Book reviews

Man in extreme environments. By A W Sloan. (Pp 132; \$12.75). American Lecture Series. Charles C Thomas; Springfield, Illinois.

The way man adapts and comes to terms with extreme environments is a subject interesting in its own right and of fundamental importance to industry, recreational organisations, and the military. Professor Sloan in a modestly sized text has tried to provide the basic information on most of the extreme environments man enters. The two main homeostatic mechanisms of temperature regulation and respiration are dealt with first, providing the necessary physiological background. The extreme environments are then dealt with—heat, cold, deep water, mountains, aviation, and space flight. There is an excellent bibliography and an index that add to the value of the book.

The style of writing is that of a lecture note approach. Every sentence is a fact culled from the literature without any discussion of its interpretation or indeed whether it is correct or not. This style of writing leads to ambiguous statements and the method of data collection to inaccuracy. For example, the statement is made that "in an environment saturated with water vapor *evaporation from the skin* does not occur." In only one well-defined circumstance does evaporation not take place into saturated environments, and the physiological control of the "wetted surface area" enables the body to control evaporation independently of the water vapour pressure until the skin is totally covered with sweat. These aspects of temperature regulation are fundamental to an understanding of hot environments and should have been dealt with. Another serious error is made when dealing with the treatment of hyperthermia. The treatment given is to place the patient in ice. It has been known for many years that during the body cooling process the cutaneous blood vessels have to be maintained in a dilated state, and excessive cooling, which induces vasoconstriction, is counter productive.

Similar errors occur throughout the

book, errors that could have been so easily avoided if somebody working in the respective areas of physiology had vetted the manuscript. In a book that is essentially a collection of factual notes it is important that the notes are correct. The coverage of the extreme environments met in industry is sparse, and the book provides the background to them rather than specific information and advice. Nevertheless, the book is a very useful summary of the field.

G W CROCKFORD

Review of Radiation Protection of the Patient—Part 1 Diagnostic Radiology. (Pp 61; no price). British Institute of Radiology and the British Radiological Protection Society. 1979.

This short publication is aptly subtitled "A Manual of Good Practice" and represents the views of a panel of representatives from the major bodies in Britain who are concerned with radiation protection. The book deals solely with diagnostic radiology and is a timely contribution in view of the increasing amount of medical irradiation and enhanced public concern about this. Furthermore, though we may expect in the near future a new set of regulations and a code of practice under the HSW Act, these do not cover members of the public represented in this context by the patients, who receive the greatest proportion of this important category of radiation.

Though the authors have used everyday language, the publication is directed at hospital radiological departments, and the technical sections are especially aimed at those who work closely with radiographic techniques. These sections notwithstanding, the book is eminently readable, and there are many thought-provoking sections for all those connected with hospital practice and ionising radiation generally. Parts to be singled out include those on unnecessary radiological examinations and the avoidance of repeat radiographs. There is also a most useful section on dental radiography.

In general this is a useful and much

needed publication presented in a concise, easily digestible form. It should attract a wide interest though it might have been expanded with good effect to discuss such difficult topics as routine radiological examinations.

P RATCLIFFE

The Prevention of Occupational Cancer. An ASTMS policy document. London: ASTMS, 1979; **The Prevention of Occupational Cancer.** By J K Howard. An ASTMS policy document—a review. London: Chemical Industries Association, 1980; **Chemicals, Work and Cancer.** By A Le Serve, C Vose, C Wigley, D Bennet. Walton-on-Thames: WEA and Nelson, 1980; **Cancer in Modern Mortality.** By N E J Wells. London: Chemical Industries Association, 1980.

Much attention has been given lately to discovering the extent to which occupation contributes to the aetiology of cancer. This quest has led to heated arguments and the debate received a major boost when a document was circularised, but never officially published, suggesting that between 20% and 40% of all cancers in the United States were due to occupational exposure.¹ Although the authors represented the National Cancer Institute, the National Institute of Environmental Health Sciences, and the National Institute of Occupational Health, apparently all but one have now disowned their contribution (Howard). The document has been roundly attacked in most scientific circles but has been extensively used by ASTMS in its policy document, which suggests that industry is the major cause of modern cancer.

The furore caused by such a publication and the appearance of a book by Epstein on the *Politics of Cancer* has stimulated the Chemical Industries Association to publish two rejoinders (Howard, Wells). Even the founding director of the International Agency against Cancer has felt the need to clarify his position on "self-inflicted" and "imposed" carcinogens.²

Add to this a book entitled *Chemicals, Work, and Cancer* (Le Serve *et al.*), published recently by the Workers Educational Association, and one has all the ingredients for a protracted controversy.

