

ment of *Gymnarchus* (the first of the *Mormyridæ* to be made known embryologically) by Richard Assheton; and shorter articles by Mr. Boulenger on the fishes of the Gambia, by Dr. Bles on the development of the Anura; and one by Mr. Browne on a fresh-water medusa, discovered by Budgett in the delta of the Niger, that seems to be identical with the *Limnocnida* found in Lake Tanganyika. It is impossible here to review the results of these works in detail, but a special word should be spoken in commendation of the excellence, and often the truly artistic quality, of the illustrations, many of which are from Budgett's own drawings.

Budgett showed a rare union of technical skill and morphological insight in laboratory research with uncommon abilities as a field naturalist. His diaries reveal a true lover of nature, one having a wide range of interests in living things, alertly awake to natural beauty, and steadfastly unsparing of himself in the pursuit of his special aim. His was not the only life to be sacrificed in the pursuit of the *Polypterus* development. Nathan R. Harrington died at Atbara in the summer of 1899 while leading an expedition sent out from Columbia University on the same quest. The results attained through Budgett's success are of great and permanent value to science, but they have cost a heavy price.

W.

*A Popular History of Astronomy during the Nineteenth Century.* By AGNES M. CLERKE. New York, The Macmillan Company. 1908. Pp. vi + 489. \$2.75 net.

This is a reprint, without change, of the fourth edition, which appeared in 1902 and was widely reviewed at that time. This well-known work is accurate, lucid and interesting. It is already on the shelves of every astronomer's library, but should more universally be found in school and circulating libraries.

It is to be regretted that the few errors and omissions which are to be found in the fourth edition were not corrected in this reprint. Failure in this respect is doubtless due to the lamented death of the author in 1907. The publishers, however, should have had made

such obvious and easy corrections as the change in the date of the death of Lassell from 1818 to 1880 (p. 83), and the substitution of the word "geminatio" for "germinatio" when describing the canals of Mars (p. 279), and should have supplied in Table V. the missing but easily obtainable data regarding focal lengths of various telescopes listed therein.

STORRS B. BARRETT

#### SCIENTIFIC JOURNALS AND ARTICLES

THE July number (volume 9, number 3) of the *Transactions of the American Mathematical Society* contains the following papers:

W. H. ROEVER: "Brilliant points of curves and surfaces."

OSWALD VEBLE: "Continuous increasing functions of finite and transfinite ordinals."

E. J. WILCZYNSKI: "Projective differential geometry of curved surfaces (third memoir)."

A. L. UNDERHILL: "Invariants of the function  $F(x, y, x', y')$  in the calculus of variations."

R. G. D. RICHARDSON: "The integration of a sequence of functions and its application to iterated integrals."

#### SPECIAL ARTICLES

##### DEGENERATION, ALBINISM AND INBREEDING

IN a paper before the American Philosophical Society last spring I showed that often when the two parents have any organ or quality A in two conditions, A + and A —, of which the former is a highly developed or progressive condition, the latter a poorly developed or even absent condition, the former condition will regularly dominate over the latter. In the particular case of human hair color we find, for example, that children are not ordinarily darker than their darker parent. Consequently, if both parents have flaxen hair the children will have hair of the same sort. From this principle, applied generally, it follows that when both parents have an organ in a low condition of development it will be so also in all of their children. This principle explains the persisting or increasing degeneration in the descendants of two degenerate parents.

When one parent has an organ in a minus