and metric terminology in drug dosage is an anomaly. Many will be surprised to find short total diastole time in the arrhythmias quoted as a cause of peripheral circulatory failure, and it is not representative of current opinion to describe restenosis after mitral valvotomy as 'rare'. Limitations of space impose limitations of content, but it seems a pity in a clinical guide to find little or no reference to the management of the patient, despite adequate descriptions of the management of diseases. The subject of long-term anticoagulant therapy in ischaemic heart disease is, perhaps wisely, largely evaded. But these are details for, in general, this is a sound introduction to clinical aspects of cardiology, and it can be confidently recommended to medical students and others seeking a compact, clearly written, and comparatively inexpensive guide to the essentials of the subject.

A. MORGAN JONES

Heat Stress and Heat Disorders. By C. S. Leithead and A. R. Lind. (Pp. 304; illustrated; 35s.) London: Cassell. 1964.

The authors of this book set out to bring together in an authentic practical form, for use by medical officers and others concerned with the supervision of men at work in hot environments, the considerable volume of published information on heat stress and its effects. This they have achieved in a style which is lucid and direct; the reader who wishes to pursue a particular aspect further is provided with the essential references.

The first six chapters consider the assessment, management, and control of heat stress. After a necessarily brief but lucid discussion of the occurrence of heat stress and man's physiological reactions to it in terms of thermoregulatory mechanisms and acclimatization, consideration is given to the physical factors governing the rate of heat exchange between man and his environment. This leads to a description of the various indices of heat stress and an evaluation of their usefulness in given circumstances. Limiting conditions for various occupations on three criteria—intolerable, just tolerable, and easily tolerable—are developed. The final chapter discusses ways of controlling the hazard and reducing the level of stress by such means as shielding, insulation, and ventilated clothing.

There follow five chapters devoted to the disorders due to excessive exposure to heat. These are considered in four groups—heat syncope, disorders of water and electrolyte balance, disorders with skin lesions, heat stroke and heat hyperpyrexia. For each group the aetiology, pathogenesis, diagnosis, and treatment are clearly described. There are also sections on prevention which merit the attention of the lay reader as much as of the clinician.

The final chapter in the book was contributed by Dr. R. D. Pepler and considers the psychological effects of heat. It is shown that both short-term and prolonged exposure to heat result in a deterioration in the performance of certain skilled tasks; it is claimed that there is no evidence for any true neurotic reaction to prolonged exposure to heat.

There is a fairly extensive bibliography and a useful collection of tables of normal values and conversion

factors in an appendix. The volume is adequately indexed. Many will find this a useful publication.

D. TURNER

Air Pollution—A Survey of Existing Legislation. (Pp. 45; 3s. 6d.) Geneva: WHO. 1963.

Air pollution is 'news'. The problems of control of emissions from industrial and domestic sources arouse widespread concern nowadays. In industrialized countries of the world the reviewer has noticed that the threshold of complaint is lower. Levels of pollution which were tolerated without complaint in the past are now resented. Consequently it is timely and useful to have a survey of the legislation, which public and professional opinion has demanded, in the developing as well as in the developed countries. The difficulties are great in view of the lack of agreement on standards of maximal concentrations of pollutants. Some countries, as this excellent WHO booklet points out, have laid down precise standards. Others refer problems to groups of experts—a happy solution on the whole—for standards vary in accordance with technical developments available at the time. It is of interest to notice that in Czechoslovakia it has been decreed since 1954 that dust pollution from building construction and demolition is controlled, as is the siting of refuse and slag heaps and sewage works. *Verb. sap.* It also provides for a lessening of pollution from road vehicles by requiring that roads and means of communication shall be chosen and organized so that their use presents the least possible risk for the purity of the atmosphere. The report also gives some provisions of draft laws for Poland whereby industrial plants are divided into five classes depending on types of emission, and then they propose health protection zones in which no houses are to be built within defined distances from different types of industrial plants.

The practical value of legislative surveys is lessened by the fact that nations are often reluctant to adopt ideas, however good, from other countries in view of very differing conditions, political as well as technological.

The legislative provisions for the United Kingdom are accurately reported, as one would expect from the high quality of WHO reports. This booklet is to be highly commended.

J. L. BURN

Industrial Toxicology and Dermatology in the Production and Processing of Plastics. By K. E. Malten and R. L. Zielhuis. (Pp. 258; 50s.) Barking: Elsevier. 1964.

This new volume of the Elsevier Monographs is a comprehensive review of the up-to-date literature on the toxicology and dermatology of the production and processing of plastics.

The book begins with a chapter on the chemical composition of plastics and their biological activity; it then explains the classification into thermoplastic and thermosetting resins.

The third chapter deals with the nature and function of auxiliary substances such as plasticizers, accelerators, and antioxidants.

