epidemiology. The value of the advice given will probably only become apparent later in the epidemiologist's career and he may well want to refer back to this book.

The general physician and student gain most from this emphasis on practical examples. The relevance of epidemiological thought will be brought home to them before they have been frightened off by the technical aspects of the subject. Having read this book they should be better qualified to understand the requirements of the epidemiologist and subsequently to interpret their findings for management and workers.

A. J. FOX

Methods Used in the USSR for Establishing Biologically Safe Levels of Toxic Substances. A collection of papers presented at a WHO Meeting in Moscow, 12-19 December 1972. (Pp. 172; 30 Sw. fr.). WHO: Geneva, 1975.

In this volume is described the approach in the USSR to the assessment of hazards of chemicals to occupational and general populations. Considering such an extensive problem covering all types of chemicals, many biological responses, and exposure *via* the lung and the oral route, it is not surprising that the main emphasis is on the philosophy of approach. The volume makes interesting reading and has the following contents: Permissible Limits and Threshold of Harmful Action; Chemical and Biological Activity; Toxicometry and Prophylactic Toxicology; Accumulation and Adaptation Processes; Long-Term Effects; Central Nervous System Effects; Species and Sex Differences; Establishment of Safe Levels for Communal and Occupational Hygiene; Safe Levels of Fibrogenic Aerosols, and the Use of Data on Human Health and Environmental Conditions.

Perhaps for obvious reasons the principles adopted by the USSR and other nations for the derivation and evaluation of the safe dose, maximum allowable concentrations or threshold limit values, are sometimes stated in stark contrast. In addition there is much discussion throughout the volume of the various indices of toxicity. The industrial hygienist will find much to interest him even if he cannot agree with some of the propositions (for example, the principle of the limiting index on page 127).

It is perhaps inevitable that, in a volume of this size, there is little in the way

of hard data although there are many references to literature unfamiliar to many of us. In the preface the hope is expressed that international agreement on common principles and methods for establishing permissible levels of harmful substances in the environment may be attained. In a planned society such as the USSR, presumably there are no fundamental problems about record linkage of health records, etc. A major contribution to improvement of the protection of man from chemical hazards would be international agreement on epidemiological methods for the assessment of accuracy of previous evaluation of MACs or TLVs rather than the standardisation of the methods of evaluation. Comparison by recognised and acceptable epidemiological methods of the incidence of occupational disease in the conditions of work in different countries would be most valuable. Perhaps in the future we may have a similar volume concerned with this potentially soluble problem.

W. N. ALDRIDGE

Chemicals in Food and Environment. *British Medical Bulletin*, 1975, Vol. 31, No. 3. (Pp. 87; £3). The British Council, 65 Davies Street, London W1Y 2AA.

This issue of the *British Medical Bulletin* illustrates very well the orientation and the scientific methodology which is common to both occupational and environmental medicine. Many of the concepts first formulated in the field of occupational medicine earlier this century are now being used by workers in the wider field of general environmental pollution. A series of short well-written articles illustrates the variety of scientific disciplines, from molecular biology to epidemiology, which are essential to solve the problems posed by chemical contamination of food and the environment. Not all of these hazards are related to modern technology, as pointed out by Drs Crampton and Austwick. There are chapters on the cumulative metals lead, mercury and cadmium and a short review by the director of the London Poisons Unit on chemical hazards in the home. The assessment of hazards from low doses of toxic substances over long periods and the problems related to the establishment of a safe level of intake are discussed by the late J. M. Barnes. Appropriately, the first article in the series considers the acceptance of risk in hazardous occupations and compares this with the risks of everyday life. Sir Edward

Pochin draws attention to the substantial risks which may be taken by the individual daily which are dependent on motivation and which are usually taken without any knowledge of the magnitude of risk involved. However, from the point of view of the health of the community it is important to have the best available quantitative estimates of the levels of risk regarded as acceptable in situations where such risks may be unavoidable. While the analysis of risk or hazard involves scientific discipline, it is society as a whole which has the responsibility of setting criteria for safety and which can define benefit.

Finally, I would like to draw attention to Professor Higgins' article on the contribution which can be made by epidemiology. He comments on the remarkable lack of information on which dose-response relationships may be based, even under the relatively controlled conditions of occupational exposure. He makes a plea for the systematic collection of data from which levels of exposure can be related to outcome.

There are chapters in this thought-provoking issue of the *British Medical Bulletin* which will be of interest and relevance to all physicians in occupational medicine, and the publication is strongly recommended.

G. KAZANTZIS

Occupational Medicine: Principles and Practical Applications. Edited by Carl Zenz. (Pp. 944; illustrated; £33). Year Book Medical Publishers Inc: Chicago. (Distributed in UK by Lloyd-Luke Ltd., London.)

There are few authoritative, extensively referenced textbooks concerned with the whole field of occupational medical practice and for this reason alone this book is likely to find a place on the shelves of many of the larger libraries. Although claimed to cover the whole field, there are some surprising omissions and coverage of a few subjects is very brief. Nevertheless the book is an impressive one, not merely because of its size and weight, but in the array of 44 authors including the editor, who have produced many up-to-date reviews on their chosen subjects which are of undoubted instructional value. Although predominantly written by Americans, particularly from Illinois, and of the greatest relevance for their home market, five of the authors are Scandi-

navian, one Dutch and one South African. Each chapter is extensively referenced and a number of the papers cited come from British journals.

