

it when he gradually saw how astonishingly well it did fit the facts. But he was certainly serious, beneath his brilliant paradoxes; and, though a pariah in his own day, he is now recognised as a true if somewhat wayward and satirical genius.

*Stars shown to the Children.* By Ellison Hawks. Pp. xii+119+49 plates. (London and Edinburgh: T. C. and E. C. Jack, n.d.) Price 2s. 6d. net.

To give a clear, comprehensive insight into present-day astronomy, in the "Shown to the Children" series, was no light task, but in doing it Mr. Hawks has approached nearly the ideal. To children "stars" implies every extra-terrestrial orb, save the sun and moon, and Mr. Hawks exhibits his ability to reach the child even in his title.

Thus the first twelve chapters describe the phenomena of the solar system, and very brief chapters they are. Yet the juvenile reader will become acquainted with practically all the broad principles of our knowledge concerning the sun, moons, and planets, and will find in the sky a new and inexhaustible interest.

Nor can any important omission be pointed out in the eight pages dealing with comets, yet the instruction is so interwoven with interesting "story" that it is sure to be eagerly assimilated. "Shooting stars," in three pages, should lead to many a night's watch, and produce a number of recruits for the still too small army of meteor observers: the page or two concerning the Green Flash and the Northern Lights will probably not prove so fruitful.

The stars themselves occupy seven chapters, thirty-three pages, and only the most striking constellations are described and drawn; but the text is so replete with interest and star-lore that the intelligent youth will find himself forced to fill in the details. The final chapters deal with the nebulae, the Milky Way, and the appurtenances of an observatory, and should complete the feeling of being "at home" in the young recruit.

The forty-nine excellent illustrations will of themselves command the intelligent interest of most children. In one or two places it would appear that an effort has been made to meet the child, e.g. on plate xxxiv. "The Mighty Hunter" need not have been drawn as the pantomimic "Bowd Slasher," and his belt should have been properly directed; but with so much to commend, these blemishes are relatively few and insignificant.

W. E. R.

*A Treatise on Electro-Metallurgy: Embracing the Application of Electrolysis to the Plating, Depositing, Smelting, and Refining of Various Metals, and to the Reproduction of Printing Surfaces and Art-work, etc.* By W. G. McMillan. Third edition, revised and enlarged. Revised by W. R. Cooper. Pp. xv+425. (London: Charles Griffin and Co., Ltd., 1910.) Price 12s. 6d. net.

THE work of revising the excellent treatise of the late Mr. W. G. McMillan has, on the whole, been admirably done by Mr. Cooper, although there still remain a few slight errors in the body of the work which might have been corrected. For example, it is manifestly an error to recommend for nickel deposition a solution of 8 pounds of nickel ammonium sulphate per gallon (p. 220). Some of the recent developments in the practice of electroplating might have been given more attention, such as electrolytic methods of cleaning which of late years seem to have come into favour; and the important uses of the sand blast are still, as in former editions, almost ignored. It is, however, impossible to deal adequately within the limits of a volume of reasonable size, with all the aspects of so wide a subject, and the general excell-

ence of the treatise in its revised and enlarged form elicits warm approval.

The section devoted to electrolytic refining is much extended, and a very good summary on the smelting of iron ores and the manufacture and refining of steel by electrical means is a new feature in this edition. There are a considerable number of useful tables given as addenda, and chapter xx. consists of a convenient glossary of substances commonly employed in electro-metallurgy, with their more important properties, but the melting points of the metals might have been revised in the light of the great amount of laborious and excellent recent work done on these, such a standard temperature as silver 961° C. being given as 1740° F. (949° C.), and the ancient myth of antimony at 800° F. (427° C.) instead of 631° C.

The book must, however, be considered as a standard one on the subject, essential alike to students and practical electrometallurgists.

A. McWILLIAM.

*Diptera Danica. Genera and Species of Flies hitherto found in Denmark.* By W. Lundbeck. Part iii., Empididae. Pp. 329. (Copenhagen: G. E. C. Gad; London: W. Wesley and Son, 1910.) Price 13s. 6d. net.

THE family treated in the present instalment of the "Diptera Danica" is one of considerable extent, numbering 675 palæoarctic and 440 North American species, eleven being recorded as common to both regions. The number of species described in the present volume is 164 (Mr. E. E. Austin estimates the number of British species as approximately 215), divided into five subfamilies and twenty-seven genera. The larvæ live in damp ground, under leaves, or in mud, or in decaying wood, and are believed to be carnivorous, like the perfect insects, the habits of which are very curious, as recorded on pp. 83 and 84. Sometimes the male catches an insect and presents it to the female, who sucks it during their union, and then drops it; and in other cases the male presents the female with a small dead fly enveloped in a kind of balloon of froth.

The long and detailed descriptions of genera and species appear to be very carefully written, and the 141 text-illustrations of antennæ, wings, &c., are excellent. The book deserves the patronage of all British entomologists who are interested in Diptera, especially as it is written and printed in English for their benefit. Although there are now more entomologists working at Diptera at present, the order has been less studied in Britain than any other, and we have not yet a sufficiency of works dealing with many large and important groups comprised in it.

*Elementary Physiography.* By Prof. R. D. Salisbury. Pp. xi+359. (New York: H. Holt and Co., n.d.)

THIS work is a reduction and simplification of the author's larger book for schools, which was reviewed in NATURE, vol. lxxxii., p. 335. It is expressly intended for schools that can give only half a year to the subject. The numerous illustrations retained will attract attention, and those dealing with types of glaciers and their products are unusually varied and effective. The Salton Sea (p. 96) has been utilised as an example of delta-flooding, and the buckling of tram-lines in San Francisco in 1906 is shown on p. 197. There is in all American work a desire to bring the present activity of the earth home to the general reader. The same spirit is seen in Prof. Walther's crusade on behalf of geology in Germany; and there are signs that the next generation will not grow up entirely ignorant of this strange rotating ball on which we live.

With the aid of maps and pictures from the British