BOOK REVIEWS

Taschenbuch der Arbeitsmedizin. By H. Buckup. (Pp. viii + 272; 19 figures. DM. 27.00.) Stuttgart: Georg Thieme Verlag. 1957.

A pocket book on industrial medicine designed for *all* interested in the subject was the target of the author of this little volume, "little" in size but astonishingly packed with information arranged in alphabetical order. Since the volume is meant to be used for quick reference the author has had to be very selective in choosing the items. This was clearly made possible by his wide experience in the Ruhr. Such items as lead, hydrocyanic acid, arsenic, mercury, and others in our own list of notifiable industrial poisonings and diseases are given understanding and relatively detailed emphasis. On the other hand occupational skin disease as a distinct section is perhaps passed over too quickly although skin effects are referred to in the consideration of separate substances. Among the many inorganic and organic compounds which have become increasingly important, one is glad to note significant space given to cadmium, isocyanates, trichloroethylene (author gives 1,024 mg./m.³ as M.A.C., *i.e.*, about 180 p.p.m. and mentions that the Russians quote 50 mg./m.³ as M.A.C., *i.e.*, about 9 p.p.m.), synthetic resins, and polymers, epoxy (ethoxyline) resins, ethylene glycol dinitrate, and many others. In a useful little table giving the symptomatology of chlorinated hydrocarbon intoxication we note that the author includes hexachlorocyclohexane among the aromatics (!) and attributes central and peripheral nervous effects to methylene chloride (dichloromethane). This latter point requires correction, we suggest, unless chapter and verse can be given for it. The organic phosphorus insecticides receive significant space but it is perhaps impossible to summarize present knowledge on these compounds in a few hundred words.

Tabulating the New York Department of Health list of the confirmed and probable occupational carcinogens, the author includes "isopropyl oil" (a somewhat volatile hydrocarbon product of the interaction of sulphuric acid on propylene) as a certain lung and nasal sinus carcinogen, although it is dubious whether H. F. Smith's quest for a carcinogen (1952) a few years ago in the manufacture of isopropanol really led to more than a suspicion, although he had certainly found a high incidence of cancer of these parts among the workers.

It will perhaps be a surprise to some readers that the use of crude NaNO₂ is stated to be probably associated with cancer of the skin. On the other hand the inclusion of o-toluidine and chloro-toluidine as bladder carcinogens and of chlorinated hydrocarbons as probable hepatic carcinogens is, as far as we know, far from being confirmed or generally accepted. Even crude anthracene, as a skin carcinogen, must rather be regarded as a com-

plex mixture jointly, in some tar distilleries, containing carcinogenic agents of composition distinct from anthracene. On the other hand, the author gives benzidine as only a "probable" bladder carcinogen, whereas nothing can be more certain.

In the field of more general interest in occupational medicine, we cannot refrain from quoting the author's words on pay: "Pay should correspond to production and should assure the needs of life for the worker and his family; equal pay should be given to women, men, and young persons for equal work. . . . The nature and magnitude of pay can have a significant industrial medical influence." He makes a special point that whereas a supplement in pay is not recommended because there are health hazards, it is recommended because of the working difficulties entailed by the use of protective methods. This seems to us a sensible point of view inasmuch as many workers in this country seem to imagine that "dirt and danger money" is a kind of insurance against hazard.

The curve relating the hour-to-hour variation of working capacity to variations in blood adrenaline (and precursor) shows the well-known maxima and minima during the day and the curves showing the great physiological diminution in pulse pressure in the early hours of the morning will be of much interest to works medical officers who have to do with night shifts.

The largest section in this really interesting book (or compilation) is that on dust diseases of the lung. Having given the limits of "safety" of dust concentration for dusts of varying silica content recognized in the U.S.A., U.S.S.R., Britain, and Belgium, he proceeds to give the German formula, which attempts the calculation of a figure for dust value (*Staubwertzahl*) making allowance for the silica content of the constituent minerals of the dust and for the fine dust concentration (m/v), the dust value being equal to (*mineral value* × *fine dust concentration*)/10. A dust value below 50 is regarded as not serious, but values over 100 imply an urgent demand for protective measures. We are unable to say how valuable this arithmetical approach is. The German proposal for a simple graphical, radiological, international classification of silicosis is also given and is worth careful comparison with the more detailed classifications proposed by other countries. For those who possess the German language, this little book is a worth-while purchase.

M. W. GOLDBLATT

Health in Industry. By Donald Hunter. (Pp. 288; 18 plates. 4s.) London: Penguin Books. 1959.

