Book reviews


This technical bulletin is one of a series of publications produced free of charge by the Bureau of Occupational Health and Environmental Epidemiology, Department of Public Health, State of California. Since cadmium poisoning following ingestion is rarely if ever occupational in origin it is not discussed. The toxicity of inhaled cadmium fume and dust is described. (It is refreshing to see chronic cadmium poisoning described in an American publication.)

It is written with special reference to welding and silver brazing. Acute exposure of welders both in the United States and in the United Kingdom has resulted in a number of tragic accidents. The hazard is generally unrecognized because inhalation of zinc fume frequently produces metal fume fever, a mild illness initially similar to acute cadmium poisoning.

The hazardous processes are listed, namely, burning or welding cadmium-plate metals, silver brazing with cadmium-containing alloys, and the heating or burning of other cadmium-containing substances, all processes involving temperatures above 320°C, the melting point, and frequently above 670°C, the boiling point of cadmium. Two cases of acute cadmium poisoning in two welders are described in detail in an appendix.

Industrial hygiene practices and recommendations for the prevention of cadmium poisoning are detailed including the requirement in California that all cadmium-containing alloys or cadmium-coated metals are labelled, indicating the fact that cadmium is a toxic material.

A clinical picture of acute cadmium poisoning with the differential diagnosis, particularly with metal fume fever, is discussed in full. A paragraph on the diagnosis of chronic cadmium poisoning is also included although the significance of various cadmium concentrations in blood and urine would not be generally accepted in the U.K.

In general, this is a useful booklet and can be thoroughly recommended as it would certainly be of considerable value to medical officers and industrial hygienists concerned with the health and protection of welders and metal foundry workers. A useful list of references is also included.

J. A. BONNELL


This volume, the latest in the ILO Occupational Safety and Health Series, gives the report of the sixth joint ILO/WHO Committee on Occupational Health, which met in June 1968 to discuss permissible limits of occupational exposure to airborne toxic substances. It includes working papers on various aspects of the problem prepared by individual participants, as well as a report from the Working Group, which met six months later, on establishing standard forms of presentation of toxicological data derived from animal experiments, from experiments on human volunteers, from epidemiological studies, and from industrial surveys. Also included is a comprehensive review of legislation and practice in a number of countries (not including the United Kingdom) concerning maximum permissible concentrations in the working environment.

The Committee's report discusses briefly the merits of a four-category classification of biological responses to occupational exposure to airborne substances. Many members of the Committee found the following classification acceptable:

- **Category A (safe exposure zones):**
  - Exposures that do not, as far as is known, induce any detectable change in the health and fitness of exposed persons during their lifetime.

- **Category B:**
  - Exposures that may induce rapidly reversible effects on health or fitness, but that do not cause a definite state of disease.

- **Category C:**
  - Exposures that may induce a reversible disease.
Category D:
Exposures that may induce irreversible disease or death.
There is also some discussion of both the levels of toxic substances in biological specimens, and the use of other biological indicators of environmental exposure. Not surprisingly, the conclusion is reached that further study is desirable. Consideration is given to the use of human volunteers in experimental studies, and the comments of H. E. Stokinger on this emotive subject are particularly relevant, both in respect of the need for such studies, their methodology, and ethical considerations. Indeed, although the quality of the working papers prepared by individual members of the Committee is very variable, Stokinger's several thoughtful contributions are especially noteworthy.

The survey of national legislation and practice concerning maximum permissible concentrations lists 655 substances, with an index giving the names of the countries in whose lists the individual compounds appear. This would have been rather more helpful had it been found possible to quote all the values both in parts per million as well as in milligrams per cubic metre, but it is still valuable to have all the facts recorded together in one volume. It is of interest to note the remarkable extent to which the recommended values differ in various countries, sometimes by a factor of 90. The values most widely accepted in other countries are the Threshold Limit Values of the American Conference of Governmental Industrial Hygienists, and the Maximum Allowable Concentrations laid down by the health legislation of the U.S.S.R. In only 24 instances do these values approximate sufficiently to differ by less than a factor of 2. The Committee adopted a list of safe concentration zones for these 24 substances, and recommends these for international use. A plea for increased international cooperation is put forward.

It is unlikely that most industrial medical officers will find this a particularly useful work of reference. There can be no doubt, however, that careful perusal will help the student of toxicology to achieve a better understanding of the significance of published figures for maximum permissible concentrations, and of why such concentrations may vary substantially in different countries with differing philosophic concepts.

ALEXANDER MÜNN


This is the report of a symposium (the second of its kind) arranged by the Research Panel of the Society of Occupational Health and held at University College, Cardiff, in September 1967. There is a foreword, by Dr. D. Malcolm, followed by a brief résumé of the nine papers presented.

As with most symposia, the material presented varies appreciably in quality and substance. Dr. Broadbent's opening paper is an attempt to make sense of the puzzling literature dealing with the effect of noise on work performance. He suggests that the effect is more likely to be adverse when subsequent effort cannot make up for earlier inefficiency, and if the essential nature of the work is perceptual rather than motor. Whether, as he believes, noise may be harmful only when the worker is in an aroused state, is an idea which will need critical examination. One concluding remark, namely, 'that the average of a group of men may include some who are consistently worse in noise and some who are consistently better' is somewhat hard to interpret.

The second paper is a sharp critique, by Dr. Buzzard, of the value of current procedures and measures in the study of work performance. What he has to say should be taken to heart by all those engaged in industrial psychology. He does not content himself with fault-finding but adds a number of useful recommendations, particularly for the recording of data.

Dr. Hawel, whose paper seems to have been prepared more for a listener than for a reader, shares Dr. Buzzard's doubts with respect to the application of laboratory results to 'real life' situations. This conclusion does not, however, seem to follow from the evidence which he presents and which suggests that ill-humoured people dislike traffic noise more than good-humoured people.

Dr. Atherley's useful analysis deals with the idea of stress in relation to noise. He raises the question whether stress might not sometimes be due to information overload rather than to sheer acoustical effects, a suggestion which could lead to interesting investigations.

The implication from Dr. Atherley's paper that meaningful and meaningless noise have differential effects is challenged by Dr. D. R. Davies who, after sketching the evidence on physiological effects of noise, concludes that nothing has yet been established.

A fresh look at the topic is introduced by Drs. Hopkinson and Rowlands in their comparison of discomfort from noise with discomfort from glare. Their conclusions are supported by an account of an investigation, based on this comparison, into the assessment of noise in hospitals.

The reader of Dr. H. J. Eysenck's paper, which makes the largest claims, may have a feeling of déjà vu. It does little more than reiterate his dogma that the two major


This book first appeared in 1941 and its stated objective is to be 'a complete and authoritative work'. This new edition has been rewritten in parts but the layout and illustrations now have a somewhat dated air. At over 300 pages it would be too much for the novice first-aider, and I imagine that it would have most appeal to the enthusiastic first-aider who wants to know rather more than the minimum necessary to pass his re-examination. I would particularly recommend the chapters on the illness of injury and the management of cardiac and respiratory arrest; there is also a useful index. The book would be a great help to doctors who are planning to give lectures on first aid. A number of minor inaccuracies persist from earlier editions, but these are inevitable until the publishers are prepared to indulge in a complete re-setting of type.

P. J. TAYLOR