritative, the notes on the medical data may be useful to industrial first aiders. However, medical staff in industry and postgraduate centres should have something more full.

There are a number of unfortunate inaccuracies in the book. One general point is that it does not make clear the difference, pointed out by Munn, between the toxicity of a substance and the toxic hazard of a process. It is an important point for managers and trades unionists to grasp.

W. R. LEE

Heavy Metals as Air Pollutants: Lead, Zinc and Cadmium. VDI Commission Report No. 203. Proceedings of a Colloquium held in Dusseldorf, 1973. (Pp. 98; no price stated.)

The colloquium was set up so that German and overseas experts could express their views and provide evidence for the setting of the maximum emission concentration (MIK).

This document should be read by all who have an interest in the subject of pollution. Those with clinical and practical environmental experience will readily recognise the many excellent papers providing sound scientific data and revealing areas where knowledge is incomplete.

On the other hand there are also a number of papers which make unwarranted assumptions and calculations from inadequate data to support what sometimes appear to be preconceived ideas. Who then is to guide the politicians who will make the laws and regulations?

Knelson and Bridport state that only after deliberate and unbiased examination of available data can judicious choice of standards be made. Their references would seem to be selective and the statement that Moncrieff *et al.* in the *Archives of Diseases in Childhood* (1964, **39**, 1-13) reported clinically overt lead poisoning is incorrect.

Piscator's contribution on cadmium is sound and a good deal of useful information on the effects of heavy metals on plants and domestic animals is included.

The lack of a clear basis on which to make a politically sound judgement for legislation or regulations, lends considerable weight to the pragmatic approach of the British Alkali Inspectorate of 'best practical means'. This approach has already resulted in more uniform standards and a better standard of control than is being achieved in most other countries. The levels are set in accordance with up-to-date knowledge by experts with practical experience of control methods. Standards can be altered quickly in the light of new knowledge without further legislation.

There is a strong lobby to reduce the MIK for lead in air and this would be justified if there was any real evidence of harm to the health of populations, but no adequate evidence is produced in these papers. As Dr Symanski points out, there is no evidence of ill health in the population of the Meza valley where very high lead in air concentrations have existed for 80 years.

D. MALCOLM

Current Approaches in Toxicology. Edited by Bryan Ballantyne. (Pp. 310; illustrated; £8·50.) John Wright & Sons Limited: Bristol. 1977.

The aims of this book, as defined in the Preface, are to present an overall approach to the requirements for toxicity tests, to discuss the interpretation of the results of such tests, to emphasise the influence of different factors on the reactions between chemicals and biological materials, to analyse particular aspects of toxicology of current interest and to indicate future trends and developments. Not all of these aims are realised, partly because of imbalance in the selection of topics and partly because, as with many multi-author works, the chapters vary considerably in standard and coverage of the subject matter.

Five of the 19 chapters are devoted to inhalation toxicology and respiratory irritants and at least some of these should be particularly relevant to occupational medicine. General principles in the design of suitable protocols for long-term inhalation studies, for example, are discussed clearly and in detail by D. G. Clark, while D. Poynter selects epidemiological and experimental investigations to illustrate attempts to determine the health hazard of different chemicals introduced into the human lung.

Important aspects of current toxicological testing are covered by essays on ototoxicity and ophthalmic toxicology. Under the former heading P. F. D'Arcy and E. S. Harpur give a detailed account of the search for simple effective screening methods and, while they implicate antibiotics as the principal offenders, present a case for the introduction of a requirement for routine clearance of new drugs from ototoxic side effects. The scope and limitations of acute eye irritation tests are reviewed by B. Ballantyne and D. W. Swanston, who stress the lack of a suitable animal model for the human eye and critically assess the current use of the rabbit for such investigations. In a further detailed chapter, B. Ballantyne, M. F. Gazzard and D. W. Swanston cover the methodology of applanation tonometry in ophthalmic toxicology and the significance of measurements of intraocular pressure. Diurnal (temporal) variations, which complicate the evaluation of changes in intraocular pressure are discussed in relation to general toxicological methods by D. Gall in a separate chapter.

The design and evaluation of reproductive toxicological studies are covered by J. P. Griffin, and by A. K. Palmer in two interesting and clearly presented chapters, while F. Beck considers the ferret as a possible standard for teratology studies. Also of interest is a brief review by P. Grasso and D. Grant of short-term toxicity tests for carcinogenicity, which provides a critical evaluation of the current state of the art and illustrates the limitations of the methods at present available.

Other chapters, of more restricted interest, are provided by M. Sharratt (Evaluation of the safety of chemicals), J. A. Styles (Use of tissue culture in toxicological testing), S. H. Curry (Principles and importance of drug metabolic studies in toxicology—a chapter that contains a number of mistakes in chemical formulae), J. R. B. Williams, J. P. Griffin and E. Maughan (The influence of species, dose and route on the metabolism of rimiterol), A. Richens and G. W. Houghton (Influence of dose in metabolic studies with phenytoin) and M. F. Cuthbert (Adverse reactions to anti-rheumatic drugs, some correlations with animal toxicity studies).

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Environmental and Industrial Health Hazards: A Practical Guide. Revised Reprint

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Notes