characteristic of swimming organisms which follow a spiral path, keeping the same side of the body always directed toward the axis of the spiral. A large number of organisms show this type of structure.

On the Early Development of Spermophilus Tridecemlineatus, a new Type of Mammalian Placentation: THOMAS G. LEE.

Spermophilus differs from other rodents in a temporary fixation of the blastocyst to the antimesometrial wall of the uterine cavity. Later the blastocyst detaches and the true placenta develops on the mesometrial wall. The uterine lumen resembles a capital T, the cross-bar being the mesometrial side. Tubular glands open on all mucous surfaces, later disappearing in the antimesometrial region. The ovum, entering the uterine cavity at the close of segmentation, forms a small blastocyst consisting of an outer or trophoblast layer and an inner cell-mass, which differentiates into ectodermal and entodermal portions. At the antiembryonal pole of the trophoblast a multinucleated syncytial mass develops which projects from the free surface. This fixation mass perforates the uterine epithelium and touches the growing vascular connective tissue. Enlarging, it becomes a rounded mushroom-shaped mass, convex next the connective tissue, cupped next the blastocyst. The thin margins gradually extend between the epithelium and connective tissue. Later numerous root-like processes develop composed of fine longitudinally striated protoplasm; these extend into the connective tissue of the mucosa. The anti-mesometrial portion of the uterine cavity loses its epithelium and rapidly dilates to accommodate the growing blastocyst. The fixation mass becomes a more and more shallow cup and the roots atrophy and disappear; the result being the separation of the blastocyst from its attachment. By means of a zone of trophoblast external to the germinal area the embryonal pole of the blastocyst becomes attached to the margins of the transverse mesometrial portion of the uterine cavity which retains its epithelial lining and forms the site of the true placenta. Later development is similar to that of the European form, *Spermophilus citellus,* described by A. Fleischmann. A detailed description of these stages with plates and discussion of literature will soon be published.

Demonstration of the Placentation of Spermophilus (stereopticon): THOMAS G. LEE.

Variation in the Box Elder Bug (Leptocoris): H. B. WARD.

Some Alaskan Sipunculids: H. B. WARD.

Cell-Homology: EDMUND B. WILSON.

In an analysis of the conception of cell-homology, it was pointed out that here, as elsewhere, the essential criterion of genetic homology is that of common ancestral descent, and that no purely embryological criterion is in itself adequate. That cell-homologies may be merely incidental or secondary to regional homologies of the egg as a whole applies equally to all forms of genetic homology and constitutes no valid argument against cell-homology; but, owing to the plasticity of cleavage-forms, cell-homologies may be more readily modified or even obliterated than other forms of homology. For practical purposes cells of like prospective value, giving rise to homologous structures, may, irrespective of their origin, be called *equivalent;* those of like ontogenetic origin and position may, irrespective of their fate, be called *homoblastic;* but neither equivalent nor homoblastic cells are necessarily homologous. The term homology (partial or complete) is applicable in cleavages of like pattern which have been derived from a common ancestral