

*A Manual of Land and Fresh Water Vertebrate Animals of the United States (Exclusive of Birds).* By Prof. H. S. Pratt. Pp. xv+422. (Philadelphia: P. Blakiston's Son and Co., 1923.) 6 dollars.

THE naturalist frequently finds that to learn to identify species is a most difficult task, and yet nothing is more important to his work. He finds that species are not separated merely on shape and colour, but on structural peculiarities which frequently are connected with particular habits. This is especially the case in vertebrate animals, which in Great Britain, with its very limited number of forms, may be identified in a haphazard manner by elimination. This is impossible in a country where different climatic areas interdigitate and where there are many species, as the United States, which for the purpose of the naturalist is a continent. Here Prof. H. S. Pratt "fills the bill" by his "Vertebrate Animals of the United States," which, however, omits birds. A short account of each group is given, the anatomical features dividing it up into sub-groups and families being usually illustrated. Where necessary, special features for families are described and then follow keys to the genera, descriptions of the same and keys to their species. The whole closes with a good bibliography and a glossary of technical terms. The short descriptions of each species, with mention of their geographical distributions and habitats, are excellent, and the tabulation of the sub-species most useful. We learn that there are about 600 species of freshwater fishes, 70 of newts and 61 of frogs and toads—we are given a key by which their tadpoles and eggs can be identified—300 reptiles and a wide series of mammals belonging to 9 orders. We characterise this publication as a book for ready reference, such as should be on the shelves of all American naturalists.

*Automatic Telephone Systems.* By William Aitken. Vol. 3: Large Multi-Office Automatic Systems; Semi-Automatic Working; Miscellaneous Systems; Lay-out and Wiring; Power-Plant, Traffic. Pp. xv+239. (London: Ernest Benn, Ltd., 1924.) 55s. net.

THE Strowger Director System of automatic telephony is the system which, after very careful consideration, has been adopted by the British Post Office. It is manufactured by the Automatic Electric Company of Chicago and the Automatic Telephone Manufacturing Company of Liverpool. This was the system which the author described in volume i. of this work. In the volume now before us he discusses large "multi-office" automatic systems and semi-automatic working. Practically all the important systems which are in use, or are nearly ready to be brought into use, are described. The work will be of help to experts. Standardisation is still a long way off. On the Continent the rotary system with switches for 500 lines is popular, and in the United States the panel system is widely used. The author discusses the question of metering calls. In the United States, as a rule, with automatic systems, the calls are not registered. This saves time, and the plant is therefore more efficient. In Great Britain, meters have always been considered necessary because of the introduction of the message rate system. More complicated systems of tariff are, however, being proposed, but before being adopted it will be necessary to convince the consumer that they are equitable.

*The First Days of Knowledge: as Narrated quite simply for Young Readers.* By Frederic Arnold Kummer. (*The Earth's Story*, Vol. 2.) Pp. 314. (London: Hodder and Stoughton, Ltd., 1923.) 7s. 6d. net.

THIS is the second volume of a series of three called "The Earth's Story," of which the first was "The First Days of Man." In a preface to parents, the author explains that his object is to place before young readers a picture of the growth of civilisation in a form which will appeal to the imagination, stimulate thought, and at the same time link up with previous knowledge. This volume, after two introductory chapters, begins with the discovery of bronze; but in dealing with the growth of civilisation from that point onward the treatment is by subject and not chronological. Certain typical inventions, weaving, the water clock, the discovery of silk, irrigation, writing, and so on, are taken one by one and treated imaginatively and, on the whole, accurately. The chapter on religion might not perhaps pass the strict critic in all its detail, but this is perhaps out of deference to young readers—or their parents. It is, however, a little disconcerting to find Constantinople situated in Asia Minor.

*Plane and Solid Geometry.* By Prof. Walter Burton Ford and Charles Ammerman. Edited by Earle Raymond Hedrick. (Mathematical Texts Series.) Second revised edition. Pp. xi+356+xxviii. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd., 1923.) 7s. 6d. net.

THIS is a second edition of a pleasant book. There is nothing very startling in the treatment or sequence, except that the "Pythagorean Theorem" is artificially postponed, apparently so that the authors might give an alternative proof based on proportionals. This is a mistake, because Pythagoras's theorem is the one thing that beginners in geometry get excited about, and its place is as early as is consistent with logical presentation. The alternative proof could have been inserted all the same.

The solid geometry is particularly well done, and the solid diagrams are very realistic. There are numerous applications to practical problems of life and of science, a brief historical sketch, and some useful tables.

S. B.

*Cancer Research at the Middlesex Hospital, 1900-1924: Retrospect and Prospect.* Compiled by members of the Staff of the Hospital and Medical School and issued by the authority of the Cancer and General Research Committee. Edited by W. Sampson Handley. (Published for the Middlesex Hospital Press.) Pp. ix+90+9 plates. (London: John Murray, 1924.) 3s. 6d. net.

THIS small work gives an account of the work on cancer at the Middlesex Hospital, particularly from 1910 to 1923, and incidentally since 1792, when Mr. Samuel Whitbread first endowed wards for the reception of cancer patients, who could remain "until relieved by art or released by death." The record is one of general progress at the Middlesex Hospital, and the book seems to be designed for the lay reader instead of the scientific worker. The financial needs of the cancer department are emphasised in a special chapter.