Equally, he indicates where much further discussion is necessary to reconcile differences. The rift between the Soviet Union and China, and the rapid growth of tension between China and the United States, led to the withdrawal of China from all but the earliest conferences, but continuing efforts are being made to persuade Chinese scientists to attend. With this unfortunate exception, the Pugwash meetings continue to receive the blessing of both East and West.

The singular success of these unofficial conferences has been due, almost entirely, to the unflagging zeal and persistence of Joseph Rotblat. He has served as secretary general in a purely voluntary capacity and without any paid assistance. He has either himself raised most of the funds required to finance travel by participants, or has persuaded, bullied or cajoled others into doing so. He has kept the continuing committee in existence and functioning, doing almost all the real work himself. Without his sustained and selfless effort, Pugwash would now be but a memory. This book is therefore a record of personal achievement as well as of surprising international accord. He deserves the gratitude not only of all men of science, but of all mankind, for what has been done by Pugwash, for what it can do in the future and for this fascinating record. M. L. OLIPHANT

RADIATION PROTECTION

Principles of Radiation Protection

A Textbook of Health Physics. By K. Z. Morgan and J. E. Turner. Pp. xix + 622. (New York and London: John Wiley and Sons, Inc., 1967.) 125*s*.

CONSIDERING the potential hazards, the atomic energy industry, both military and civil, has a fine record in protecting its personnel from the effects of ionizing radiations. This record owes a great deal to those charged during the last war with the establishment of principles and procedures for radiation control during the development of the atomic bomb, and subsequently organizing training programmes for those having to exercise control over the much more widespread peaceful uses of atomic energy.

One of the editors of this book, Dr Morgan, was one such person, and this book is based on the training programme developed by him and his colleagues at the Oak Ridge National Laboratory. Sixteen of the nineteen contributors owe allegiance to this laboratory and versions of several chapters have been issued separately to their students in the past. Changes of literary style between chapters can add variety to a long book, but the reviewer experienced minor annoyance at the use of three different methods of literature citation in the first three chapters. Overlap of content between chapters is minimal.

After a long introductory chapter on the history of damage and protection from ionizing radiation, nearly one half of the book is devoted to nine chapters dealing with aspects of radiation dosimetry. The treatment is detailed, thorough and authoritative, and covers the interaction of radiations with matter, the units in which ionizing radiations are measured (freely quoted from publications of the International Commission on Radiation Units and Measurements), many methods of detection and measurement, and the dosimetry of sources both outside and inside the body.

Other chapters deal with the biophysical and biological foundations of radiation effects on living tissue, assess our present knowledge of the exposure of man to radiation and discuss the maximum permissible levels of radiation to which man may be exposed. The book ends with sections on health physics instruments and the prevention of criticality accidents.

Most of the book is written by physicists for physicists. The main title is more appropriate than the sub-title, "A Textbook of Health Physics", as the book deals with principles rather than the details of operational radiation hazard control. The content of the book is supplemented by more than 800 literature references and there are nearly 300 questions with which the reader can test his understanding of the text if he feels so inclined. With the exception of the first four figures, which contain some numbers which cannot be deciphered with certainty even with a magnifying glass, the illustrations and general production of the book are excellent. J. R. GREENING

RADIATION AND CELLS

The Radiobiology of Cultured Mammalian Cells

By M. M. Elkind and Gordon F. Whitmore. Pp. xvi + 615. (New York and London: Gordon and Breach, Science Publishers, Inc., 1967.) $13.50.

THIS book includes the following chapters: "Survival Cell Theory"; "*In vitro* Survival Curves"; "*In vivo* Assay Systems"; "The Influence of Chemical and Physical Factors on Survival"; "Recovery from Radiation Damage"; "Effects of Radiation on Division and Growth"; "Chromosome Damage and Other Cytological Effects"; and "Biochemical Effects (DNA, RNA and Protein)". There are also appendices dealing with cell culture techniques.

The authors confine themselves more or less strictly to the subject matter defined by the title of the book. Radiation chemistry, which must underlie radiation biology, is not discussed, no doubt partly because there is still a conceptual gap between the radiation chemists and the radiation biologists which is only slowly being bridged.

The authors' intention is that this book should supply a didactic base for the student and at the same time a critical review for the active researcher. It is hardly necessary to stress the importance of the subject or, in these days of the information explosion, of the validity of the authors' aim. Both authors are leading workers in their subject and this, together with the very fact that the volume is written by only two authors instead of being a collection of articles by different workers, helps the volume to be as analytical and critical as intended. It is a thoroughly scholarly work, and will prove to be an excellent textbook for those researching in the field, whether new or experienced workers.

The preface to the book is dated January 1965, and there are several references to work published in 1965. The publication delay of this (and of course many other scientific books) does seem to be quite unnecessarily long. It would be unreasonable to expect a six hundred page book to be published and distributed to the public within a few hours, like the report of a budget or a football match, but although a year or two may be all right for a novel, it is surely much too long a time for a critical review of an active field. Could not the publishers of scientific books devise methods for publishing books within a few weeks or at most a couple of months where necessary?

The price of this book is very reasonable for such a high quality work and will no doubt assist it to find its way to the desks of the active researchers for whom it is intended. A. J. SWALLOW

CANCER RESEARCH

Methods in Cancer Research

Vol. 2. Edited by Harris Busch. Pp. xvi + 720. $34; 272*s*. Vol. 3. Edited by Harris Busch. Pp. xvi + 755. 308*s*. (New York: Academic Press, Inc.; London: Academic Press, Inc. (London), Ltd, 1967.)

FOLLOWING on from vol. 1 (morphology, transplantation, metastasis and carcinogenesis), vol. 2 deals with tumour