

British Defence Policy and Nuclear War

By Emmaniel J. de Kadt. Pp. 148. (London: Frank Cass and Co., Ltd., 1964.) 21s. net.

THE question whether Britain should or should not continue to centre her defence policy on an independent nuclear force is now under re-examination by a new Government, and the responsibility may well force a more searching examination of the question than it has received from some of its opponents when out of office. Mr. de Kadt's book should assist in the independent and critical appraisal of a problem, inherently difficult and not to be further obscured by prejudice or preconceived ideas. His chapters outlining the nuclear strategies of the Western world and the development of the British nuclear deterrent are perhaps a little sketchy, but they display the inconsistencies and defects of successive White Papers on defence. The real value of *British Defence Policy and Nuclear War* lies in the five chapters which examine pragmatically the limitations or failure of deterrence, the function and limitations of civil defence and the situation which is likely to be encountered in Britain as a result of the use of nuclear weapons under conditions which are the most conceivable if, in fact, such weapons are used. The issues raised are inescapable, if often neglected or ignored, and Mr. de Kadt's treatment is sound, though perhaps open to criticism on detail. He does, perhaps, rather less than justice to the missile-firing submarine—on this Capt. S. W. Roskill's final chapter in *The Strategy of Sea Power* offers a firmer guide—but Capt. Roskill is just as emphatic as Mr. de Kadt that it is imperative for Britain to do everything possible to minimize the chances of nuclear attack ever happening. Even more interesting is its insistence that with the examination of the potential consequences of war must come the investigation of apparent barriers to peace. It is not for economic reasons alone that the appointment of a Minister of State to deal with disarmament is a logical part of foreign policy as well as of defence. It is a practical recognition of the fork in the road emphasized by Mr. G. Piel, and a definite step towards the policy of national security which Mr. de Kadt seeks to promote.

The Fabulous Isotopes

By Robin McKown. Pp. 189. (London: Macmillan and Co., Ltd., 1964.) 21s. net.

THIS book, intended for the general reader or as background reading for the senior school pupil, is an American attempt to popularize, in the best sense of the word, a field in atomic physics. It is simply and engagingly written and is generally accurate. The sections on the uses of isotopes seem to be better than the theoretical introduction concerning their nature. The illustrations are clear and helpful. The English reader will have to master American spellings which his English teacher might not accept. It is doubtful whether "about the size of a cantaloupe" will assist him in visualizing the dimensions of a miniature atomic power plant, to the working of which, incidentally, no clue is given.

Like so many other popular works, this book reveals the tremendous difficulties which beset an author of this kind of literature. To achieve the accuracy of statement which is the *sine qua non* of scientific writing is difficult enough. The present work, though largely concerned with neutrons, fails to mention the name of Chadwick. A simple explanation of the cloud chamber is given, but, although the Geiger counter is constantly mentioned, no explanation of its mode of action, or who Geiger was, is forthcoming. The old myth of Henri Becquerel accidentally leaving a piece of uranium ore on top of a photographic film is perpetuated and, incidentally, the date of his experiment is given wrongly. Here a real chance of a simple explanation of a planned experiment is lost.

The truth of the matter is that within a few weeks of the publication of Röntgen's X-ray paper, Becquerel, having read it, intelligently experimented to try to find a complementary or reciprocal phenomenon. The result of his experiments did not verify his hypothesis but quickly led him to the discovery of radioactivity.

The date of the discovery of artificial radioactivity is given as 1934 in the text and two years earlier in the summary. The positron appears in the text with the Curie-Joliot and in the summary with C. D. Anderson. These small points could be cleared up in a second edition.

Finally, the book raises some pedagogical questions in my mind, of which the following are specimens: Is there any virtue in printing a decimal fraction with twenty-seven noughts, to give an idea of the mass of an electron? The equation $e = mc^2$ is given, and the velocity of light appears as 186,000 miles per second. What units will the enquiring secondary-school pupil give to e ? If text-books and popular books on science are to achieve optimum results their authors will have to consider painstakingly the nature of concept formation in relation to the intelligence and maturation levels of their readers.

W. L. SUMNER

Tumours of the Kidney and Ureter

Edited by Sir Eric Riches. (Neoplastic Disease at Various Sites, Vol. 5.) Pp. xv+416. (Edinburgh and London: E. and S. Livingstone, Ltd., 1964.) 90s. net.

COMPARED with other forms of neoplastic disease, tumours of the kidney evoke particular interest not only on account of their varied nature and behaviour, but because of recent developments in their earlier diagnosis and treatment. In bringing out this important monograph, Sir Eric Riches is to be congratulated on enlisting the support of a number of colleagues who have been carefully chosen to supplement his own unique experience. Thus, in addition to the statistical data which provide a regular feature of the series, authoritative sections are contributed by Dr. Cuthbert Dukes on the causation of renal neoplasms, by Dr. A. C. Thackray on their pathology and by Mr. D. Innes-Williams on tumours of the kidney in infancy and childhood. Among other contributions those by Sir Brian Windeyer on radiotherapy and by Dr. H. J. G. Bloom on hormone treatment are of particular practical importance.

The main message of the book, however, is conveyed by the description and analysis of renal tumours in adult life—by Sir Eric Riches, whose experience in this field is probably unparalleled and in which his numerous contributions have achieved international renown. This is supported by a wealth of illustrations in which the macroscopic features of the tumour are superimposed on the X-ray films so as to emphasize the importance of radiological interpretation. This theme is elaborated further by Dr. C. G. Whiteside and Dr. John L. Emmett, who refer respectively to the role of pyelography and arteriography, and nephrotomography in X-ray diagnosis. Other subjects of present-day interest which are discussed include the value of cytological diagnosis, the significance of polycythaemia and the association of renal tumours with hypertension. Perhaps the most important practical feature, however, is the section devoted to prognosis in which the results of an earlier series presented to the British Association of Urological Surgeons are expanded. Here the outlook is correlated with the pathological grading and extension of the disease at the time of surgical treatment in such a manner as to provide a valuable indication of what to expect.

In summary, the book, which is excellently produced, provides a comprehensive yet discriminative account of existing knowledge regarding the detection and management of renal neoplasm which will surely prove of value to all engaged in the investigation of this form of disease.

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