BOOK REVIEWS

Elementary Cardiography. By E. N. Chamberlain, N. Coulshed, and E. L. Rubin. (Pp. vii + 141; 139 figures. 27s. 6d.) Bristol: Wright 1962.

The authors write modestly: "This small book is addressed to Medical Students and those Practitioners who have little time for larger works . . . The information is correspondingly limited, elementary and arbitrarily selected". There are four sections; two, electrocardiography and cardiac radiology, are designed to provide an elementary working basis, and the other two, phonocardiography and cardiac catheterization, are brief accounts appropriate for those who wish to know something about these techniques but are unlikely to use them without further study and training.

The section on electrocardiography is clear and straightforward but is obviously modified from a text written before the advent of unipolar leads. Thus 23 pages and 35 figures are given to arrhythmias and heart block and only four pages, including five figures, are devoted to "myocardial infarction, coronary thrombosis and coronary occlusion", terms which, from the single page of text, might seem to be almost interchangeable.

The excellent elementary introduction to cardiac radiology is embellished by good illustrations, admirably reproduced. At the present time, however, it seems inappropriate to devote so much space to syphilitic aneurysms, now comparatively rare, if this necessitates reducing to a minimum the material on congenital heart disease, a subject of much greater current interest and difficulty.

This well-produced book contains a considerable amount of information within a small compass, but it could be improved by more resolute selection of material in relation to contemporary interests.

A. MORGAN JONES

Toxicity of Arsenic Compounds. By W. D. Buchanan. (Elsevier Monographs on Toxic Agents.) (Pp. viii + 155; 6 figures + 4 tables. 25s.) Amsterdam: Elsevier. 1962.

The number of persons exposed to arsenic at work has fallen in recent years, there being a tendency for arsenical compounds to be replaced, for many purposes, by other materials. Thus synthetic pigments have largely substituted for green arsenical pigments, and synthetic insecticides have displaced those based on arsenical salts. The use of various arsenicals in industry is not now an important cause of occupational morbidity and mortality; and modern methods of dust and fume control make it possible to prevent entirely the irritant effect of arsenical dust on the skin and also any systemic poisoning resulting from its inhalation.

However, the very poisonous gas arsine still presents a major hazard in some industries, and an excellent

account of this subject is given here. From the toxicological point of view, arsine is the most important of all arsenic compounds and is responsible for most of the serious cases of poisoning by this metal. Generation of the gas in industry is nearly always unintentional, arising when nascent hydrogen forms in the presence of an arsenic compound. In recent years, poisoning has been reported in the manufacture of zinc salts, in cadmium recovery, in tin refining, when handling non-ferrous metals and drosses, and when making silicon steel, and also on entering vessels containing various acid residues. The greatest preventive measure is still intelligent anticipation of the conditions which might give rise to arsine production.

There is strong evidence to support the view that arsenic can cause cancer of the skin, and certainly in this country it is generally accepted that it does sometimes do this. Moreover there may be a causal relation between the inhalation of arsenic and the development of lung cancer, but this is not established.

In this very useful monograph dealing with all aspects of arsenic, Dr. Buchanan has had access to the reports of the Medical Branch of H.M. Factory Inspectorate of the Ministry of Labour and so has been able to record many interesting cases of arsenical poisoning which have occurred in the United Kingdom in the past 60 years.

T. G. FAULKNER HUDSON

Carcinogenic and Chronic Toxic Hazards of Aromatic Amines. By T. S. Scott. (Pp. 208; 50 figures + 20 tables. D.s.l. 15) Amsterdam: Elsevier. 1962.

This monograph is composed of three parts. In the first is given the historical background, the chemical structures and uses of aromatic amines in industry, the acute and chronic lesions they produce, and the evidence that metabolites may be responsible for the carcinogenic action.

Part 2 deals with the natural history of occupational bladder tumours and with methods of their diagnosis and treatment. Part 3 deals with the prevention of exposure to carcinogenic amines and with the legal aspect of compensation of workers who develop tumours of the bladder, the renal pelvis, and ureter. Thus, in spite of its title the bulk of this rather discursive book is concerned with bladder cancer and with the amines which may cause it: beta-naphthylamine, 4-aminodiphenyl, and benzidine. In the space of only one-and-a-half pages are mentioned the hepatocarcinogenic amines, such as acetaminofluorene, azo-dyes etc., and the acute and chronic liver lesions which they induce.

The carcinogenic activity of aromatic amines has been shown recently to be due to their N-hydroxy-metabolites so that the detailed discussion of the previous hypothesis

incriminating other metabolic products, however well constructed, now becomes irrelevant.

