facets. Rather surprisingly, nothing about atomic energy and its waste disposal is said, notwithstanding the fact that many large tracts of country cannot develop because they have no water which might be provided from the sea with a desalting plant energized by an atomic power station.

R. C. BROWNE


This contains a short, well-written analysis, of the pattern in 1965 of occupational diseases in California, supplemented by descriptive statistics, covering about 80% of the total employed population. The information comes mainly from about 27,000 'doctor's first reports' of selected occupational disease. These first reports are required by State law and must be furnished by physicians who give other than first-aid treatment to injured employees. The 80% covers a wide range of occupations including agriculture, mineral extraction, construction, manufacturing, transportation, and local government service. Those not included in the 80% are federal employees, and maritime and railway employees, for whom there are separate compensation provisions, and the self-employed, for whom there are no provisions.

The Californian method of presenting descriptive statistics for nearly all categories of employment is in marked contrast to the departmentalized national figures produced in the United Kingdom.

Apart from the descriptive statistics, Kleinman and his staff comment on the limitations of the Californian system of notification and the validity of 'first reports'. The latter, although not a good means for the recognition of new problems, accurately identify acute occupational disease. However, there is evidence of under-reporting of chronic conditions including, surprisingly, pneumoconiosis.

Despite a wealth of material, the report is commendably brief and lucid, and I recommend it to anyone who is interested in the incidence of occupational disease.

G. R. C. Atherley


The Anglo American Corporation of South Africa operates gold mines, diamond mines, and collieries in many parts of South Africa and also in Zambia. It employs over 150,000 Africans, and a full-scale medical service, including nearly 3,000 hospital beds, is provided for them. The present report gives an account of the activities of the Medical Department during 1966, and some of the difficulties in providing an efficient treatment service in industries whose assets wane every year are described. In addition to planning changes in relation to the expected life of existing mines in a given area, the development of new ones has also to be taken into consideration. Staffing presents problems since medical officers come and go and too few young men apply for posts, although this is merely a reflection of the shortage of doctors in South Africa generally. The recruitment of nurses, however, has improved, especially since the South African Nursing Council gave approval for the training of African male nurses, and arrangements have been made accordingly in the hospitals of the Corporation.

This is a great advance as they are almost non-existent elsewhere, and it is hoped in due course to extend the scheme so that female African nurses may also be trained by the Corporation. The costs of the hospitals have shown a steady rise, and it is estimated that expenditure on medical services is of the order of R2,000,000 per annum.

Of course, the Medical Service has other duties over and above that of providing treatment for illness and accident. It is charged in addition with responsibility for the Public Health which involves making a pure water supply available, seeing that there are adequate sewerage systems and that general village hygiene is properly maintained. Much is done to educate the African, not excluding procedures which are taken for granted in more advanced societies.

Administration places a heavy burden on the medical staff at the head office, and much time has to be spent on managerial functions with the result that research has tended to suffer although there is much scope for it. Nevertheless research has continued and indeed expanded, and reference is made to drug trials and B.C.G. and heat illness investigations as well as to an enquiry into tuberculosis in mines.

The greater part of the report, however, is devoted to comprehensive series of tables dealing with the causes of lost time due to illness and accident and with morbidity and mortality. The last two are presented by broad classifications for each of the regions in which the various undertakings are situated; the causes of death are reported in a similar manner although in more detail. Special tables are reserved for tuberculosis and pneumoconiosis, which are considered on a regional basis and also according to the kind of mining undertaken. Finally, hospital costs are tabulated for each of the different types of mining. An analysis of lost shifts and lost time rates per 1,000 per annum for disease, mine accidents, and other causes presented as a histogram, showing the experience at each individual mine, completes the statistical survey. The incidence naturally varies from one unit to another, but in general accidents account for only 10% of the number of shifts, and the amount of time lost due to illness.

The impression gained from this review is that of well-run treatment and public health services for considerable communities. The only criticism that can be offered is the fact that the specific problems of occupational health receive little mention, although no doubt they form part of the day-to-day work of the Department. This report is the swan-song of
Dr. L. R. B. Birt, the medical consultant who, at the time of compilation, was about to retire after 17 years' service.

G. F. Keatinge


Periodically since 1950, the Harvard School of Public Health has sponsored a Conference in Boston, Mass., on behalf of the Industrial Council for Tropical Health. This beautifully produced volume follows the format of earlier years and records the proceedings of the sixth meeting held in 1966. The participants include medical representatives of numerous international industrial organizations and the Harvard School.

