had a right to have an opinion and to express it. Then it came to be believed and advocated that in this class of defectives were many who were amenable to instruction if it were only of the right kind and taught in the right way. The children might be reached and helped.

First it was thought that many of these children could be educated to make their own way in the world. Finally it was decided that while many of them could be taught to be self-supporting under direction, but very few could ever leave the fostering care of the institution. Children they are and children they will be as long as they live. For, though they become old in years, mentally they will still be children.

More and more came the conviction that there should be custodial institutions. These were especially advocated for feeble-minded women under forty-five years of age. They would be safe and with no prospect of reproducing their kind. Now it has come to be regarded as the proper right and duty to retain control over these grown-up children during life. Some states have made a beginning for this purpose.

Never did we appreciate so strongly as we do to-day the untold misery and accumulating expense caused by the lack of control of our feeble-minded population. Their fecundity and animal instincts make them fit subjects for consideration, both on financial and moral grounds, to say nothing of the dangers that beset those of strong minds who have weaker bodies.

The problem presented to us is the manner in which these conditions shall be met. Its solution lies in an intelligent and general knowledge of the subject by the public, preventive measures by legal marriage restrictions and other means, the education of feeble-minded children and the custodial care of feeble-minded women.

AMOS W. BUTLER.

INDIANAPOLIS, IND.

SCIENTIFIC BOOKS.

Anatomy of the Cat. By JACOB REIGHARD, Professor of Zoology in the University of Michigan, and H. S. JENNINGS, Instructor in Zoology in the University of Michigan. 173 original figures by LOUISA BURRIDGE JENNINGS. Henry Holt & Co. 1901. 8vo. Pp. ix+498.

Teachers and students alike will welcome the appearance of this admirable text-book because it is practically the only work which treats of the entire macroscopic anatomy of the cat, the mammal most generally available for class-room study. Of the books on the cat hitherto published none unites in itself all the requirements of a satisfactory text-book; they are either inaccurate and diffuse or accurate and meager, while another class which covers parts of the subject exhaustively is not available because incomplete. We believe that, with the aid of this present work, a teacher will find no difficulty in conducting a thorough laboratory course and can cover the entire ground in a college year. The authors are to be congratulated, not only upon producing a book which will secure a higher grade of class-room work, but also upon the completion of an important scientific contribution which cannot fail to stimulate and encourage a wider teaching of elementary anatomy. In one sense this is not an elementary work; the descriptions are scientific and concise, without attempt at popular writing. Moreover, it presupposes a knowledge on the part of the student of such general matters as the nature of tissues, the functions of organs and the meanings of scientific terms. Hence its use would seem to call for accompanying lectures or for previous preparation in courses on histology and general biology.

We are glad to see that the authors have not cast the book in the form of a laboratory guide; structures are described in their proper order and relation, the amount of space devoted to the different systems of organs being determined not only by their relative importance, but also by the amount of work on each which can be expected from the average student. Thus, for example, almost one-half of the entire work is devoted to a description of the bones and muscles, and but one-eighth to the viscera.

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