mony to the favor in which it is held by students in its own language, and it can be safely predicted that the new English translation will gain a large following among students of medicine in English-speaking countries. The work of the translators can be commended freely and that of the publishers equally.

SIMON FLEXNER.

JOHNS HOPKINS UNIVERSITY.

SOCIETIES AND ACADEMIES.

ZOOLOGICAL CLUB, UNIVERSITY OF CHICAGO. MEETINGS OF THE SPRING QUARTER, 1898.

THE METAMERISM OF HIRUDO MEDICINALIS.

RESULTS were obtained by the use of gold chloride and methylen blue.

The typical somite consists of the double nerve cord, Faivre's nerve, Leydig's cells, six ganglionic sacs, and two pairs of nerves, the anterior of which carries accessory ganglia. The anterior nerve is the principal sensory one, innervating all the ventral sense organs and the marginal and outer lateral on the dorsal side. The posterior nerve innervates the inner lateral and the median sense organs of the dorsal side. The innervation is pentannulate and dimeric, the two posterior rings of one somite being united with the three anterior rings of the next somite in the innervation.

The anal ganglion is clearly made up of seven somites, as indicated by the forty-two ganglionic sacs and the seven pairs of double nerves. The brain, including the supra- and sub-œsophageal ganglia, is likewise composed of seven fused somites. This is proved by the presence of forty-two ganglionic sacs and also by the peripheral distribution of the nerves. Altogether, then, the body of Hirudo consists of thirty-five segments, seven in the head, twenty-one in the body and seven in the caudal region.

V. E. MCCASKILL.

THE AXES OF THE ANNELID EGG.

THE unfertilized egg of *Arenicola cristata* is flattened and elongated, thus possessing three axes of unequal lengths—approximately 1:1.8:2.2. The germinal vesicle lies somewhat nearer one end of the shortest axis and thus furnishes the only means of orientation at this time, since the cytoplasmic structure is uniform. Direct proof of the coincidence of these axes with those found at later stages is thus impossible, but the probability of coincidence is great.

At the time of formation of the first polar spindle the relations of the axes are 1:1.66:2.00; after fertilization and before cleavage and in the resting stages of two and four cells 1:1.37:1.50, eight cell stage 1:1.27:1.27.

In all cases the polar axis is the shortest, and, after cleavage begins, the longest axis is always parallel to the second cleavage plane and the third axis parallel to the first cleavage plane. Thus the first cleavage-spindle lies in the longest axis. In later stages the egg approaches a spherical form. The constancy of the axes in all cases where orientation is possible renders it extremely probable that they are always constant. The two long axes coincide with none of the axes of the adult, but are parallel with the first two cleavage planes.

C. M. CHILD.

Reviews and other papers presented during the quarter: 'Professor Minot on the Ancestry of Vertebrates,' A. L. Treadwell; 'Spermatogenesis of the Rat' (von Lenhossék), M. F. Guyer; 'Finer Anatomy of the Nerve Cell' (van Gehuchten), G. W. Hunter; 'Origin and Variation of the Wing-bars of Pigeons,' Dr. C. O. Whitman; 'Structure and Development of the Lens in Lower Vertebrates' (Rabl), Miss E. R. Gregory; 'Luminous Organs of Vertebrates,' Dr. S. Watasé; 'Cell-Lineage and Ancestral Reminiscences' (Wilson), A. L. Treadwell; 'The Placentation of Perameles' (Hill), Dr. W. M. Wheeler; 'The Eyes of Amphioxus' (Hesse), Dr. W. M. Wheeler.

NEW BOOKS.

The Nature and Development of Animal Intelligence. WESLEY MILLS. New York, The Macmillan Company. 1898. Pp. x + 307. $2.00.

An Illustrated Flora of the United States, Canada and the British Possessions. N. L. BRITTON and ADDISON BROWN. New York, Charles Scribner's Sons. 1898. Vol. III. Pp. xiv+ 588. $3.00.