

The Story of Geographical Discovery. By Joseph Jacobs. Pp. vi + 224. (London: George Newnes, Ltd., 1899.)

MR. JACOBS has written a very readable little book. The historical aspect of geographical discovery is interestingly dealt with, and many subjects not usually included in books of geography are rightly given considerable prominence. The text is illustrated with twenty-four helpful maps, which serve to show the gradual increase of knowledge of our globe. The concluding table, showing the progress of geographical science from the time of Anaximander of Miletus down to the voyage of the *Challenger*, is most instructive. The author has collected his material with discrimination, and has evidently devoted much time and care to the preparation of his inspiring little volume. The recent marked development of imperial instincts should ensure the book the popularity it merits.

The Sphere of Science: a Study of the Nature and Method of Scientific Investigation. By F. S. Hoffman, Ph.D. Pp. viii + 268. (New York and London: G. P. Putnam's Sons, 1898.)

THIS book is the outcome of a series of lectures recently given by the author to his classes in Union College, to supplement their work in formal logic. Its object is to make clear what constitutes a science, and the grounds upon which every science must rest.

Very naturally, an important place is given to such considerations as the aims of science, what science takes for granted, the scientific method, and the limitations of science. Dr. Hoffman is always readable, and his style is pleasing. The book is by no means only a text-book; it will be found interesting by many educated readers, and should prove particularly useful in providing students of science with a knowledge of the groundwork of scientific investigation.

Chloroform: its Absolutely Safe Administration. By Robert Bell, M.D. Pp. 40. (Glasgow: R. L. Holmes, 1898.)

DR. BELL states the results of over thirty years' experience in the administration of chloroform. He writes "as one having authority," since he has no death to record from the use of chloroform throughout this long practice. It is maintained that when properly administered, there is absolutely no danger attending the use of chloroform as an anaesthetic; and Dr. Bell gives a large amount of evidence in support of his contention.

A Middle Algebra. By William Briggs, M.A., and G. H. Bryan, Sc.D., F.R.S. Pp. vi + 354. (London: W. B. Clive.)

IN this volume a knowledge of the more elementary properties of quadratic equations and progressions is assumed, and the requirements of candidates for the intermediate examinations for degrees at the University of London are especially borne in mind. Prof. Bryan's name is a guarantee for the accuracy of the book; and the arrangement, printing, and general appearance leave little to be desired.

Primer of Geometry. By James Sutherland, M.A. Pp. 117. (London: Longmans, Green, and Co., 1898.)

MANY of the early propositions in Euclid's First Book are reduced to actual measurements in this volume, and are thus brought within the ready grasp of the mind of the average boy. The book really teaches the rudiments of geometry and mensuration upon Fröbelian principles. Where the exercises it contains can be carried out, some of them will prove of educational value; but others are misleading.

LETTERS TO THE EDITOR.

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Syrian Fishes with Abnormal Eyes.

NEAR the town of Hasbeya, Syria, arise springs which constitute in part the source of the small Hasbany river. In a short stream formed by those waters, I have found several varieties of abnormal-eyed fish, which, for convenience, may be grouped under five heads.

Fishes with (1) large protruding eyes; (2) an eye normal, and the other large and protruding; (3) half-protruding eyes; (4) two abnormal eyes unequal in size and development; (5) one eye normal, and the other rudimentary. At less than a hundred feet from the above-mentioned stream are two caves, but, strangely enough, only normal-eyed fishes could be found in the waters adjacent. The abnormal fishes are restricted to that stream, and are in the ratio of about one to four to the normal ones. The water is cold and tolerably clear, shallow near one bank and gradually deepening towards the other, to a depth not exceeding 7 feet in summer. No kingfishers or other fish-catchers were observed. Some of the fishes belonging to No. 1 had dark bodies and dark eyes, and seemed from their mode of motion to be little, if at all, sensible to light. Others belonging to No. 2 showed, by introducing a foreign object now near the normal eye and now near the abnormal one, that the latter saw less than the former. Dr. William van Dyck and Prof. A. E. Day, of the American College in Beirut, saw the fishes, and agreed that they had not met with any of the like during their study of the fauna of Syria. I may state that, having a small quantity of specimens, I would very willingly put it at the disposal of any specialist who may be interested in the question.

SALHEEM MAKARIUS.

Al-Mokattam, Cairo, December 2.

Birds and Poisonous Fruit.

IT is naturally difficult to obtain direct evidence as to how birds rid themselves of the indigestible parts of the fruit they eat. It is a question to which I have given some attention from its bearing on the dispersal of seeds. I have found large quantities of the seeds of hawthorn, dog-rose, mistletoe, and ivy evidently voided by birds, as I incline to think generally as faeces, especially in the case of the hawthorn and ivy. Some large bird, I suppose the rook, consumes ivy berries largely in the spring, and gets rid of the seeds in what appears to be a mass of excrementitious matter. Many of these have not lost their vitality, and germinate readily in the same season. I have some thriving ivy plants obtained from such seed sown in 1896, and numerous seedlings this year of similar origin, the seed being sown on April 28, and coming up on June 7. I do not think much stress need be laid on the fact that much of the fruit swallowed is voided undigested, though the mistle-seeds I found were in a mass something like a lump of frog-spawn, with much of the pulp of the berry still adhering to each seed. I fancy birds and beasts, like many human beings, frequently swallow greedily far more than is good for them, especially when they light upon an abundant supply after enforced abstinence. An observant farmer informs me that horses coming in hungry to the manger will, if allowed, swallow corn more rapidly than they can digest it, if the grains are supplied whole, and that a large proportion passes in a condition to germinate. For this reason he has it crushed before given to them. I could supply Mr. Bennett or Mr. Lowe with some other curious evidence on this question if they care to have it, and will send their address.

Bedford.

E. M. LANGLEY.

I CAN confirm Mr. Lowe's theory on this question.

For many years I have had robins coming to the hand for food in my garden. Before flying to the hand they constantly wait until they have succeeded in ejecting seeds from their crops. Great tits and blue tits also come to the hand, but never pause to eject anything. They are probably not large consumers of poisonous fruits.

I have on my lawn a large round china dish on an iron stand, in which many birds bathe, and from which they drink at all