Book Reviews

Elements of Radiation Protection. By Ronald V. Scheele and Jack Wakley. (Pp. 99; figs, tables; \$7.95.) Illinois: Thomas. 1975.

The declared aim of Scheele and Wakley is to present in an elementary form relevant information for users of x rays and radioactivity who are not well versed in the physical sciences. It is apparent that the book has evolved from a set of lecture notes and is clearly intended as an adjunct to a lecture series. How else could the introduction of such terms as 'binding energy', 'K-absorption edge', and 'annual genetic dose' be justified in such an elementary text without preliminary explanation?

For the sake of conciseness the authors frequently resort to listing salient points under a heading, thus the required ground is covered in fewer than 100 pages. Indeed teachers will find this publication a useful check-list of material for their own lectures. From the students' point of view the book has the twin merits of a clear text and bold, uncomplicated diagrams. C. B. CLAYTON

Health and Industrial Growth: Ciba Foundation Symposium 32 (new series). (Pp. 267; \$18.50.) The Netherlands: Elsevier, Excerpta Medica, North Holland. 1975.

Some two years ago Lord Ashby suggested that the Ciba Foundation might organize a symposium on second-order effects of industrial growth on human health. It was held in September 1974 with a limited number of participants from developed and developing countries. The 13 papers presented and the discussions which followed each are presented in this book.

The symposium opened with two papers describing the current state of thinking (rather than the current position) in the United Kingdom, the first by Lord Ashby on 'Legislation outside the factory: the British philosophy of pollution control' and the second by Professor J. C. Wood (vice-chairman of the Robens Committee) on 'Legislative protection of health at work'. Other papers dealt with the current position in a number of developing countries and the attitude of the World Health Organization towards occupational health services in both developing and developed countries.

Neither in the papers nor in the discussion was the subject confined to occupational health but ranged widely into associated questions of environmental health, sociology, economics (the use of limited resources of materials and energy), and even politics. Enthusiasts, and even the proponents of, occupational medicine will find much to ponder over in a chapter entitled 'The industrialization of medicine' by Ivan Illich. Personally, when reading his works I am helped by a simile used in another context by Arthur Koestler and compare Illich's writings with an Impressionist painting which has to be viewed from a distance; if one puts one's nose into it the details seem to become clumsy blobs.

In a book as far ranging as this, each reader will find greatest value in those parts most relevant to his own circumstances. Every practitioner and student of occupational medicine in the United Kingdom would gain by studying the opening two chapters. Several comments led me to wonder whether it would have been useful to have included an account by a British social historian of the problems faced by this country when it was developing and the measures taken and the decisions made. The sense of *déjà vu* would have been much stronger had it been pointed out how our legislative measures were designed in sequence to deal with communicable disease, then vulnerable groups, education, accidents, and later with occupational disease, and that we still separate prevention from compensation.

In his excellent summing-up Lord Ashby comments that some of the political and social problems which arise as second-order effects of industrialization do not seem susceptible to rational analysis at all, and even when there are rational solutions to problems they are not valid everywhere. Certainly, reading this book I was more than once reminded of reading Tolstoy's *War and Peace* with the continual emphasis on the inevitability of events.

Finally the traffic in ideas is not only one way. I read this book during the mid-winter holiday and at the same time was reading in another book about a peasant girl in a middle eastern country who became pregnant while she was still engaged to be married. That was nearly two thousand years ago, but still. . . . W. R. LEE

Health Protection of Radiation Workers. By W. Daggett Norwood. (Pp. 442; figs, tables; \$27.50.) Illinois: Thomas. 1975.

This is a large-scale review of knowledge relating to the health and safety problems created by the nuclear power industry. Its value as a source book is enhanced by a generous use of topic headings; each chapter ends with a summary and there is often a substantial list of references.

Minor errors are sufficiently frequent to be irritating. The introductory sections on radiation physics are weak and expressions of confidence in the continuing safety of nuclear power generation are not always as reassuring as they are intended to be. Nevertheless, the major sections of the book, dealing with the biological effects of ionizing radiations, the assessment and elimination of radionuclides deposited in the body, and the metabolic behaviour of a wide range of radioisotopes represent valuable summaries of current knowledge. C. B. CLAYTON

The Human Side of Accident Prevention. Edited by Bruce L. Margolis and William H. Kroes. (Pp. 144; \$11.50.) Illinois: Thomas. 1975.

