

a good deal of attention in the U.S.S.R. to-day. The section on soil formation is placed in perspective by a final short chapter contributed by N. N. Rozov on the major soil types of the U.S.S.R.

Analytical methods are confined to an appendix, thus making for easier reading, and here mention should be made of the excellent work of the translators. It is a pity that the quality of the book has been lowered by the use of inferior quality ink, but on the credit side the value of the book has been enhanced by an offer from Pergamon Press to supply readers with a translation of any article referred to in the text, at a reasonable price.

J. W. PARSONS

YOUTH SCIENCE ENCYCLOPÆDIA

Junior Science Encyclopaedia

Consultant Editorial Board: Dr. Maurice Burton, Prof. J. M. Cassels, Sir James Chadwick, Sir John Cockcroft, Prof. L. Dudley Stamp, Prof. F. G. Young, and Prof. J. Z. Young. General Editor: Leslie Basford. Vol. 1: Pp. 1-88. Vol. 2: Pp. 89-176. Vol. 3: Pp. 177-264. Vol. 4: Pp. 265-352. Vol. 5: Pp. 353-440. Vol. 6: Pp. 441-528. Vol. 7: Pp. 529-616. Vol. 8: Pp. 617-703. (London: Sampson Low, Marston and Co., Ltd., 1961.) 104s. the set, or 13s. each volume.

WE are unquestionably living in the golden age of science, at a time when the sciences, the scientists, and their promoters have 'never had it so good'. Since the turn of the century, science has risen to a position of such great political, social, and technological significance that it now seems unnecessary even to apologize for rockets and capsules to the moon, or laboratories and equipment in the schools, or reactors and refineries on the sea-shore. We are also growing accustomed to the ever-increasing number of scientific books which purport to satisfy a long-felt need, or offer no apology for their appearance at all.

Junior Science Encyclopaedia is one such set of books which has appeared on the market without a preface. However, the general editor, Mr. Leslie Basford, does supply on the cover and the title-page of every volume the names of the eminent scientists who form the consultant editorial board. Sir Lawrence Bragg and six of the consultant board have contributed short introductions to the study of physics, zoology, science, electronics, geology, biochemistry and anatomy. These introductions are arbitrarily allotted one to each of Volumes 2-8. I found myself wondering why Prof. Cassels did not contribute an article, and why Sir John Cockcroft did not autograph his contribution. Volume 1 contains, of course, a short introduction to the consultant editorial board.

The reader, therefore, is left to judge for himself the aim and scope of this set of books. This is by no means an easy task. To begin with, the title is somewhat misleading. The word "Junior" usually relates to children of not much more than twelve years of age. However, these volumes have little to offer such children apart from the glossy, attractive covers, and the exaggerated use of vivid colours: the only things in black and white are a few photographs (including those of the above-mentioned scientists) and most of the print. Furthermore, the term "Science Encyclopaedia" rather implies a wealth of scientific

information for both the young and the old. However, the cover illustrations and the presentation of the material indicate clearly that these volumes are not primarily designed for the adult. It would appear, therefore, that they are intended for children in their early teens.

The topics range widely from absolute temperature to calorimeters (Volume 1), Cambrian period to Doppler effect (Volume 2), double stars to graphs (Volume 3), gravitation to loglines (Volume 4), longitude to petrified forests (Volume 5), petroleum to satellites (Volume 6), saturation to triple-expansion steam engines (Volume 7), and tropical medicine to zoology (Volume 8). The last volume also contains an index with ample cross-references to related topics, short articles on subjects of recent scientific research and on scientific method, a supplementary glossary of scientific terms, and forty-eight charts of the night sky. There is a superabundance of illustrations which are invariably highly coloured. Some of these, such as the domestic electricity meter on p. 194, the camera lens on p. 336, and the guns on pp. 269-270, are quite impressive. However, many, such as the amphibians on p. 19, the distillation apparatus on p. 172, and the minerals on p. 381, are very poor: this is the result of rather inferior colour printing and inaccurate draughtsmanship.

Since Sir James Chadwick ends his introduction to the study of science with the comment that "there is some relief to be found in the fact that it is now easier than it was to have access to reliable sources of information", there seems to be the suggestion that these books are reliable sources of scientific information. The editor must, of course, omit much of interest and importance. He must also omit unnecessary complications and admit convenient simplifications. He must then run the risk of creating a false impression and of publishing a less-reliable source of information. A most surprising omission from the list of 116 famous scientists (pp. 532-540) is the name of John Dalton, 'founder' of the atomic theory.

On pp. 45-46, the relative sizes of the atoms are indicated by spheres in an assortment of colours from yellow and green to mauve and chocolate-brown. These colours are of little significance since a different set of coloured spheres is used on p. 111 to represent 'molecules' of sodium chloride and other well-known ionic compounds. These illustrations are fortunately small. The calcium carbonate 'molecule' also appears on p. 388. This time, for no apparent reason, it is inverted and occupies half the page. In both these illustrations the relative sizes of the atoms are preserved and the links between them are in accord with their valencies. Unfortunately, it is well established that all three oxygen atoms are attached to the carbon atom. The linking between oxygen atoms represented by these illustrations probably occurs only in ozone and ozonides.

Certain small errors were also noticeable to me. For example, chemists rarely ever do acid-base titrations using litmus indicator (p. 21), a colloidal solution is called a 'sol' and not a 'soll' (p. 131), the illustration of the structure of graphite is slightly inaccurate (p. 155), and 'allotrope' rather than 'allotropy' is intended in the glossary of terms (p. 696).

The overall impression of this set of books is likely to be that they have something of interest to offer the budding young scientists, but that they are too expensive at 104s.

MICHAEL C. COX