The author, who is the Medical Officer of the Clayton Aniline Company and Ciba Clayton, Ltd., has much experience with the clinical side of the problem on which his views seem sound and authoritative.

It is interesting to learn that the first sign of intoxication by aromatic amines is often euphoria; that methaemoglobinemia due to acute exposure is readily cleared up by intravenous injections of methylene blue, and that cytodiagnosis is the preferential diagnostic and screening method for bladder cancer (though it fails in cases of recurrent tumours), the prognosis for which is always bad.

Much space, including photographs, is given to illustrate how the replacement of manual methods by automatic machines in modern factories can reduce the exposure of workers to dangerous chemicals. The author is alive to the fact that reduction of massive exposure preventing acute intoxication does not eliminate the danger of tumours which may follow occasional exposures to even small amounts of carcinogens. In view of the long latent period (10 to 20 years) between exposure and the onset of bladder cancer, the preventive measures adopted in modern factories can, as yet, not be evaluated.

The only safe way to prevent tumours in workers in industry is to introduce chemical processes which do not include handling of carcinogenic materials. The replacement of beta-naphthylamine by beta-naphthol and subsequent amination (p. 63) is an example of what can be done in this field in the manufacture of dyestuffs. In the meantime, the author rightly advocates the employment of workers over 40 years of age and as few as possible on jobs in which there is a risk of exposure to carcinogenic amines. This sound principle should be followed in all industries dealing with carcinogenic materials, whatever their type.

The book is well produced and only a few printing errors were noted. The name of Natanson is mis-spelled in the text. Some judicious pruning would have made easier reading of this monograph on bladder cancer, which should be of value to industrial administrators and medical officers.

R. SCHOENTAL

Irradiation of Mice and Men. By John F. Loutit. (Pp. xii + 154; 40 figures + 6 tables. \$5.00; 40s.) Chicago and London: University of Chicago Press. 1962.

This short book is based on a series of lectures given by the author at the University of Chicago toward the end of 1961. It sets out to discuss the biological principles on which radiation protection is based.

The first chapter entitled Radiation and the Facts of Life deals fairly shortly with the effects of radiation on cells. Refreshingly, the reader is not taken through atomic structure and cell division, but the advances resulting from recent developments in chromosome cytology are clearly explained. Chapter 2 is called Cancer, Leukemia, and Longevity. The fact that the natural ageing processes are considered first is typical of this book, wherein radiobiological processes are considered not in a narrow context but against the wide background of biological processes as a whole. This approach greatly

adds to the interest of the book. The final chapter is an account of current knowledge of the metabolism of strontium 90, but no attempt is made to translate the findings into the possibility of any radiotoxic effects.

A book published under these circumstances is likely to have a very short useful life unless it is to be kept under constant revision. For an industrial medical officer prepared to read and ponder over it, this book will provide source material on which he can base his advice to persons concerned with radiation hazards. He will not find ready-made answers, but he will get an insight into some of the biological complexities of these problems and incidentally may be introduced to advances in our knowledge of many physiological and pathological processes. All this is presented in a readable way, interspersed with the whimsical comments one would anticipate from the title page.

W. R. LEE

Sociology in Medicine. By M. W. Susser and W. Watson. (Pp. x + 337. 42s.) London: Oxford University Press. 1962.

This work is an interesting combination of the ideas of an epidemiologist and a social anthropologist. It is essentially theoretical and academic in approach. The material is in two parts: the first five chapters discuss the significance of demographic studies, the effects of social and cultural environments on individuals and groups, and the medical significance of the division of industrial society into social classes. The second part, of four chapters, concentrates on the contemporary family in Great Britain from infancy to "the phase of replacement". The importance of the personal and social environment in the problems of individual patients is emphasized.

Although the book is modestly described as an introduction to the subject, it summarizes a great deal of published material in a very readable form. An extensive bibliography and a good index are provided.

It is important in a work of this kind that there should be a sound underlying philosophy and some of the references quoted are of little illustrative value and might perhaps have been omitted. Thus in the section on Medical Bureaucracies two single separate cases are quoted on page 166; single cases do not always form good illustrations of a principle, and both of these are somewhat unsympathetic to the idea of medical bureaucracy. Some sections of the book are written very sympathetically, others less so, which makes the whole a little unbalanced in approach.

On page 34 appears the surprising sentence, "The doctor (in industry) is bound to accommodate his professional values, his concept of health, and his criteria of what constitutes illness, to . . . social pressures and the demands of his employers". It is to be hoped that this anachronistic idea will be removed from the next edition.

Apart from these few criticisms, the authors are to be congratulated on having compressed so much of a rather vague and diffuse subject into this compact and readable book. There is good reading for all doctors who would like to keep their sociology up to date, and interesting comments, something to learn, and some-