sarcomas, their use by other routes of administration need not be precluded.

On the whole, this document marks an important advance in our approach to carcinogenicity testing. Recognition of the importance of metabolic studies in the test animal and possibly also in man mark a major step forward in placing carcinogenicity testing on a firm scientific basis. Equally important is the emphasis laid on prospective epidemiological studies when a new drug is placed on the market. In a third major advance, subcutaneous sarcoma induction has been placed in its proper perspective. Against these achievements there are some major omissions. For example, the Group failed to examine the significance of benign tumours as an indication of carcinogenic potential. Such an examination could not have failed to take into account the controversy regarding the meaning of pulmonary tumour induction in mice. Nor did the Group consider the problems of co-carcinogenesis as manifested in the skin and vesical epithelium of the mouse. These are problems that demand an urgent answer and should not be shelved for future generations.

P. GRASSO

Occupational Disease in California Attributed to Pesticides and Other Agricultural Chemicals – 1967. (Pp. 35; 12 tables; copies obtainable free on request from the State of California Department of Public Health, 2151 Berkeley Way, Berkeley, California 94704, U.S.A.) State of California Department of Public Health. 1969.

A previous statistical record of this kind (for 1965) was reviewed at length in the April 1968 issue of the *Journal* (vol. 25, p. 157). The present record deals with 1,400 reports compulsorily notified under the State Labor Code by the attending doctor. A perfunctory attitude by the medical profession to recording and notification is apparently universal, and the value of this survey has been much reduced by failure to specify the chemical involved in 29% of cases. The survey reveals no new or unexpected patterns of hazard. Organo-phosphate pesticides remain the most important single group in producing serious occupational poisoning, accounting for 22% of all reports but 83% of systemic poisonings (240).

The incidence of poisoning episodes among staff engaged in aircraft spraying operations – labourers and flagmen, as well as pilots – increased in both 1966 and 1967, and the contribution of pesticide exposure to pilot error in aircraft spraying accidents is being made the subject of special study by the Bureau of Aviation Safety and the U.S.D.A. Community Studies on Pesticides programme. Only two 'occupational' fatalities occurred in 1967 – one through a farm labourer accidentally drinking parathion, not strictly an occupational casualty in the more usual sense of exposure occurring during preparation or application of a pesticide; the other casualty was an aircraft pilot who was contaminated by TEPP (tetraethylpyrophosphate) when his aircraft crashed after failing to take off because it was overloaded. Some of the information in the 12 reference tables will

be of little interest outside California, and the general presentation is not much improvement on the 1965 survey.

A. A. B. SWAN

Principles for First Aid for the Injured, 2nd ed. By H. Proctor and P. S. London. (Pp. 264; illustrated; 40s.) London: Butterworths. 1968.

The first edition of this book published in 1962 proved to be of great value to those concerned with the initial management of injuries, and also to those with a responsibility for first aid training. The second edition has been revised to take account of recent advances in knowledge. The section dealing with asphyxia due to drowning has been re-written. A discussion of the management of exposure, and of the principles in the use of inflatable splints, are introduced into this edition.

The almost indiscriminate use of the word 'shock' in first aid practice causes great confusion in the minds of first aid workers. The authors' clear thinking and clarity of expression are nowhere better seen than in the revised chapter on shock and injury. The shock syndrome is precisely defined and classified in terms of the circulatory changes. This presentation should make for easier understanding and improved first aid teaching of this complex subject.

The revised second edition will continue the tradition of the first as an important book of reference for all doctors and nurses working in industry.

J. D. CAMERON

Toxic Properties of Inorganic Fluorine Compounds. By R. Y. Eagers. (Pp. 152; 55s.) Barking: Elsevier. 1969.

This monograph summarizes the various aspects of poisoning with inorganic fluorine compounds. It is divided into three sections, the effects on humans, the effects on animals, and 'other effects'. The latter include the insecticidal and bactericidal effects of some of the compounds, and a chapter titled 'physiological effects' which describes research on enzyme inhibition by soluble fluorides and the changes which occur in carbohydrate metabolism and in the calcium balance.

The first section gives an account of methods of absorption, followed by descriptions of outbreaks of acute fluoride poisoning due to accidental absorption, gas-sing or to burning with liquid compounds. Case histories with pathological reports are quoted and treatment schedules are given. The importance of the administration of calcium gluconate by intravenous infusion, or by local injection in the case of burns, is stressed.

The sections on endemic fluorosis of both man and animals are of particular interest. In an Indian village where the fluoride content of the water varied from 1.2 to 162 ppm, 204 of the 208 inhabitants of the village over the age of 6 years had evidence of chronic fluorosis. The teeth showed mottled enamel and brown staining, there were pathological changes at the roots of the teeth, and cases of pokerback, with narrowing of the canal of the spinal cord causing neurological changes, were seen.