

for the accelerator sophisticate who would undoubtedly find the development greatly overdetailed. As a reference volume on accelerator technology the book has substantial value, particularly in its very complete bibliography.

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(Newnes) Concise Encyclopaedia of Nuclear Energy. Advisory Editors: D. E. BARNES, O.B.E., G.M., B.Sc.; R. BATCHELOR, M.A.; A. G. MADDOCK, M.A., Ph.D., D.I.C.; J. A. SMEDLEY, B.Sc.; DENIS TAYLOR, M.Sc., Ph.D. Foreword by H. Kronberger, O.B.E., Ph.D., F. Inst.P. Newnes, London, 1962. £8. Wiley New York, 1962. 886 pp. \$25.00.

The process of having books reviewed in this Journal is such as to frequently tempt its editor to submit to the task inasmuch as the reviewer keeps the book as token compensation. However, never before has he finally yielded to the temptation, and that he does so now is testimonial to the desirability of this encyclopaedia.

Perhaps the most obvious question is: Why an encyclopaedia? Why order the content alphabetically according to subject instead of adopting a logical unfolding of the material to be covered? The answer, of course, is that it caters to the nonspecialist who wants a correct but concise description of an item. He does not have to know that a hyperon is an elementary particle found in cosmic rays in order to read about it. If he can spell it he can find it. And in these times, with so very much science for us to keep up with, the ready-reference system is greatly to be desired.

Perhaps the next question is: How much alphabetizing? Does one alphabetize only the major headings, or is this to be extended to all discrete minutiae? The editors have used the latter approach, albeit with the crutch of cross-referencing which keeps the size within bounds. Thus one can find Xi-particles, Y-particles, and Sigma-particles, all defined succinctly with a cross reference to "Mesons and hyperons" which gives more detail.

Evidently the editors have given much thought to the needs of the user. It is easy to find the items one looks for in the bold-face capitals; the headings are well chosen. Even the contributors are displayed in Encyclopaedia Britannica's useful, though unusual, way, which caters to the sequence that the reader encounters: he finds the contributor's initials at the end of an article and then seeks his name and affiliation; so the contributors are listed in the alphabetical order of his initials. (A. E. Souch probably never before stood second in an alphabetical list of 82.) But "Dame J. V." appears with the J's, not the D's.

The list of contributors covers most United Kingdom atomic energy establishments as well as quite a few universities. There is one from the USA—Tench from Brookhaven, and one from Malaya—Skyrme, who used to be at Harwell.

There is a comparatively strong coverage of the biological

and health physics aspects of nuclear energy. Thus "isotopes, artificial," occupying 1.6 in. of column, is followed by "isotopes in animal physiology" with 87.5 in. of column covering labeling to mechanism of bone growth. Eighty-eight pages are devoted to the table of isotopes, which is nicely annotated with decay schemes at the foot of each page.

The thermonuclear reactor business is covered, presumably for completeness, and as a hedge against the miracle which might rescue it from the doldrums. The reader is led on a merry chase in finding it, though. One finds "Thermonuclear reaction" but is merely sent from there to "Fusion," which advice is practical but somehow offends the purist in us. From the short "Fusion" article one finds that there is a discussion of "Controlled Thermonuclear Research, q.v." Thus this path is sanitary in that it avoids the H-bomb (no entry found for this, but "Fusion" mentions it—presumably a violation). We note also that there are no thermonuclear reactors, but only "devices," "schemes," and "experiments." With such caution this encyclopaedia should live a long time.

We had a chance to check on whether our March, 1961, editorial recommending use of "fissile" for thermally fissionable was indeed consistent with British usage. Sure enough, contributor Clarke, of Reading, Berks, says *fissile materials* are "materials which are capable of undergoing fission by thermal neutrons." Our satisfaction, however, is dulled by the preceding entry of contributor Green of Aldermaston for *fissile*: "The term loosely applied to any nucleus which can be made to undergo fission. However, it is normally taken to mean fissionable by thermal neutrons." And it is devastated by Green's entry for *fissionable material*: "The term fissionable normally refers to material which is thermally fissile, U²³³, U²³⁵, and Pu²³⁹ being the most important examples." This seems to call for a malt-lubricated conference in some convenient pub between Reading and Aldermaston.

On the whole, the book is very satisfying. We thought of no pertinent subject which was not easily found. The illustrations are profuse and well done. The entries are well chosen. We are glad to have earned our copy and recommend that the reader get one too.

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International Directory of Radioisotopes, 2nd ed. International Atomic Energy Agency, Vienna, 1962. 697 pp. \$9.00. Not on sale through bookstores; obtainable from International Publications, Inc., 801 Third Avenue, New York 22, New York.

This is a directory. It has about the same usefulness as a telephone book. The information operator always, and the ordinary subscriber sometimes, uses an up-to-date telephone book. A radioisotope pharmaceutical house or a well-equipped library probably should have this international