The scope of the book may best be described by listing its five main sections: Administrative, Clinical, the Physical and the Chemical Environments, and finally a relatively brief section entitled 'Psychosocial Considerations' devoted largely to alcoholism. In a first edition of a book of this nature it is perhaps inevitable that a reviewer should find it somewhat akin to the apocryphal curate's egg. Although many of the 36 chapters are excellent, informative and with references up to 1974, others are somewhat sketchy, and a few topics of everyday relevance to practising occupational health physicians are not mentioned at all. There is a long and comprehensive chapter on the health problems of diving but virtually no mention of the problems of driving vehicles; an excellent wide-ranging analysis of the pre-employment assessment of fitness but almost nothing about the problem of sickness absence. The relatively short chapter on agricultural chemicals contains no reference to paraquat. The section on the administration and organisation of occupational health services and those on the physical and chemical environments provide most useful reading, and the authoritative exposition on extending the role of occupational health nurses will be of interest to many. I hope that in a second edition wider coverage will be given to occupational mental health, to relevant aspects of work organisation such as shift working; and some information about the biological hazards of work would not come amiss.

Because environmental standards are constantly being revised by national agencies some of the TLVs quoted in the book are already out of date and certain sections will need frequent amendment if it is to be used as a source of reference for this type of information. This book is quite different to that by Donald Hunter and the two will coexist quite happily on my shelf.

P. J. TAYLOR

Air Pollution and the Lung: Proceedings of the Twentieth Annual 'OHOLo' Biological Conference, Ma'alot, Israel, 16-19 March 1975. Edited by Ephraim F. Aharonson, Amnon Ben-David, and Marcus A. Klinberg. (Pp. 313; illustrated; £22.00). John Wiley & Sons: New York and

Toronto and Israel Universities Press: Jerusalem.

For over 20 years the Israel Institute for Biological Research has organised an annual scientific conference, which originally was held at Oholo on the shore of the Sea of Galilee. It was later necessary to choose other venues because of space limitations, although the original name OHOLo was retained. The annual meetings provide a forum where international experts gather to discuss recent advances in their respective fields.

The meeting in 1975 was concerned with air pollution and the lung and the proceedings form a very readable summary of current views. Each author, an acknowledged expert, provides a short summary of current basic research. The chapters are arranged in logical sequence to describe the intrapulmonary deposition and clearance of inhaled gases and particles. The normal functions of the epithelial cilia and macrophages are analysed. These are followed by a number of chapters on the effects of pollutants on the lung and on the choice of experimental animal models to investigate the potential hazards of individual pollutants.

The contributions are generally in the form of reviews and do not represent original experimental reports. Splendid editing has ensured that they are easily assimilated and provide an excellent state-of-the-art survey. Although the book is intended for those with an interest in air pollution, much of it is relevant to occupational lung disease, as this also is mainly due to inhaled particulates and gases.

No epidemiological work is presented and the conference clearly was concerned mainly with basic biological mechanisms. Noticeably absent, as a result, is any overall assessment of the medical and economic cost of air pollution. It is now evident that cigarette smoking is the dominant cause of lung disease in most industries and in the population as a whole. The questions that the general reader is most likely to pose concern the relevant importance of air pollution: what is the practical application of research into air pollution? To what extent should huge medical resources be devoted to determining precise definitions of air quality standards, when at the same time large sections of the community inhale self-imposed pollutants in astronomical concentrations; when advertising to encourage such self-administration is financially on a scale that dwarfs that

devoted to medical research; and when national exchequers are almost irrevocably addicted to the revenue from tobacco taxes? Perhaps these questions may feature at future OHOLo conferences.

D. C. F. MUIR

NOTICES

Institute of Environmental Science and Technology

A course of lectures and practical measurements relating to Noise Induced Hearing Loss will take place on 26-27 May at the Institute of Environmental Science and Technology, Polytechnic of the South Bank, Borough Road, London. This course is designed for those concerned with Occupational Medicine and the well-being of employees. It takes the form of an introduction to the science of noise, use of the sound level meter and dosimeter, basic audiometry and the implementation of the Code of Practice for Reducing the Exposure of Employed Persons to Noise. The course is described, in addition, as a useful introduction to Acoustics in general. The fee is £34, and further details may be obtained from the Course Tutor, I. J. King, MSc, MInstP, MCIBS, Institute of Environmental Science and Technology, Polytechnic of the South Bank, Borough Road, London SE1 0AA.

International Symposium on the Control of Air Pollution in the Working Environment

This symposium, which will take place in Stockholm, Sweden, on 6-8 September 1977, and is organised jointly by the Swedish Work Environment Fund and the International Labour Office, will be of interest to all those concerned with the safety and health of workers. The agenda includes items on research methods and organisation of research on specific occupational hazards; identification, measurement and assessment of airborne contaminants; methods to prevent contaminants from becoming airborne and dispersed, and protection against them; and organisation and administrative measures applicable in various industries and processes. Further information, including full details of the programme, submission of written communications, and registration, may be obtained from the Secretary of the Organising Committee, Mr. Birger Viklund, Arbetsarkyddsfonden, Sveavägen 166, 10th floor, 113 46 Stockholm.