standards should be modified periodically so as to maintain the desired level of safety.

Chrysotile dust is probably the least dangerous of the asbestos fibres used commercially in this country, because (1) the fibres are curly so that a relatively small proportion are retained in the lung, (2) they may disappear from the tissues faster than the other types, and (3) because the association with malignancy seems only significant when the dosage is high enough to cause asbestosis. Therefore the standards laid down in this booklet should be regarded as the minimum to which more extensive controls should be added for the protection of workers with other kinds of asbestos.

P. C. ELMES

Reference

- Knox, J. F., Doll, R. S., and Hill, I. D. (1965). Cohort analysis of changes in incidence of bronchial carcinoma in a textile asbestos factory. *Ann. N.Y. Acad. Sci.*, 132, 526.

Cancer Epidemiology: Methods of Study. By Abraham M. Lilienfeld, Einar Pedersen, and John E. Dowd. (Pp. 165; illustrated; tables; 62s.) Baltimore: Johns Hopkins Press. London: Oxford University Press. 1968.

For some time a plain statement about how problems of cancer aetiology can be tackled has been needed; this book goes a long way to meet this need. It is directed at people who are not specialist epidemiologists, although they may be working in the cancer field. It should also be a very valuable help in teaching at both the undergraduate and post-graduate level.

It contains chapters dealing with the nature of epidemiology and what can be learned from it; with the important idea that cancer is a term covering a group of diseases with only some features in common; with the underlying principles of prospective and retrospective surveys; and with the uses and limitations of morbidity and mortality studies. Commonly used simple statistical methods are described in an appendix, and the WHO classification of neoplasms is given in another appendix.

Taken as a whole, I think that this is a very good book which should be read by all people interested in environmental cancer research.

Unfortunately there are blemishes, some trivial but one at least serious. Several chemical names are wrong—B- and L-naphthylamine for β - and α -naphthylamine and 9:10 dimethyl chloranthrene for 9:10 dimethyl cholanthrene—in both the text and the index. Aniline is indexed under the heading 'carcinogens' because the authors did not distinguish between substances investigated and substances incriminated when they discussed a survey of chemical workers. In fact, that survey showed that aniline was *not* carcinogenic.

R. A. M. CASE

The Carcinogenic Action of Mineral Oils: a Chemical and Biological Study. M.R.C. Carcinogenic Action of Mineral Oils Committee. Medical Research Council, SRS 306. (Pp. 251; 40s.) London: H.M. Stationery Office. 1968.

The fact that skin cancer is associated with occupational exposure to oils, tars, pitches, and soots has been known for many years and led to the now classic work of Kennaway and his school on the polycyclic aromatic hydrocarbons. Mineral oils used in the engineering industry as 'cutting oils' have been shown to induce cutaneous tumours in man. The Medical Research Council therefore decided to attempt to determine the nature of the carcinogens in these oils and how they might be eliminated. This report describes the way in which mineral oils from three sources were fractionated and the results of biological testing of the fractions. A number of pure polycyclic hydrocarbons were isolated, among which the triterpenoid lactone, oxyllobetulin-2-ene, is of general interest in indicating the vegetable origin of petroleum.

Investigations of this kind are tedious and require large-scale facilities for the assay of carcinogenic activity in experimental animals. These difficulties were overcome by enlisting the co-operation of a number of cancer research centres. The statistical analysis of the results provides useful information about the reproducibility of carcinogenicity tests carried out at different times and in different centres.

The testing of more than one fraction in an individual rabbit by the use of multiple testing sites was a further way in which the animal facilities were minimized. This is shown to be statistically acceptable although, to the reviewer, it appears not to be completely free from objection. The report is a substantial contribution to the study of the carcinogenic action of oils and tars. It suggests that solvent extraction is the most suitable way of reducing the cancer-hazard in the mineral oils. The reader may, however, be forgiven for wondering whether a less ambitious approach with strictly limited objectives might have given as much usable information at a much smaller cost.

D. B. CLAYSON

A Study of Road Accidents in Bombay E.S. & T. Undertaking. By O. N. Ganguly and R. G. Kasbekar. Central Labour Institute, Bombay. Industrial Psychology Division Report No. 4. (Pp. 94; no price stated). Bombay, 1967.

This is a report of some 94 pages together with appendices. It is a comprehensive attempt to investigate the causes of bus accidents in Bombay. A large amount of work has been done to show where most of the accidents occur; this also includes the severity, the time of day, the day of the week, and the month of the year. The figures are tabulated. Unfortunately the investigation was confined to two years only with a break in between. The accidents of each type of vehicle are also recorded. The above constitutes part one of the study.

The second part of the study is on the drivers' records. This includes age and experience, including pre-employment experience.

Part three is an analysis of the results of interviewing groups of drivers. Attempts were made to compare like groups of 'accident-free' drivers and 'accident repeaters'. The state of health, living conditions, family history, and attitudes to work were checked.

Unfortunately the accident report form used on which