gives a concise survey of the many French laws and regulations on the subject. This will interest English readers who are students of comparative international legislation and it might be added that the system of the regional "colleges" which have been set up for the diagnosis and compensation of pneumoconiosis, and particularly as appeal tribunals, could well be adapted for use in this country.

The volume is well produced, though its paper cover is not likely to withstand the constant use which it should get; it is well illustrated with histological and x-ray plates, though the "positive" reproductions are not as useful as "negative" ones. There are some good colour prints of large lung sections. The bibliography is comprehensive (and international), and there is a good index. No comparable book on occupational diseases of the lungs is to be found in the English language, its German counterpart being Worth and Schillers' *Die Pneumoconiosen*. Both these books could usefully be translated into English, particularly because our proposed entry into the Common Market should make our ties with these countries closer.

A. I. G. McLAUGHLIN

Ministry of Power: Digest of Pneumoconiosis Statistics, 1960. (Pp. ii + 13. 3s.) London: H.M.S.O. 1961.

This, the tenth of an annual series of publications in which statistics relating to pneumoconiosis are assembled, is in a new form suggested by a Working Party set up by the National Joint Pneumoconiosis Committee.

Before this issue, the Digest only included information on pneumoconiosis in Mining and Quarrying, but it now includes similar information for all other industries except one. Many of the tables have been considerably modified, others have been omitted and some new ones added. Some tables now cover the years 1955 to 1960, and comparison with earlier years is easier than when the tables covered one year only. The table relating to pneumoconiosis deaths has been expanded to give, for each of the six years covered, the figures by age and industrial group in a two-way break-down (in earlier issues there were separate analyses only). Similarly the table listing the disablement benefits in force has been enlarged to show the percentage assessment for those with partial disablement. The tables which referred to miners re-employed in more suitable dust conditions have now been omitted.

This Digest, in its much improved form, makes available valuable data suitable for further analysis by those who are interested in the problems of compensation for pneumoconiosis raised under the Workmen's Compensation and Industrial Injuries Acts. Many of the criticisms of the earlier issues of the Digest have been met, but some remain to be made. First, it would be valuable if the tables distinguished simple and complicated pneumoconiosis, because of the great difference which exists in relation to mortality and degree of disability. Secondly, possible different explanations of any trends found and reasons for the care necessary in interpreting these trends are set out clearly in the Introduction; yet, in two of the

tables, there is a column showing the rate per thousand wage-earners at which pneumoconiosis was first diagnosed at boardings under the Industrial Injuries Act. The numerator is the number of cases diagnosed irrespective of whether or not they are still employed in coal-mining, and the denominator is the number of wage-earners without indication of whether surface workers are included. It would be more in line with the rest of the report if these columns gave the numbers of wage-earners and a definition of wage-earner. Thirdly, in previous issues of the Digest the source of each table was shown, and although the Introduction gives acknowledgement to the Ministry of Pensions and National Insurance and the National Coal Board, it is always desirable to know the origins of each table and these should still be given.

In conclusion, although the Digest does now include information on pneumoconiosis in most industries, it still does not include cases of byssinosis. This exception means that 10% of cases of pneumoconiosis are not included in the Digest. Thus during 1960, there were diagnosed under the Industrial Injuries Acts 3,279 pneumoconiosis cases in coal-mining, 403 in cotton (byssinosis), and 375 cases in all other industries combined. (Ministry of Pensions and National Insurance, Annual Report, 1960. H.M.S.O. 1961.)

C. E. ROSSITER

The Air we Breathe. A Study of Man and His Environment. Edited by Seymour M. Farber and Roger H. L. Wilson in collaboration with John R. Goldsmith and Nello Pace. (Pp. xx + 414; illustrated. 112s.) Springfield, Illinois: Charles C. Thomas; Oxford: Blackwell Scientific Publications. 1961.

This book is the verbatim report of a symposium in five sections held at the University of California School of Medicine at which some 30 internationally recognized scientists met to discuss, from an ecological viewpoint, the interaction of the atmospheric environment and the health of man.

The first section deals with the "normal" atmosphere and its variation and includes comprehensive review papers on "Climatic Stress" (L. P. Herrington), "Altitude" (Nello Pace), and "Capsule Climates—Underseas and Space" (A. R. Behnke); more attention might have been drawn in the paper on climatic stress to the different mechanisms of thermal breakdown in man to recent British work on this subject.

The second and third sections deal with industrial and urban air pollution problems respectively. T. F. Hatch gives us new data on the inhalation and retention of dust, and T. F. Mancuso provides a useful and well-balanced epidemiological study of the effects of chemical irritants. R. R. Newell gives an exciting account of the peaceful uses of atomic energy (for example, does the reader know that a hurricane might be destroyed by damaging its pattern of stability by use of a nuclear explosion?). The papers by L. A. Chambers and T. J. Kent deal mainly with fog problems peculiar to California, but R. A. Prindle and Patrick Lawther have wise words to say on the

importance of long-term exposure to low levels of air pollution, a problem highly relevant to morbidity in the United Kingdom.