I confess to approaching this book with some eagerness. It has a good title and seemed to be stressing an approach

which has all too often been neglected. It is no discovery that accidents often hurt people and are usually caused by people but we too frequently talk about the subject as if metal was the only thing that got bent and the real problem was how to handle the statistics. However, the subtitle *Psychological Concepts and Principles which bear on Industrial Safety*, gives a more accurate indication of what this book is attempting. There are four chapters: Organizational psychology; Engineering psychology; Training; and Behaviour modification, and the same format is followed in each. The authors put forward four or five main sections and group in all some 20 guidelines in these sections. For example, in Engineering psychology, the sections are: A. Work organization; B. job characteristics and demands; C. Workplace design and layout; D. Task characteristics and demands; and E. Control-display characteristics. Under the last category, we have E-19 Stimulus-response (S-R) compatibility (population stereotypes), E-20 Coding and identification, E-21 Display design, and E-22 Control design.

It will be appreciated that when a similar format has been followed for all four sections in each chapter, the impression is one of safety concepts being hung on to the framework of established disciplines; it is rather on the lines of saying, 'Here is how engineering psychology works; this is how it will influence safety if given the opportunity'. There is nothing wrong in such an approach, but in each chapter safety is secondary to the interests of the main subject and perhaps surprisingly there is no concluding chapter which tries to put the spotlight on accidents and integrates the various approaches.

Within the self-imposed limitations each of the chapters is a useful summary of the work in its field and how it might be applied to accident prevention. The chapter on engineering psychology is thorough and its references wide-ranging. I found the chapter on organizational psychology the least rewarding. I must be getting old but too many of its guidelines baffled me with their tautology, such as (a random selection):

'0-2 Organizational objectives. The objectives of an organization are reflected in its policies and practices. To promote safety, organizational actions should suggest to employees that safety is an important objective of the organization:

It is all done with a straight face but when 19 guidelines have been trotted out in a neat table and then exercised at length over 32 pages, concentration wanders. Yet overall the authors do succeed in bringing together 'those important principles in the behavioural sciences which appear to have significant bearing on occupational accident prevention'. To this extent the book can be commended although it offers no new insights into why man so often injures himself, injures others, and injures his world with much that is in it. This reminds me to add that within its stiff covers this book is most expensively produced and will cost the reader \$11.50 for its 144 pages.

HARRY KAY

A Laboratory Guide to Clinical Diagnosis, 4th edition. By R. D. Eastham. (Pp. 303; £2.50). Bristol: Wright. 1976

The number and variety of laboratory tests used in the diagnosis of disease increase with bewildering rapidity

each year, and there is also a greater range of diseases which may be encountered. This pocket book has been prepared as a guide to the effective use of the laboratory by the hospital doctor and the general practitioner. However, it is only of use in cases in which the diagnosis is known or suspected for there is no cross-reference system to enable the significance of an abnormal result to be determined. The guide is comprehensive, covering microbiology and some histology as well as chemical pathology and it includes a large number of rare conditions which are most unlikely to be encountered by a physician in occupational medicine.

By contrast, occupational disorders are inadequately covered. While, for example, disorders of metabolism are covered fully, the chapter on the investigation of intoxications is very short and not always accurate. This chapter includes a note on 'Haff' disease but does not include cadmium poisoning and makes no mention of organophosphorus or of any other form of pesticide poisoning apart from paraquat. Again, the only mention of poisoning by any of the aromatic or aliphatic series of hydrocarbons is limited to ethyl alcohol and halothane. In chronic beryllium poisoning, the text informs us, the urinary output of beryllium is increased, but this is not necessarily true. Unqualified didactic statements are made, which is a fault associated with many pocket books which attempt to cover too wide a field.

The text is most useful for its record of biochemical and microbiological features and also for its summary of important negative findings associated with specific disease states and syndromes.

G. KAZANTZIS

Manual on Radiation Protection in Hospitals and General Practice, Vol. 3: X-Ray Diagnosis. By B. E. Keane and K. B. Tikhonov. (Pp. 96; tables, figs; Sw. fr. 18.) Geneva: WHO. 1975.

This WHO publication meets effectively a fairly narrow but very worthwhile objective. Much theory and experience in radiological protection is condensed in this book into a clear set of widely applicable recommendations. All those responsible for providing diagnostic x-ray facilities or for monitoring their safe use will find it a valuable guide. In particular it will give authoritative support to those who, having a scientific background but limited experience, find themselves in the position of having to advise other professional groups such as administrators, architects, or medical practitioners.

C. B. CLAYTON

The Physiology and Medicine of Diving and Compressed Air Work, 2nd edition. Edited by P. D. Bennett and D. H. Elliott. (Pp. 566; £17.) London: Baillière Tindall. 1975.

In recent years more attention has been paid to the environment as a challenge to health, and the constraints of conventional medicine are giving way to the broader concepts of occupational and community medicine. Man himself has evolved to function effectively within a relatively narrow range of environmental changes. He demands a precise microclimate and an accurately monitored and maintained inner chemistry. He is basically