The descriptive portion of the book is followed by an appendix of practical directions, covering forty-three pages. Herein are given general directions for study and for the preparation of material, together with special directions for the dissection of each group of organs—as they present themselves to the student and not in the order in which they are studied in the descriptive portion of the work. The separation of these notes from the body of the book of course preserves continuity to the descriptions and enhances the value of the book as a work of reference; on the other hand, it necessitates such an amount of turning of pages by the student that it would have been wiser to have brought the practical directions into closer relation with the text—at the beginning or at the end of each section or chapter.

In the matter of nomenclature, as the authors maintain, and properly, that the primary purpose of such a work is not to illustrate or defend any particular system of nomenclature, but to aid in obtaining a knowledge of the structures themselves, and as they hold that the time has not come for an absolutely uniform nomenclature, they have adopted such terms as they judge likely to be measurably permanent. As a basis, therefore, they use, as far as possible, the Latin terms (and their English equivalents) proposed by the German Anatomical Society, but freely substitute for these other terms, either when those proposed are not appropriate for the cat, as, for example, the names for the cerebral sulci or gyri, or when the substitutes are better known to English anatomists and are not likely to be given up, as, for example, *trapezoid* for *os multangulum minus*. In cases of substitution the Latin name proposed by the German Society is given as a synonym. Whenever a structure has two names, equally well-known, both names are given. It is certainly most desirable that each structure should have a single name; if however, there be two, the student should learn them.

As terms of direction the authors properly use, almost exclusively, such intrinsic terms as *dorsal* and *ventral; cranial* and *caudal; proximal* and *distal; medial* and *lateral*, and they discard the older extrinsic terms *anterior* and *posterior; superior* and *inferior; inner* and *outer*. *Dorsal* and *ventral* are also applied, less happily we think, to surfaces of the limbs; the dorsal side being indicated by the convexity of the joint, elbow or knee, the ventral side by the concavity of the joint. The constant use of adverbial forms such as *dorsad, craniad, proximad*, etc., certainly gives brevity and directness to the text; they do not add, however, to its elegance—nor does the use of *onto* for *on*.

We have examined the greater part of the book with care and find it to be well planned, clearly written and based on accurate original study. Some things are omitted which, from the general thoroughness of the work, one would have expected to find, as, for example, an account of the interesting arrangement of the tendons and ligaments attached to the terminal phalanges. To reduce the book to a convenient size, omissions, of course, are necessary; what shall be omitted must remain a matter of personal opinion. The drawings by Mrs. Jennings which illustrate the work are excellent; they show clearly what the student is expected to see and are not burdened with unnecessary detail. A few diagrams from frozen sections to show the relations of organs would have been instructive. The book is well made; type, paper, printing and binding are all good; and there is a capital index.

Horace Jayne.

Zell- und Protoplasmastudien. By F. Doflein. 1900.

Under the above title Dr. F. Doflein publishes in brochure form a reprint of his paper in Spengel's 'Zoolog. Jahrbücher,' XIV. This contribution is the first Heft of the author's studies on the morphology and physiology of nuclear and cell-division. It deals, in the main, with the process of nuclear division in *Noctiluca miliaris*. The author gives a very detailed account of his work on preserved material. He differs in several particulars from the results of previous writers, the most important differences being his failure to identify the centrosome in any part of the astrophere, and his denial of a longitudinal splitting of the chromosomes as described by Calkins. The latter author has shown, from the arrangement of the chromatin threads at a certain phase in the division that

it is probable that a longitudinal splitting of the chromosomes takes place. Doflein does not find any evidence of such in process. In the absence of conclusive proof it is impossible to decide which of these two accounts is correct.

SCIENTIFIC JOURNALS AND ARTICLES.

The Plant World for August contains, besides short articles, notes and reviews, 'August Days,' by John Burroughs; 'Notes from Western Kentucky,' by Sallie F. Price, and, under the caption 'A Scanty Flora, a description of that of Bird Rock, Gulf of St. Lawrence,' by Henry E. Baum. But three species of plants are found on this islet: *Poa compressa*, *Achillea borealis* and *Plantago maritima*. Pauline Kaufman continues 'Orchids in Central Park,' and John Gifford describes 'The Dwarf Mistletoe, *Razoumofskya Prusilla*.' L. H. Pammel discusses 'Rare Plants and their Disappearance,' the drying up of sloughs and the overpasturing of the woodlot being accountable for the small numbers of the plants mentioned. In the supplement devoted to 'The Families of Flowering Plants,' Charles Louis Pollard describes the Trigoniaceæ and other families of the Germinales and begins the description of the Sapindales.

The News Bulletin of the Zoological Society of New York appeared in new form with its last (July) issue, having been reduced to a small quarto about the size of SCIENCE. Besides a number of views of animals living in the park, there is a cut showing the state of the monkey house in June. The completion of a restaurant and of the Service Building is announced, and many improvements in the buildings and grounds are noted. Six species of mammals, twelve of birds and eight of reptiles were born in the park this present season. A special feature of the New York Zoo is its collection of reptiles, and the additions to this have been numerous during the first six months of the year.

The Osprey for July brings this periodical nearly down to date, and the August number is promised at an early day. The present issue contains besides shorter articles 'Camping on the Old Camp Grounds,' by Paul Bartsch; 'Stephen's Whip-poor-will,' by J. H. Riley; 'The Malar Stripe of Young Flickers and the Moult,' by William Palmer; 'The Blue Grosbeak in Eastern Kansas,' by Walter S. Colvin, and the sixth instalment of 'The Osprey or Fish-hawk; its Characteristics and Habits,' by Theodore Gill.

SCIENTIFIC journals are not often sold, and it is consequently a matter of interest that the market value of a special journal has been ascertained by the sale of the *Botanisches Centralblatt* to the International Association of Botanists. According to the *Compte Rendu* of the recent congress the price was 37,500 Marks, and the present editor, Dr. Uhlworm retains his position for five years, and if subsequently superseded receives an indemnity. About half the amount has been subscribed, and the balance has been advanced by the publisher, J. E. Brille, of Leipzig, who is to be paid 4 per cent. interest.

DISCUSSION AND CORRESPONDENCE.

DISCORD AND PSYCHOLOGY.

TO THE EDITOR OF SCIENCE: In the issue of SCIENCE for August 30 Mr. Max Meyer calls attention, in a discussion of 'Discords and Beats,' to a supposed error in my review of a recent book on physics, where I referred to Mayer's law expressing the duration of the residual auditory sensation as a function of vibration frequency. He is right in thinking it rare to find physicists well up with current psychological literature, a fact necessitated by the immense mass of literature now in all departments. This fact excuses Mr. Meyer for having apparently failed to read the investigations of Professor Mayer on this subject, which were published in the *American Journal of Science* (Oct., 1874, April, 1875, and Jan., 1894). This physicist did not assume that discord was necessarily due exclusively to beats. His own conclusions were tested in 1875 by a trained musician whose deliverances were given without considering anything else than the perception of discord. This was a purely psychological investigation, therefore, so far as musical sensation was concerned. If the psychologists have some time since agreed that discord cannot be defined by beats, this negative conclusion does not estab-