Book reviews

Fundamentals of Radiation Protection. By Hugh F. Henry. (Pp. xviii + 474; 170s.) Chichester: Wiley-Interscience. 1969.

Protection against ionizing radiations needs a team effort based on close co-operation between workers in a number of disciplines – physics, chemistry, engineering, and medicine. If this co-operation, which includes an understanding of each other's problems, techniques, and difficulties, is not adequate, there is a risk of injury to workers and perhaps to the general population. This book provides an introduction to radiation protection for the non-specialist in a manner which is readily understood by those with a limited background of physics and mathematics and at the same time should serve to whet the appetite of those who have such a background and are considering a career in radiation protection but are unsure of the breadth of the subject. It is comprehensive in that most facets of radiation protection are dealt with but at a fairly superficial level. The author freely admits that it is not a textbook of radiation protection and that further reading will be required if it is wished to study the subject in depth.

The first nine chapters are concerned with basic information on atomic structure, nuclear fission, ionizing radiations, units, the acute and long-term effects on living cells, and the effects of ionizing radiations on genetic material. The medical reader may well want to augment the information given by reference to some of the supplementary reading, particularly in relation to the effects of ionizing radiations on living matter. In the subsequent chapter on permissible exposure levels, the author draws attention to what he considers to be the considerable inbuilt safety factors in the present maximum allowable doses but admits that there is a still considerable gap in knowledge of the effects on long-term, small-dose irradiation.

Later chapters deal with health physics control including instrumentation, personnel monitoring, environmental monitoring, shielding, and personnel protection. Other facets of radiation protection work, such as district survey, emergency planning, and administration of a health physics programme, are discussed. This section provides a background of information that would be useful to production engineers, particularly those who feel that health physics control is rather irksome.

The style of writing is rather pedantic and in some

places almost apologetic. The medical reader, used to the didactic style of many medical textbooks, may find this irritating. However, for the medical officer whose work includes a responsibility for the health of workers exposed to ionizing radiations, reading this book will give insight into the work carried out by his colleagues in the health physics department. It will not give him information on the medical aspects of staff selection, on the treatment of radiation casualties or on the statutory requirements relating to ionizing radiations and radioactive material.

A useful appendix, Appendix II – Part II, gives information on maximum permissible body burdens and maximum permissible concentrations of radionuclides in air and water for occupational exposures.

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The Registry in Cancer Control. U.I.C.C. Technical Report Series – Volume 5. Edited by J. Knowelden, T. Mork and A. J. Phillips. (Pp. 42; 12s.) Geneva: U.I.C.C. 1970.

This report, published by the International Union Against Cancer, reviews the functions and organization of Cancer Registries. The editors have endeavoured to assess critically the rationale for expenditure on registries within the total budget for a health service. They appear to place faith in the value of analysis of routine data in providing leads in the study of aetiology but fail to provide a single reference to advances stemming directly from the analysis of routine registry material. I consider that the justification for registries is the facilities they offer to *ad hoc* research projects. These may be either retrospective enquiries collecting detailed information from samples of patients, or prospective studies in which the nominal index of the registry provides evidence of the incidence of cancer in the individuals being followed up. In order to satisfy the requirements for these two approaches the registry should collect accurate identification particulars and the specific diagnosis for each person who develops cancer in the defined population.

The report stresses the need to check the completeness of registration through as many independent sources as possible. Accurate incidence data by age, sex, and site should be provided, which may be used to monitor time trends and examine geographical variation. It is doubtful whether occupation can be recorded with suffi-