manual workers conducted by postal questionnaire, the data collected being grouped:

- Holiday pay
- Pension plan
- National Insurance
- Education
- Other payments:
  - (i) Sick pay
  - (ii) Long service payments
  - (iii) Redundancy payments
  - (iv) *Ex gratia* pensions
  - (v) Insurance schemes
  - (vi) Medical services
  - (vii) Seasonal bonus
- Other welfare benefits:
  - (i) Housing
  - (ii) Travel
  - (iii) Clothing
  - (iv) Canteen facilities
  - (v) Sports or social facilities
  - (vi) Discounts on products
  - (vii) Profit sharing
  - (viii) Other expenditure

The firms approached were all public companies in the U.K. and 350 (only 10%) returned usable questionnaires. The limitation of any quantitative deductions from the results are as obvious to the authors as to the reader.

However, the greater part of the book contains a series of essays on different aspects of the subject and it is here and in the discussion that the industrial medical officer will find much food for thought. Recent advances in sophisticated techniques of cost accounting, together with a dispassionate assessment of employer services in the light of changing social circumstances lead to re-appraisal. The industrial medical officer who is tempted to quote 'The good we do can't be measured in cash terms', should read the chapter entitled *Company Welfare Benefits* dealing largely with canteens and sports and social clubs.

If the industrial medical officer is prepared to accept the authors' premises he will find industrial medicine looked at from a refreshingly new angle and free from some customary rationalizations.

W. R. LEE

Design of Circular Dials. By J. G. Allen (Pp. 15; 1 fig.; duplicated; no charge.) Australia: Ergonomics Group, Division of Occupational Health, New South Wales Department of Public Health, 86-88 George Street North, Sydney, Australia.

For centuries the dial has been an all-important connecting link in the chain of communication between an external event and the human mind. The sun-dial, with its unwieldy Roman numerals, is one of the earliest and most leisurely examples of this; and the jet aircraft altimeter, the inaccurate setting or reading of which carries the death penalty, is one of the latest. Dial design is linked to the important subject of accident prevention, and the present interest in automation serves still further to bring the subject to mind.

This report on the design of circular dials which comes,

rather intriguingly, from a department of public health, is therefore timely and welcome. Such subjects as required accuracy of reading, scale length, viewing distance, and design of numerals are mentioned. There is also a check list of 48 items against which any existing dial presentation can be assessed. A list of references is given on the concluding page.

Two suggestions can perhaps be made for improving the presentation of this pamphlet. It is duplicated, and on some of the pages the ink has not run evenly over the stencil, thus giving a patchy impression. It would have been better printed or reproduced by a plate Xerox technique. But perhaps the budget was the limiting factor here. A nought should always be inserted when using decimals if there is no unit value before the point. If this safeguard is not adopted and a typist omits the decimal point, an error of 10^n can be made—and n may have a disastrously high value.

R. C. BROWNE

Progress in the Biological Sciences in Relation to Dermatology: 2. A symposium edited by A. Rook and R. H. Champion. (Pp. 499; illustrated; 130s.) London: Cambridge University Press. 1964.

The so-called 'Consultants' course' in Cambridge has become established as part of academic dermatological life in Britain, and the second of the scientific symposia was as successful as the first. This is no heavy textbook but a record of live lectures given on a variety of topics of interest to dermatologists. 'The Functions of Connective Tissue' is a typical main heading with Dr. L. E. Glynn dealing with 'Connective Tissue as an Antigen'. Under the heading 'Ageing of Skin', Professor Tunbridge's paper produced a lively discussion which is faithfully recorded. Other sessions produce chapters on a wide variety of subjects, for instance 'Keratinization', 'Percutaneous Absorption', 'Hair', 'Cutaneous Circulation', and 'Bulla Formation'; in this way a collection of essays is provided which gives up-to-date scientific knowledge on dermatology which no specialist in the subject can afford to ignore.

The Cambridge team of dermatologists is making substantial contributions to dermatological biology. Moreover, they know how to assemble a group of speakers able to provide a most stimulating course for those interested in the skin. Each speaker, an expert in his field, has provided a modern bibliography for his subject which is most valuable. We await further contributions of this kind.

M. GARRETT

W.H.O. Expert Committee on Tuberculosis, Eighth Report. *W.H.O. Tech. Rep. Ser. No. 290.* (Pp. 24; 3s. 6d.) Geneva: W.H.O. 1964.

The W.H.O. Expert Committee on Tuberculosis met in August 1964, and this report gives their views on the control of a disease which remains a major public health problem in almost all countries, developed or not.

This publication contains concise and up-to-date information on the epidemiology, diagnosis, and control

of pulmonary tuberculosis. It also brings out some ideas which may be new to the non-specialist and perhaps relevant to other aspects of preventive medicine. For example, it appears that in all types of community a large majority of new cases are diagnosed by services which rely on the patient's initiative, and that awareness of chest symptoms is commonly underestimated as a motivating force in control measures.

