investigated by a team under the general direction of the Medical Research Council, is of general interest and has wider application. Research into the wastage and spoiling of food by insects, carried out at the Royal Army Medical College, Millbank, is also of general interest.

Up to the time of evacuation of British Forces from the Canal Zone, the prevention of enteric remained a problem, for, although only four of the 217 cases admitted to hospital were due to typhoid fever (the remainder being paratyphoid B), the enteric investigation team failed to identify either the source or vehicle(s) of infection. Nor did they discover the reason for the high incidence of enteric in the Canal Zone. However, certain recommendations for reducing incidence are made, including sterilization of cutlery and crockery immediately before meals instead of after meals.

Attention is drawn in the Report to the ever present risk of water-borne illness in the absence of controlled bulk supplies and to the introduction of a fixed dose chlorination of water supplies in the field. The well-known Horrocks test for estimating chlorine dosage is being replaced by the Elliot neutral red test.

A. N. B. ODBERT

Safety Techniques for Radioactive Tracers. By J. C. Bournsnel. (Pp. xii + 68; illustrated. 7s. 6d.) Cambridge University Press, London. 1958.

This short book is mainly directed to laboratory workers using radioactive isotopes as experimental tracers ("open" sources) and contains much useful information on handling such radioactive materials and keeping workers and working areas clean and safe. The only common danger not mentioned is the possibility of dispersion by boiling when a recalcitrant ampoule of concentrated solution is finally opened after being heated up by repeated application of a hot glass bead or wire (p. 27). The hazards of "spray" are probably not emphasized sufficiently: whenever liquid drops are made, as in almost any operation involving transfer of liquids, microdrops are also formed which drift away in the air to be inhaled by the worker. Such personal contamination is unavoidable without the use of totally enclosed and individually ventilated work spaces (*cf.* p. 11), but is often of no practical importance. The book does not deal with the handling of radio-isotopes in the "sealed" form such as the thickness gauges or radiographic sources used in industry, where the amount of radioactivity is much greater than with "open" sources and the hazards generally present themselves in a different way.

Dr. Bournsnel has attempted one of the most difficult of all tasks for an author, a short summary of a new technical field which shall be accurate, sufficiently explanatory, and intelligible without misunderstanding. One fault, not altogether avoided, is the imprecise general statement, *e.g.*, that film badges are essential except when soft β -emitters are employed (what is the precise dividing line?), or that prior permission is needed from the relevant departments of the local authorities before putting any quantity of radioactive materials into drains (which are relevant?), or that animal carcasses can be incinerated in the normal way when their radioactivity has decayed to a low level (not further specified). There is also some looseness in the

general arrangement which can be important in a book without an index, *e.g.*, the general necessity of "dummy" runs to test the safety of a proposed procedure before actually using radioactive material is discussed in the section on contamination by inhalation.

Few errors of fact were noted. It is not true that the lens of the eye is particularly susceptible to damage by all forms of radiation, only by neutrons which are not in fact given off by radio-isotopes. It is also not true that the first sign of over-exposure of the whole body to radiation is a fall in the blood leucocyte level, and it is regrettable that continued support is given to the recommendation that workers with tracer quantities of radio-isotopes need regular blood counting. On p. 40, α - is a misprint for γ -. The headings of the columns giving the maximum permissible concentrations of radio-isotopes in water and air (Appendix III) would be less ambiguous if the multiplying factors, *e.g.*, 10^7 , were included in the brackets. There may be good administrative reasons for insisting that film badges should be worn in a conspicuous place but it seems illogical to write that they must not be kept in the pocket where they may be screened by the material of the coat if, in fact, their purpose is to measure the dose received by the clothed body. On general biological grounds the inside of a trouser pocket might well be a better place for a film badge than the outside of a breast pocket.

In Appendix III the recommendations on disposal of radioactive waste seemed to err on the side of over-caution. The figures strongly suggested as upper limits for the amount of radioactivity it is safe to dispose of daily (p. 46) are roughly one hundred times less than those given in the tables and derived from accepted maximum permissible levels for continuous exposure for the duration of a working life time. The generally accepted principle that prolonged exposure of a large population should be at a lower level than of those occupationally exposed is a bad argument for justifying a marked reduction below maximum permissible levels when disposing of waste. These levels are derived on the assumption of continuous complete immersion in sewage or the regular daily ingestion of $1\frac{1}{2}$ litres. There is thus a large margin of safety provided for the general public in the circumstance that exposure to radioactive sewage is accidental, uncommon, and nearly always very temporary. It is disappointing to have to make this criticism of a book which in many respects fulfils its aim of providing a sane and reliable guide to the beginner.

R. H. MOLE

The Physical Treatment of Varicose Ulcers. By R. Rowden Foote. (Pp. 125; 88 figures. 15s.) Edinburgh and London: E. & S. Livingstone. 1958

In this clearly written and well illustrated book Rowden Foote deals comprehensively with the conservative treatment of leg ulcers and varicose veins.

He estimates that there are a quarter of a million sufferers from these complaints and makes the point that hospital beds to treat these conditions are scarce and expensive. In many cases cure can be effected as an out-patient and even where surgical procedures such as