It is difficult to establish the true picture among this welter of words but an attempt has been made by Peto.³ He contends that present day cancer trends are probably not dominated by occupational carcinogens or environmental pollutants. There can be little doubt that environmental factors must be the major cause of cancer,² but the public at large has refused to accept the fact that much of this cancer is related to personal habits and to lifestyle in general and that only a small proportion is specifically linked to occupation, perhaps 2% in women and 6% in men.

It is misleading to frighten people into thinking that industry is causing most cancers through the use of phrases such as "there has been a growing realisation (over the last few years) that chemical hazards are emerging as a major threat to the health of workers" (Le Serve *et al.*). Although this teach-yourself cancer book is in many respects balanced and well written, such introductory premises are to be condemned. The matter is taken up with even greater vehemence in the otherwise useful book on cancer prevention published by ASTMS. They lay great store by their analysis of current cancer mortality trends in Britain, implying that there is a cancer epidemic, knowledge of which is being systematically suppressed. This is partly based on false premises as a rise in crude cause-specific death rates takes no account of an aging population; when age-specific rates are cited, little attention is paid to changes in diagnostic accuracy, enumeration, and the proportionally lower significance of deaths from infectious diseases. The question of mortality trends is analysed elsewhere (Wells), and the conclusion of this account is that, apart from cancer of the bronchus, all other major causes of cancer are either declining in incidence or are unchanged, a view independently supported by an analysis of the 1975 mortality figures by Doll.⁴

Most epidemiologists will probably subscribe to the view that cancer mortality

is not rising at an alarming rate and, with the exception of bronchial carcinoma, is probably not rising at all. Furthermore, the part played by occupation on the genesis of cancer is minor compared with tobacco, alcohol, and, possibly, diet. The figure of 1% of cancers due to occupational factors is probably too low but 40% is certainly too high. For the working population, 10% may be more realistic, although it depends on whether the percentage relates to total or contributory cause; by the latter token, the role of cigarettes is probably underestimated as well. Whatever the true figure, even 10% attributable risk requires action regarding future exposure, and it is towards that aim that Le Serve and his colleagues have addressed themselves. Whereas readers of this journal would be well advised to peruse chapter 1 of the ASTMS document and compare it with the accounts of Wells and Doll, few will learn anything new from Le Serve's book. It will, however, be widely distributed through union channels, as it is designed to be read by laymen in general and chemical workers in particular. Although one might disapprove of some of the book's emotive presumptions, it does give a reasonably balanced account of chemicals and their toxic effects. Some misconceptions are unfortunate—for example, "Benign tumours are groups of cancer cells that grow relatively slowly," but at least the authors present some of the arguments for and against the controversy over the relative importance of occupation as a cause of cancer. Some doctors may object to the implied notion that workers had better start diagnosing their own cancers, particularly if all this achieves is greater anxiety but no earlier increase in the early detection of disease. Their list of occupationally related cancers is also somewhat longer than most experts would propose.

The general lesson seems to be that facts will be misinterpreted when groups have a vested interest in the controversy. Since no one in the middle seems motivated enough to promote the middle course, which, as often happens, is probably the truth, it must be left to the unbiased reader to form his own judgement.

J M HARRINGTON

References

- ¹ Bridbord K, DeCoufle P, Fraumeni JF, *et al.* *Estimates of the fraction of cancer in the United States related to occupational factors*. Washington: NCI/NIH/NIOSH, 1978 (unpublished).
- ² Higginson J. Cancer and environment. *Science* 1979;**205**:1363-6.
- ³ Peto R. Distorting the epidemiology of cancer: the need for a more balanced overview. *Nature* 1979;**284**:297-300.
- ⁴ Doll R. The pattern of disease in the post-infection era: national trends. *Proc R Soc Lond B* 1979;**205**:47-61.

Notice

Suzette Gauvain Memorial

Suzette Gauvain, who died suddenly on 23 January 1980, devoted her professional life to occupational medicine and, particularly, to training those who work in this field. Many of her past students and colleagues have expressed a wish to see her memory perpetuated in some tangible way.

The initiative has been taken by Suzette's husband, Ronald Murray, who with her family has made a most generous gift to the London School of Hygiene and Tropical Medicine to establish a memorial fund. It has been decided, with the approval of the School, to create a Gauvain Reference Library in occupational health in the TUC Centenary Institute. The nucleus for such a collection already exists, and the memorial fund will be used to bring it up to a proper standard. The room in which the collection is located will be known as the Gauvain Room and the collection will be accessible to students and staff as part of the School library.

Those who knew Suzette Gauvain and wish to contribute to the fund are invited to send contributions to Professor J Corbett McDonald, TUC Centenary Institute of Occupational Health, London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT. Cheques should be made payable to LSHTM (Gauvain Fund). All gifts will be acknowledged, and a list of donors will be inscribed in a book to be kept in the Gauvain Room.