Also, according to the report, there is accumulating evidence that x-ray investigations fail to identify shadows with any certainty and that single films cannot determine clinical 'activity'. These limitations led the committee to the somewhat surprising conclusion 'that no definite epidemiological significance can be attached to so-called "radiological prevalence and incidence rates" '.

The absence of references, other than to W.H.O. sources, lessens the usefulness of this otherwise most informative booklet. The brevity commends it especially to those who seek a rapid modernization of their views on pulmonary tuberculosis.

G. R. C. ATHERLEY

The Industrial Rehabilitation of Long-Stay Schizophrenic Patients. A Study of Forty-Five Patients at an Industrial Rehabilitation Unit. By J. Wing, D. H. Bennett, and John Denham. (Pp. 42; 4s. 6d.) London: H.M.S.O. Memorandum 42. 1964.

The lives of schizophrenic patients have changed enormously during the last 20 years, partly due to the new methods of treatment, partly due to the new forms of management. The illness itself has remained a chronic, essentially incurable condition, but whereas most patients in the past had to remain in hospital for years, if not for life, only 10% nowadays remain in hospital for two years or more. Due to accumulation over the years, this amounts to about 100,000 souls. For this minority, while drug treatment has its part to play, the sheet anchor of care remains management.

This memorandum describes an experiment trying to discover the extent to which an average group of moderately disabled long-stay schizophrenic men under the age of 60 could be resettled outside hospital in satisfactory employment. Since the middle fifties many mental hospitals have embarked on an active discharge and rehabilitation policy for chronic schizophrenic patients, and, to the surprise of many, this was successful in a large number of cases. But the more actively a hospital pursued this policy, the more it became obvious that there existed a hard core of patients whose condition proved resistant to this and who remained in hospital in spite of all efforts to help them to leave.

The present experiment addressed itself to this residual group. The instrument to break the apparent deadlock was the Industrial Rehabilitation Unit, preceded by a period of preparing the patient and followed by a period of after-care. The importance of the preparatory period was tested by an inner control and was shown to be helpful. The achievements of the entire group were compared with a non-schizophrenic group of patients at the Industrial Rehabilitation Centre.

The results of this effort were as follows: just over half

the patients had returned to hospital even within as short a time as one year after leaving the Rehabilitation Unit, and about one quarter were not in competitive jobs but were in sheltered employment. Only just over one quarter were still working in ordinary jobs. Their average wage was £8 11s. 6d. Furthermore if one compares the type of work these patients were able to perform there was a definite decline from their premorbid position. The social class grouping before and after rehabilitation was Class II, 1—1, Class III, 9—3, Class IV, 4—6, and Class V, 10—14. Indeed the authors report that 'even the least handicapped of these patients presented *continuous* problems . . .' and it is noted that such a programme requires special personnel and a great deal of work. Comparing these results with the extra cost in personnel, time, and effort (which could be directed elsewhere) a Doctor Beeching of the psychiatric services would probably scrap such a rehabilitation service before it even started. But is this the right way of looking at it? The authors point out that such a programme, if applied throughout the country, would affect about 6,000 patients. If the failure rate were the same as in this experiment, about 1,500 would be rescued from a disabled life in a mental hospital and once more returned to an at least partially useful and, one assumes, more satisfying life. Obviously more is involved here than mere economics.

We were interested to read that as regards behaviour at the Rehabilitation Centre and during the follow-up year 'There were no outstanding differences' between the schizophrenic and the non-schizophrenic rehabilitees. It appears that the group of schizophrenics had difficulties in social adjustment which were even greater than those of work adjustment. ' . . . the men concerned had greater difficulty in *living* outside hospital, than in *working* outside hospital. If, however, adequate arrangements are made to cater for these various needs, there seems to be every reason to expect that a small selected group of long stay schizophrenic patients can be successfully resettled in work.'

The experiment and the report show the high standards we have come so confidently to expect from Dr. Wing and his colleagues, and the publication will be read with interest, not only by psychiatrists, but by all those concerned with rehabilitation problems of chronically disabled patients.

J. HOENIG

The Mechanics of Aerosols. By N. A. Fuchs. Translated from the Russian by R. E. Daisley and Marina Fuchs, edited by C. N. Davies. (Pp. 408; 82 figs.; 120s.) Oxford: Pergamon Press. 1964.

This notable Russian work, first published in 1955 with an addendum in 1961, has been excellently translated and edited as a single volume. It deals comprehensively with the characteristics of airborne particles; uniform, non-uniform, and curvilinear movements of particles and clouds; the effects of acoustic and electric forces; molecular, convective, and turbulent diffusion; the collisions of particles with one another, with water droplets and other objects; and the dispersal of powders.