

following chart in a period of 2 hr. This section is completed by notes on eclipses, occultations, comets, meteors, minor planets and selected events for 1963.

The second section contains thirteen short articles on various aspects of astronomy. Each article is written by an author experienced in the field covered by the article. The shortness of the articles is compensated by including a fairly comprehensive reading list so that if any reader is sufficiently stimulated by a given article he can carry on his reading by choosing a suitable book from the list.

A list of astronomical societies, a comprehensive glossary of astronomical terms and a list of selected interesting telescopic objects conclude the book. The *Yearbook* should form a very useful addition to the shelves of any amateur astronomer.

D. MCNALLY

Relativity for Engineers and Science Teachers

By Laurence H. A. Carr. Pp. vi+52. (London: Macdonald and Co. (Publishers), Ltd., 1960.) 12s. 6d. net.

THIS little book is a commendably brave, and, one must add, successful attempt by the author to convince students, hitherto perhaps a little timorous of getting to grips with the theory of relativity, that the principles, when shorn of the complex mathematical treatment, are not so formidable after all.

Although the full subject of relativity consists of two separate theses, the special theory dealing with two bodies in uniform relative motion and the general theory which concerns the movement of bodies under the influence of a permanent accelerating force, it is only the former which is dealt with here.

The opening chapter is given to recapitulating the basic theory of what is regarded as the classical mechanics, while the rest of the book is devoted to the modifications introduced by the theory of relativity and which are necessary to bring experimental data and theory into harmony.

The well-known Michelson-Morley experiment was, of course, the crisis in physics which sparked off the theory of relativity by Einstein in 1905, and the author of *Relativity for Engineers and Science Teachers* deals with this very well in a separate chapter, in which he brings out clearly the value of the "contraction formula" of Lorentz-Fitzgerald, namely,

$$\sqrt{1 - \frac{v^2}{c^2}}$$

which occurs throughout the theory of relativity.

At the end of the book there is an extremely useful summary of the conclusions reached, and this should be most helpful.

Altogether the book is well thought out and excellently done, and students and teachers alike should find it stimulating, informative and understandable.

T. M. YARWOOD

Electron Microscopy in Anatomy

Proceedings of a Symposium held by the Anatomical Society of Great Britain on the Ultra-Structure of Cells. Pp. viii+288. (London: Edward Arnold (Publishers), Ltd., 1961.) 50s. net.

THIS is an interesting and genuinely useful symposium. The importance of the various chapters varies considerably, but there are several contributions of outstanding value, especially those

on the myelin sheath of nerves, the 'unit membrane', and the secretory processes of the pancreatic exocrine cell. These chapters provide very convenient summaries of the present state of knowledge.

Twenty years from now it will be interesting to look back on such a book as this. Has the early work in electron microscopy proceeded along the most fruitful lines? It is too soon to judge. The techniques used in the preparation of tissues seem to be rather empirical. It is almost as though we had not profited from the work of such men as Alfred Fischer, W. B. Hardy, and Gustav Mann, who sought, six decades ago, to place the technical methods of light microscopy on a firmer, less empirical basis. There is a scramble to be the first to 'see' new things, but scarcely enough effort to ensure that what is exhibited in our micrographs bears any close relationship to what was present in life. Perhaps this phase was inevitable: perhaps we are now emerging from it into a more hopeful future. This book gives a useful indication of how far we have gone and where we are likely to go next.

J. R. BAKER

Industrial Research in Britain

Advisory Editor: A. W. Haslett. Fourth edition. Pp. 461. (London: Harrap Research Publications, 1962.) 84s. net.

IN the fourth edition of *Industrial Research in Britain* Mr. A. W. Haslett succeeds Dr. Percy Dunsheath as advisory editor, and additional sections for sponsored research organizations, scientific attachés, data-processing services, translations of Soviet technical and scientific periodicals and technical libraries have been introduced. The existing sections have been completely revised and some are presented in a new format. Sir Harry Melville outlines the part which the Government plays in civil research and development and in the technical information services of Britain. Mr. A. F. H. Baylis contributes an article on careers in professions associated with industrial research which is both admirable in itself and supported by an excellent bibliography.

In the sixteen years since the book was first published its character has been transformed, and although the price has been quadrupled it now supplies what the first edition could scarcely claim to do—a comprehensive reference book on industrial research in Britain generally. Such points of criticism as may be advanced are in matters of detail, doubtless due to oversight, and chiefly in relation to publications. The section dealing with research activities of Government departments and statutory bodies fails to give the complete picture of Government organization that might have been expected; the Nature Conservancy is the only one of the Research Councils not mentioned and even in a volume dealing with industrial research the omission is invidious as well as unjustified. Although the pamphlet *Government Organization in the Civil Field* is out of date, its existence might have been mentioned. Similarly, the section on industrial research in universities should fittingly have mentioned the publication put out by the British Council for the Department of Scientific and Industrial Research entitled *Scientific Research in British Universities*. Surprisingly, the section dealing with periodicals omits *The New Scientist* although including older periodicals of the same general scientific or technical character.

R. BRIGHTMAN