This is followed by an excellent chapter on the skin effects of plastic raw materials. A good description of

patch testing for allergy is given, also a warning against interpreting as positive, reactions which are due to the primary irritation effects of the substance. This is followed up, at the end of the book, by a long list of recommended concentrations of potential allergens in suitable solvents for patch testing. As the authors say, there is no theoretical basis at present for determining suitable concentrations, and the list is based on the personal experience of a dermatologist experienced in this field.

Various plastics are then described, dealing with the industrial toxicology and skin hazards and ending with a well classified survey of the auxiliary substances, and the toxicology of those substances likely to be a risk to health.

Both authors are experienced in industry and their approach is eminently practical, both with regard to the potential dangers in use and methods of prevention.

Inevitably, in a book of this size, the whole subject is not covered. Polycarbonates and polyformaldehyde are not included. Synthetic rubbers were deliberately excluded, as this would presumably have widened the scope of the book too much. Another volume dealing with health hazards in the rubber industry, including both synthetic and natural substances, might be a useful addition to this series.

The chapter dealing with auxiliary substances is an excellent guide to the probable nature of these substances, even though they are not dealt with individually, but this treatment seems wise since new members of this group are introduced with great frequency.

This book critically reviews and brings together in an easily readable form a large amount of information, which will be invaluable to doctors, chemists, and those in charge of plastics manufacture.

The problem of indexing a book is always difficult. One could have wished for the inclusion of clinical symptoms, instead of a list limited to the chemical substances mentioned in the text.

Since this book is a translation from the Dutch, the authors and editors are to be congratulated on a very readable book.

D. MALCOLM

The Perceptanalytic Executive Scale. By Z. Piotrowski and M. Rock. (Pp. 228; 42s.) New York and London: Grune & Stratton. 1963.

Professor Piotrowski is a distinguished clinical psychologist who has made a life-long study of the Rorschach inkblot test. He is also research director of a Philadelphia firm of management consultants, in very close contact with problems of top management. Both interests are combined in *The Perceptanalytic Executive Scale*, produced in collaboration with Dr. Rock and other consultant colleagues. The scale consists of 32 'signs' derived from Rorschach records. Some of the signs are straightforward (such as a lack of form-colour responses in a record), while others are more complex and interpretative. Fifteen signs are claimed to be related to executive success, the remaining 17 to failure. The justification for this claim is that the signs individually and collectively discriminate between groups of successful and unsuccessful

top managers in a sample drawn from the consultants' files. For such an elusive group as top managers, the sample is encouragingly large; 52 successful, 42 unsuccessful, and 16 'intermediate'. It is important to note that most of the failures were only relative failures. Although they had failed at their top jobs, they had reached the top in the first place, often against strong competition. In short, the authors were tackling a tricky problem in discrimination.

The signs used in the scale are extremely varied, and only brief indications can be given here. The perception of human movement in the blots was closely linked with success, when the movements had such qualities as expansiveness, strength, confidence, and co-operation. But aggressive animal responses were also found to be favourable. On a more formal level, constructive, well-integrated responses produced at unvarying speed without undue self-criticism were linked with success.

Clearly, one cannot place great reliance on a scale derived from differences in one sample, and not cross-validated on an independent sample. But there seem to be good reasons to support one's hope that a later validation might prove successful. The authors have made careful reliability checks; they give abundant illustrations of their methods; the scale achieves a reasonably sharp discrimination within a highly able and challenging test-group; many of the signs make sense both psychologically and in relation to previous research; and, not least, there are 10 detailed case studies of successful and unsuccessful executives which link Rorschach signs and life-history material very convincingly.

J. F. MORRIS

Ruptures of the Lumbar Intervertebral Disc. By R. Eustace Semmes. (Pp. 80; 39 figs.; \$6.) Illinois: Charles C. Thomas. 1964.

At a recent joint meeting of two well-known societies of neurological surgeons, one of the most popular sessions was that occupied by a series of papers presented under the general title 'How I Do It'. This book epitomizes Dr. Semmes' views on the management of cases of prolapsed lumbar intervertebral disc. He has operated, it seems, on more than 6,000: it is a pity that he does not also tell us how many he treated conservatively. The tone of the book is practical; there are few references to the literature, and all except one of these is American.

The clinical findings and diagnosis of the condition are adequately dealt with, though Dr. Semmes feels more confidence than your reviewer that lesions of the fourth and fifth lumbar discs can be differentiated by the exact pattern of radiation of sciatic pain. Most people will agree with him that myelography is rarely required. However, not everyone will share Dr. Semmes' view that one can identify a syndrome of stiff painful back in which after conservative measures have failed, surgical exploration will show 'practically without exception' a central rupture of a disc which can be removed with 'very satisfactory' post-operative results.

The technique of operation is described in considerable detail. Few British surgeons will share Dr. Semmes' enthusiasm for local anaesthesia, and it is not clear how