Numerous amœboid cells are always present in the uterus among the embryos. These are probably concerned in the nutrition of the embryos, since they may be seen passing through the uterine wall, and the uterus is surrounded by a great quantity of cells filled with yellow granules, probably of food material.

Perhaps the most important developmental point thus far made out is that the peribranchial sacs *arise as two well defined ectodermal invaginations on the dorsal side of the embryo.*

The results, then, support the conclusions of Kowalevsky, Seeliger, Willey, Hjort and Caullery on this head, and oppose those of Della Valle, van Beneden et Julin, Pizon and Garstang, who hold, in one way and another, that these structures arise from the endoderm.

Notes on Chelyosoma productum, Stimpson. F. W. BANCROFT.

An examination of about 20 individuals in the collections of the University of California shows that this western ascidian is quite distinct from its Atlantic and Arctic representative, *C. macleayanum.* Stimpson describes the species as having the disk, which is characteristic of the genus, divided into fourteen plates; but in the individuals examined the number was found to vary from thirteen to twenty. This variability is associated with a muscular system that is quite different from what is found in the other member of the genus. In *C. productum* the systems of short muscles joining adjacent plates are wanting, except around the orifices, and are replaced by a series of fibres extending from near the center of the disk to its periphery and some distance down the sides of the animal. The method of attachment of these muscles is different from that described for any other ascidian. Both ends of every bundle of muscle fibres are firmly attached to little projections of the inner surface of the test. On these the ectoderm is thrown into deep folds and pockets which greatly increase the surface of contact with the test, so that the muscles which are joined to the inner ends of the ectoderm cells cannot tear them away.

The matrix of the test, like that of some other tunicates, consists of an inner layer of cellulose and an outer one, very distinctly separated from it, which is not cellulose, and which corresponds to the 'yellow layer' of the early authors. In our species it is easily seen that this outer layer is formed from the cellulose matrix by the activity of the mesodermic bladder cells which the latter contains. The first traces of the 'yellow substance' are seen about isolated bladder cells near the outer layer, and all transitions can be traced from this stage until the cell and the yellow substance it has produced are incorporated into the outer layer. The other organs of *Chelyosoma* are of a less exceptional character and clearly show that it is more closely related to *Corella* than to any other genus.

On the Plan of Development of a Myxinoid. BASHFORD DEAN.

The marked dissimilarity in the development of Bdellostoma and Petromyzon was noted. In the former a large supply of yolk produces a merocytic condition at a very early stage; The head region of the embryo, appearing first, very much as in Elasmobranchs, takes its position near the animal pole; the body region is then laid down, apparently by concrescence, in an almost straight line extending in the direction of the yolk pole almost the entire length of the egg. The subsequent growth of the embryo constricts both head and tail from the yolk sac, and in very late stages an embryo of nearly two inches lies coiled within the egg A preliminary study confirms Professor Price's observations as to the great number of gill slits.

On the Early Development of Chimæra. Bashford Dean.

Emphasis was laid on the similarity of the embryonic characters of Chimeroid and Elasmobranch.

Amphiuma and the Cœcilians. J. S. Kingsley.

The various statements which had been advanced to show the relationships of *Amphiuma* and *Cœcilians* were considered, and it was pointed out that these statements were almost entirely based upon misinterpretation or misconception. The differences between the two were then emphasized, and it was shown that the structural features were opposed to the view of Cope that the Cæcilians had descended from an Amphiuma-like form, and to that of the Sarasins that *Amphiuma* was a neoteric Cæcilian. In the possession of an ethmoid, in structure of vertebræ, in the relations of palatine and trigeminal nerves, in structure of nephridia and genitalia and in circulatory apparatus, the Cæcilians differ from *Amphiuma* and from all Urodeles, and the group must be regarded as entirely distinct from Urodeles, and as having descended directly from some Stegocephalan ancestor.

Vertebral Intercalation in Necturus. (Read by title.) H. C. Bumpus.

Brachial and Lumbo-sacral Plexi in Necturus. F. C. Waite.

In *Necturus maculosus* the normal position of the pelvic girdle is with attachment to the 19th vertebra, but in about one-fourth the cases it is attached to the 20th vertebra. Unfrequent cases are found in which the attachment is asymmetrical, the sacral rib on one side being one segment anterior to that on the other side.

Study of the plexi in a series of specimens shows: (*a*) that the position of the brachial plexus does not vary with displacement of pelvic girdle, and so it is improbable that intercalation of vertebræ occurs anterior to the posterior spinal nerve (V) involved in this plexus; (*b*) with normal position of pelvic girdle there are two prevalent types of topography of the lumbo-sacral plexus which depend upon the manner of branching of the spinal nerves to form the crural nerve, and further that there is considerable variation in the strength of the nerves involved, causing a shifting within narrow limits of the 'source center' of the plexus. (*c*) When the girdle is attached to 20th vertebra the plexus shows a displacement posteriorly, but not in a corresponding degree through an entire segment. It thus occupies a position intermediate between the normal position and what would be its position were it displaced through an entire segment. (*d*) Where the girdle is attached asymmetrically the plexus does not show corresponding asymmetry, but is essentially symmetrical in one of the two segments involved.

The intermediate position of the plexus, the occurrence of symmetrical variation in position of girdle; of asymmetrically placed girdles and of supernumerary sacral ribs, appears to be explicable not upon ground of intercalation of vertebra nor of slipping of girdle during ontogeny, but upon the hypothesis that there are several segments in this region, in any one of which a girdle may be developed.

Discovery of a Huge Octopus on the Coast of Florida. A. E. Verrill.

The following officers were elected: President, C. S. Minot, Harvard; Vice-President, S. I. Smith, Yale; Secretary-Treasurer, G. H. Parker, Harvard; Members of the Executive Committee from the Society at large, J. S. Kingsley, Tufts, and Bashford Dean, Columbia.

G. H. Parker,

Harvard University. *Secretary.*