A volume of the Pelican Medical Series should be exciting enough to have popular appeal but carry authority so that it can be read with confidence not only

by doctors, but by all those interested in the subject. The author has succeeded in his difficult task and his book will stimulate doctors reading it to take more interest in their patients' working environment, and laymen to appreciate the part they can play in making industry safer. It stresses the value of the team, including physicians, chemists, engineers, employers, and employees, in tackling industrial accidents and hazards.

The history of industrial medicine is frankly and graphically told, and the summary of legislation affecting working conditions is factual and clear.

The importance of accident prevention is demonstrated by descriptions of the hazards met with in a number of heavy industries.

The second half of the book is principally concerned with prescribed diseases, but also includes some excellent sections on dangerous materials not yet in this category. Accounts of various disasters, when inadequate precautions were taken, in handling organic compounds, such as insecticides, should be a warning to all who are concerned with the manufacture, marketing, and application of new potentially dangerous chemicals.

To assist the layman there is a glossary of technical terms, and the author, having stimulated his reader's interest in this important subject, provides a list of books and papers for further study.

It is to be hoped that subsequent editions will include a chapter on the place of epidemiological and statistical methods in investigating accidents, industrial hazards, and the causes of sickness absence.

W. E. CHIESMAN

Industrial Health Technology. By Bryan Harvey and Robert Murray. (Pp. xiii + 337; 78 figures. 45s.) London: Butterworth. 1958.

This should prove a useful book for all those concerned with the health of the industrial worker, including executives and trade unionists. For, as the authors wisely state in their preface, "The health of the industrial worker does not lie in the hands of those whose training makes them experts in this subject but of those who control industry . . .". For the new industrial medical officer, too, it provides an excellent summary of occupational diseases and control methods in a great number of industries. For the expert, its value—although still considerable—is limited by a tantalizing lack of references: there are only 36 in the entire book.

The book is divided into three parts. The first part describes the physical, biological, and chemical causes of industrial diseases. There are some excellent simple accounts of such things as radiant energy and the chemistry of the hydrocarbons which can be understood without previous technical knowledge.

In the second part the principles of the prevention of industrial disease—substitution, segregation, enclosure, exhaust ventilation, wet methods, protective clothing—are described and an account of air sampling and analysis is given. The extensive practical experience of the authors is apparent and many examples are given to illustrate the underlying principles. The chapter on exhaust ventilation, the longest and one of the best in the book, combines a

simple theoretical explanation of air flow, with a practical account of the design of ventilation systems. The tables of air engineering data, which are also included, are unlikely to be used by many readers; but they serve to illustrate some of the technical problems.

The third part of the book concerns the comfort of the worker which, though it cannot be divorced from his health, requires environmental conditions better than the minimum necessary to prevent illness. It contains chapters on ventilation and heating, lighting and colour, and noise. A short, carefully chosen bibliography is given. Also, there is a 10-page glossary of chemical substances commonly used in industry. For each substance is given the chemical formula, physical state, main uses, its most likely mode of entry into the body, and its chief effects.

The inevitable difficulty of presenting technical information simply and concisely to readers with differing background knowledge and differing needs for new information is apparent in this book. For example, the authors could be criticised for omitting some detail which should properly be included in a comprehensive treatise: on the other hand, it is possible to argue that there is already too much detail and that more would deter those who should be encouraged to read the book. On the whole, the authors are to be congratulated on their selection of material and cannot be accused of oversimplification.

This, the first book of its kind from this side of the Atlantic, is a valuable contribution to bridging the gulfs which exist between medicine, industrial hygiene, and industrial management. The authors state that "the reader of this book will not necessarily discover how to swim, but it is hoped that he will learn to judge the depth of the water". Industrial medical officers should have this book and lend it to their non-medical friends.

C. H. WOOD

Manuale di Medicina del Lavoro, 2nd ed. By F. Molino. (Pp. 890. Lire 10,000.) Turin: Ed. Minerva Medica.

The author has developed the classification of the first edition and many additional conditions are discussed.

After a short review of recent developments he describes the various human physiological types, noting the average proportions and the usual relationships between height, chest measurement, and weight. It is pointed out that many persons vary so much from the normal as to be handicapped when using conventional equipment. Accident proneness also receives attention.

Methods for studying fatigue are described together with measures to lessen its severity. The effects of physical agents are described and in this section recent work on the effects of raised or lowered atmospheric pressure is noted.

Among the infections commonly contracted from certain special kinds of work Molino includes epizootic foot and mouth disease, Q fever, ankylostomiasis, and many others. Dust diseases receive attention, and there is a good chapter on the symptoms caused by vibrating tools, for which dihydroergocornine and other ergot