

that cats possess ideas, yet there is enough analogy between their nervous systems and our own to make it improbable that consciousness, so complex and highly developed in us, is in them wholly lacking."

There follows on this a very full and admirably lucid description of the investigation of sensory discrimination, space perception, and higher forms of consciousness in the various classes and orders of the animal kingdom—methods and results being in every case given in connection with the names of the investigators and references to their works. These references, by the way, nearly five hundred in number, are collected at the end of the book, under the heading "Bibliography," and greatly enhance the value of the book to the intending research student.

Two chapters are devoted to the consideration of the processes of learning in animals. The subject is as difficult as it is important, which perhaps justifies the author's attitude of extreme caution, apparent throughout the discussion. The account is descriptive rather than critical. For example, the conflict between the results of Thorndike and Hobhouse respectively in their experiments on cats and dogs is indeed stated but not discussed. The closing chapters on the memory idea and attention are full of interest, and really come to close quarters with the vexed question of the relation of animal to human intellect.

Psychologists will be unanimous in their gratitude to Miss Washburn for the very thorough way in which she has accomplished her task.

WILLIAM BROWN.

*Natur-Urkunden.* By Georg E. F. Schulz. Heft 1. Vögel. Erste Reihe. Pp. 20, with 20 plates. Heft 2. Planzen. Erste Reihe. Pp. 16, with 20 plates. Heft 3. Planzen. Zweite Reihe. Pp. 16, with 20 plates. Heft 4. Pilze. Erste Reihe. Pp. 16, with 20 plates. (Berlin: Paul Parey, 1908.) Price 1 mark for each part.

VARIOUS books on birds by Messrs. Kearton, and others on natural history, including a miniature series that has attained a wide circulation, have served to indicate how suitably photographs from the life may be utilised to illustrate books on botany and zoology. A very charming series of this kind is now being issued by Messrs. Paul Parey under the title of "Nature Records"; they are being entirely prepared as to photographs and text by Mr. G. E. F. Schulz. The volumes will deal with both branches of natural history. Of the first four, two are devoted to wild plants and a third to fungi. It will be recognised that, owing to their low growing position, size, and tendency to movement, it requires great care and skill to photograph plants as they grow. However, Mr. Schulz is not content to take his photographs under the easiest conditions, but has been at considerable pains to record special phases, such as the open flowers of *Silene noctiflora* and the rain-flecked leaves of *Aira canescens*. Among the illustrations of fungi, one of the best, representing *Boletus scaber*, shows even part of the hymenophore.

Difficult as it must have been to secure these plant photographs, some of the studies of birds in the first part must have required even greater skill and patience. There is a delightful picture of the parent tern holding a small fish while one youngster tries to gobble and the other cries lustily. The turning of the eggs in the nest is shown both for the seagull and the avocet. Altogether the volumes cannot fail to meet with the admiration of all "nature-lovers." Inasmuch as the records are taken at random, the series is intended primarily for the *dilettante*, but the author's notes are full of nature knowledge that may be recommended to teachers of nature-study and

others who are not too old to learn. It is to be hoped that the early parts will have a ready sale, as in these circumstances the series will be continued.

*A Pocket Handbook of Minerals.* By G. Montague Butler. Pp. ix+298. (New York: John Wiley and Sons; London: Chapman and Hall, Ltd., 1908.) Price 12s. 6d. net.

EVERY student of mineralogy knows how difficult it is to acquire facility in identifying minerals off-hand. It is with the view of assisting the student, the miner, and the collector in determining his specimens that this little work has been prepared. It has no pretension to be a manual of mineralogy, even of an elementary character, but it is simply a book for the pocket, to be used as a work of ready reference. For this purpose it seems well adapted. The mineralogist finding an unknown or doubtful mineral may turn to it for assistance, much in the same way that a botanist would use his flora. Chemical and crystallographic characters are deposited from the supreme position which they usually occupy, and attention is directed rather to obvious physical characters, which in some cases appear even trivial, but are yet of diagnostic value. The most characteristic features of a mineral are emphasised by being printed in thick type so as to catch the eye. At the end is a rather ingenious scheme, forming a kind of artificial key for the identification of an unknown species. There is also a glossary, which seems to have been prepared with care.

As the book is likely to be used by the prospector, the commercial element is not ignored, and tables are introduced giving the value of metals, useful minerals, and especially gem-stones. It is notable that space for notes is left here and there in the book, a feature which, though increasing the size of the volume, is likely to be of service in the field; thus a description of moonstone in less than half-a-dozen lines occupies an entire page (p. 136). We have not noticed many printer's errors, but the name of the mineralogist who suggested the scale of hardness was Mohs, not Moh, as printed twice on p. 290.

*La Lutte contre les Microbes.* By Dr. Etienne Burnet. Pp. ix+318. (Paris: Librairie Armand Colin, 1908.) Price 3.50 francs.

In this book a very readable account is given of certain diseases of microbic origin, of the parasites producing them, modes of transmission, and methods of treatment and prevention. Cancer is first dealt with, the author evidently inclining to the view that this disease is due to a micro-parasite, transmitted perhaps by food and by insect parasites, which we think is probably not the case. The statistical part of this section is a useful summary of data concerning the frequency of the disease, cancer houses and districts, &c. After cancer, tuberculosis, tetanus, sleeping sickness, intestinal infections, and small-pox and vaccinia are dealt with, and with these the author is on less debatable ground, and a good summary of our knowledge of each is given. The volume concludes with a translation of Jenner's researches on the causes and effects of cow-pox. R. T. HEWLETT.

*The Farm shown to the Children* by F. M. B. and A. H. Blaikie. Described by Foster Meadow. Pp. xii+91. (London and Edinburgh: T. C. and E. C. Jack.) Price 2s. 6d. net.

THIS attractive little volume contains a great deal of information about farming, expressed in a very simple manner. Its forty-eight coloured pictures are sure to please children greatly, and the book, as a whole, is well calculated to arouse an interest in agricultural pursuits.