The fourth section deals with "Specific Problems". Professor Jethro Gough reviews the effects of mineral, metallic, and vegetable dusts on the lungs in a space of only 15 pages and provides a list of 40 references. M. B. McIlroy and J. A. Nadel describe recent work in alveolar physiology, and C. P. Yaglou's posthumous paper on air ions as a biological factor summarizes his work in this field.

The symposium, which was generously supported by the Tobacco Manufacturers' Association, ends with four authoritative papers by Paul Kotin, E. C. Hammond, Joseph Berkson, and D. F. Eastcott, with 122 references in all, on the epidemiology and experimental production of lung cancer.

The style of much of the text is informal, sometimes colloquial, and easy to read. Figures and tables are numerous and clearly set out. Most of the papers are provided with good lists of references, and the editors have provided the reader with a comprehensive 22-page subject index. The printing and binding are good, too. Candidates for the D.P.H. and D.I.H. should find the book useful for supplementary reading in epidemiology and applied physiology.

GEOFFREY CAREY

Inhaled Particles and Vapours. Proceedings of an International Symposium organized by the British Occupational Hygiene Society, Oxford, March 29—April 1, 1960. Edited by C. N. Davies. (Pp. xi + 495; illustrated. 100s.) Oxford: Pergamon Press. 1961.

In the Spring of 1960 the British Occupational Hygiene Society organized an international symposium under the above title, and the present volume records both the papers and the discussions which followed them. Of the 38 papers given, 15 came from U.S.A., 11 from this country, six from Germany, two from France, and one each from Czechoslovakia, Israel, Italy, and Sweden.

The symposium was organized in the following seven sessions:

1. Anatomy and physiology
2. Physical and chemical aspects of particle retention
3. Radioactive aerosols
4. Vapours and particle-vapour interactions
5. Pulmonary elimination and storage of dust
6. Asbestosis
7. Selective sampling and pneumoconiosis.

It is impossible to do more than draw attention to the very wide range of subjects in a borderland in which mathematicians, physicists, and chemists meet with bacteriologists, biologists, physiologists, and pathologists. Although several of the papers reviewed, and often extended, previously published work there was also a large volume of new data, and the book with its nearly 500 pages is a mine of information on the interaction of the respiratory tract with dust, toxic vapours, and on particle-vapour interaction. Studies with radioactive aerosols seem to be an American speciality as all six papers in this session came from the U.S.A.

The book begins with a thoughtful preface by the editor who tries the impossible, to sum up a newly-developing field in which each new result poses more questions than it answers.

G. NAGELSCHMIDT

Health in Industry. A Guide for Engineers, Executives and Doctors. By R. C. Browne. (Pp. vii + 157; 61 figures + 8 tables. 18s.) London: Edward Arnold. 1961.

It is all too common an experience for those engaged in occupational medicine and hygiene to find instances of toxic or dangerous materials being introduced for reasons of technical advantage but with a lack of understanding of the probable impact on the health and comfort of the workers. Professor Browne attributes this state of affairs largely to the lack of instruction in these matters during the technical education of the engineers, scientists, and commercial men who are responsible for the management of industrial processes.

Having attempted to remedy this situation for the present generations of students at Newcastle by providing lecture courses, the author now seeks to enlighten past generations, and in doing so has produced a book that will repay reading by those already familiar with occupational hygiene.

The early chapters deal with the health of the executive, sickness absence statistics and their interpretation, equipment design, accidents, automation, and fatigue. Then follows a section dealing with the physical aspects of the environment—lighting, heating, and ventilation, noise, and ionizing radiations. While there are some terminological inexactitudes in the sections on lighting and noise, these sections nevertheless give a very concise introduction to the subject.

The final chapter is devoted to the problem of chemical substances in the environment, including the dangers of handling chemicals, gases and gassing, the effects of lead, mercury, and other metals, organic compounds, and dust.

Professor Browne writes in a pleasing, rather informal style, and the manager who begins this book is likely to continue to its end.

D. E. HICKISH

Physiology in Industry—Evaluation of Industrial Stresses by the Physiological Reaction of the Worker. By Lucien Brouha. (Pp. 145. 40s.) Oxford: Pergamon Press. 1960.

The content of this 145-page monograph, which does not pretend to be a textbook on industrial physiology, is adequately described by its sub-title. The book is mainly based on experiments by the author.

Dr. Brouha argues that the work a man may safely do can be evaluated by measuring the physiological energy expenditure of the human machine, and because physical work plays an important part in industry greater consideration should be given to the functional characteristics of the human body. He discusses the physiology of muscular activity, its assessment, and factors influencing it; the effects of the physical environment on work, and