

Atlas du Ciel

Par Vincent de Callatay. Pp. 151+11 photographies. (Bruxelles: Les Éditions de Visscher, 1955.) 450 Belg. fr.

THIS is a star atlas for amateurs. The author certainly succeeds in catching the eye by a series of maps of considerable beauty in which the stars appear white and the sky black. The maps are not obscured by printing further information on to them; instead, the constellation names and boundaries, star names, co-ordinates and further information are added by means of subsidiary maps and tables.

There are nine maps depicting a full hemisphere from various aspects, and in these there is no differentiation of the magnitudes of the stars shown. Then follows the main series of twenty-seven rectangular maps each covering a region of about $70^\circ \times 50^\circ$. For these the magnitudes (down to the fifth) are differentiated, but not very clearly. Those maps referring to the northern and equatorial regions of the sky have north at top, while the southern maps have south at top. Running through the book is a useful description (in French) of the various types of object in the sky and of other astronomical matters, but this text matter is not particularly connected with its nearby map. At the end there are twelve fine photographs chosen from the Mount Wilson-Palomar list of celestial objects.

The arrangement is not a very convenient one for those who wish to use the book as a working star atlas. It is somewhat difficult to locate the appropriate map, and then it is necessary to look elsewhere (sometimes over the page) to interpret it. Some minor inconsistencies and inaccuracies can be detected.

C. W. ALLEN

Semi-Micro Organic Preparations

By Dr. J. H. Wilkinson. Pp. x+94. (Edinburgh and London: Oliver and Boyd, Ltd., 1954.) 8s. 6d. net.

DR. J. H. WILKINSON joins the growing band of chemists who have published their methods of preparing organic compounds on the so-called 'semi-micro' scale. Since one of his recipes requires 50 c.c. of one reagent and 4.5 c.c. of another, 'small-scale', which many favour, would seem to be the better term.

In an opening section of eleven pages, the author describes his techniques, which include not only customary small-scale types but also pieces of apparatus of his own design. In the remaining pages he gives clear instructions for a variety of preparations ranging from the simple esterification to catalytic hydrogenation, and to the more elaborate exercise requiring the use of a reagent such as aluminium isopropoxide. He blends with his instructions valuable comments on the reaction in question and directs attention to significant points of theory.

The experiments do not run in a sequence and do not cover any particular syllabus, the intention being to show what can be done on the small scale. As with other enthusiasts, Dr. Wilkinson occasionally overworks an innovation. Thus he uses a special apparatus for the preparation of tribromaniline, when surely a drop of each reagent brought together on a watch-glass would suffice. Nevertheless, this is a helpful book for those desirous of becoming acquainted with these economical and time-saving methods.

G. FOWLES

The Science Masters' Book

Series 3, Part 2: Chemistry. Arranged and edited by G. Fowles, with the assistance of E. H. Coulson and Charles Holt. (Experiments selected from Nos. 68-128 of *The School Science Review*.) Pp. xi+286. (London: John Murray (Publishers), Ltd., 1955. Published for The Science Masters' Association.) 17s. 6d. net.

THIS book contains selected experiments, apparatus and teaching devices from the *School Science Review* of the past eighteen years, divided into six parts which vary by design from the very elementary to the more advanced work of a sixth form. Throughout the book the lesson of what improvisation has meant to the schoolmaster is plain to see, and, if for this reason only, the book should be stimulating for teachers of any experience.

Of course, the selection is bound to meet with criticism; but it is a little difficult to understand why in some cases more pruning was not carried out, so leaving space for other experiments—three ways of showing the action of steam on magnesium are given, when the last and simplest would have sufficed. In all cases the essential details are given, and the diagrams are very clear; but here again some of the latter might well have been omitted without loss of clarity. As more than a hundred authors have contributed to this book, it is only to be expected that the standard of clear and concise English has not always been maintained; but the use of the word 'treat', the first person, and some asides are to be deplored.

A new departure is the introduction of theoretical comments and a list of references, and this is most pleasing and helpful. The later sections are very well done, particularly those on electrochemistry and small-scale work. The book as a whole should be a welcome addition to any science teacher's bookshelf.

J. C. STREDDER

University Physics

By Francis Weston Sears and Mark W. Zemansky. Second edition, with Supplementary Problems. Pp. viii+1031. (Cambridge, Mass.: Addison-Wesley Publishing Company, Inc., 1955.) 10 dollars.

THIS book covers the whole of physics up to approximately ordinary-degree standard. It is lavishly illustrated with well-thought-out diagrams, 'multiflash' photographs of moving bodies in dealing with mechanics and sound, and one two-colour diagram. It should be very useful to the students to whom it is addressed. It is doubtful, however, whether it would fit in with the British university system; it is too elementary as an introduction for students who have passed Advanced Level physics at school and, in spite of its size (and weight), it does not include all that is usually dealt with in an ordinary-degree course. Rigidity and the twisting of rods, for example, are not included, nor the relationship between the elastic moduli.

The rationalized M.K.S. system of units is used for dealing with magnetism and electricity. Despite its obvious practical advantages, the reviewer thinks that it is not a suitable system for introducing the subject to elementary students, with its arbitrary introduction of the factor 4π , and the premature disclosure of the role of the velocity of light.

On the whole, however, the book contains many novel and interesting ways of presenting the various branches of physics, and university teachers in Britain may well profit by its study.