The papers presented are reported in detail and followed by brief summaries of the resulting sessional discussions. The subject range is wide and the groupings loose. Environmental health, population control, organization of health services, and several of the more important tropical diseases are studied. Inevitably, the result is discursive rather than comprehensive, but there is evidence of a wealth of practical experience in the texts and the index is excellent. There are useful sets of references.

The value of such conferences in establishing personal contacts and fostering understanding will not be fairly reflected in a book of this kind. One suspects that it will be most highly valued by the participants whose photographs and professional details are a feature of the latter section of the book.

P. B. Cook

**Sarcoidosis.** By J. G. Scadding. (Pp. 542; illustrated; 147s.) London: Eyre & Spottiswoode. 1967.

This is a beautiful book in every way; it purrs along like a Rolls-Royce taking one through every conceivable aspect of this protean disease, from its original description as a disease of the skin to its present position as a systemic affection.

Whilst this monograph has as its central theme the author's personal view of sarcoidosis, based on his extensive clinical experience of the condition, Professor Scadding also draws from the literature to supplement this experience to present an authoritative balanced account of current attitudes towards it. In an early chapter the difficulties encountered in the concept of 'disease' are discussed and the problems in arriving at a satisfactory definition of sarcoidosis are presented; an operational definition based on the demonstration of the appropriate tissue and its distribution is then suggested.

After opening chapters dealing with the historical survey, the pathology and the problems of definition, further separate chapters give exhaustive accounts of the disease as it affects different bodily systems and tissues, including a separate chapter devoted to the syndrome of erythema nodosum and hilar lymphadenopathy. Further chapters deal with special aspects, such as calcium metabolism, the Kveim reaction, berylliosis, associated diseases, aetiology, diagnosis, and treatment.

There is a good index, and the overall production, including some very good colour plates, is of excellent quality.

J. B. L. Howell

**Bladder Cancer. A Symposium.** Edited by Kenneth F. Lampe. Fifth Inter-American Conference on Toxicology and Occupational Medicine, University of Miami, School of Medicine, Coral Gables, Florida. (Pp. 296; illustrated; $15.) Birmingham, Alabama: Aesculapius Co. 1967.

Presumably because this book is a collection of separate papers delivered at a symposium by 25 invited participants, there is a lack of continuity from chapter to chapter. This shortcoming is redeemed by Dr. Radomski's summation at the end, but one would have liked a fuller comment on the meeting, especially as the discussions on the papers are not reported.

Approximately half of the book is devoted to the biochemical and metabolic mechanism of bladder cancer causation. This is of great interest to those engaged in the field, but possibly much of it is rather too sophisticated for the bystander to evaluate or even to grasp. The clinical and therapeutic aspects, which take up about one-third of the text, are not directed to the urologist or the surgeon but give the industrial physician an outline of recent progress and of some developments likely to mature in the future. The sections on the environmental and epidemiological aspects contain little that is new. One would like to have read more about one of the important developments of the last 20 years, the use of exfoliative cytology for early diagnosis and to have seen an assessment of its value in the prognosis of the disease in industrial populations.

Many useful points are again emphasized; that betanaphthylamine (BNA) is a more potent bladder carcinogen than benzidine was proved a generation ago; the synergistic effect of the two, long observed, is now proved experimentally. The identification of the ultimate metabolites may help to elucidate the changes which occur in the mucosa to produce cancer. The N-hydroxylation of betanaphthylamine is a comparatively recent discovery. It leads Troll to speculate that with BNA the metabolite 2-naphthyl-N-hydroxylamine appears in the cell of the mucosa and alters the hereditary elements of the cell. Work now in progress suggests that an *in vitro* modification of the guanine in the DNA may occur.

The metabolism in experimental animals of alpha-naphthylamine (ANA) is shown to be different from that of BNA. Several contributors suggest that ANA is not likely to be carcinogenic, but proof either way is still lacking. One contributor observes that since the beta isomer content of the ANA in his factory was reduced from 3-6% to 0.3% in 1959, the company (and presumably he, because he does not contest it) no longer considers the ANA manufacturing areas to be hazardous locations. It is difficult to accept the naive conclusion that the biological response to a carcinogen as potent as betanaphthylamine can be nullified by such a reduction alone.

The role of cigarette smoking and of faulty tryptophan