The subterranean egg-burrow of this saltatory urodeles resembles somewhat closely that of *Ichthyophis*. The eggs are retained in a cluster and attended and kept moistened, probably with urine, by the female. A series of embryos taken from a single burrow will shortly be described.

New Facts regarding the Development of the Olfactory Nerve. W. A. Locy.

The early embryonic history of the olfactory nerve is known. There has been little advance in this direction since the appearance of Marshall's paper in 1878, who gave the history of the nerve prior to the formation of the lobe and anticipated by suggestion most of the views since expressed regarding its nature and relationships. The chief advances have been made in determining the source of the fibers (His, Disse and others), and in the minute structure of the olfactory lobe, ganglion, etc. (Cajal, Retzius and others). But, in the meantime, the early embryonic history has not been elucidated, and, even to-day, we do not possess the complete history of this nerve in any one animal.

This paper presented in outline the history of the olfactory nerve in *Acanthias* from its earliest appearance to adult conditions, embracing (*a*) the embryonic history of the olfactory nerve prior to the formation of the lobe, and (*b*) the formation of the olfactory lobe, its various transformations, and the subsequent history of the nerve. The chief point of interest consists in demonstrating a hitherto unrecognized olfactory nerve, and determining its history and relationships to the olfactory bundle. The new nerve arises from the summit of the forebrain near the median plane, and passes laterally into communication with the main olfactory and thence into the olfactory cup. It is the first one to appear and may, therefore, be primitive. It is ganglionated. It was discovered by dissections of very small embryos—it lies in such a position that its relationships would not be appreciated by study of sections made in any of the conventional planes.

There are two distinct, widely separated connections existing simultaneously between the olfactory epithelium and the brain-wall, one is dorsal and median (the new nerve) and the other is lateral. The latter is complex, consisting of two main divisions. The new nerve can be demonstrated in specimens, as early as 6–8 mm. in length. The two brain connections are well seen in embryos 16 mm. and upwards; they are very evident from 20mm. forwards. The lobe begins in specimens about 25mm. long; it is still small at 38mm., but well developed at 44 mm. and upwards. The fibers of the new nerve were traced into the olfactory epithelium. It was also shown to perish in the adult.

Review of Recent Evidence on the Segmentation of the Primitive Vertebrate Brain. W. A. Locy. (Read by title.)

The Metameric Value of the Sensory Components of the Cranial Nerves. C. Judson Herrick.

The primary segmental or branchiomeric nerve is conceived as comprising four components: somatic motor, viscero-motor, somatic sensory (general cutaneous) and viscero-sensory (communis). No cranial nerve of any gnathostome vertebrate has retained all these components.

In the head each sensory component, as a physiological adaptation, has been concentrated so that all its fibers tend to be related to a single center in the brain—the fasciculus communis (f. solitarius) and chief vagus nucleus in the case of the visceral sensory and the spinal fifth tract and related nuclei, chief sensory trigeminal n. and n. funiculi, in the case of the somatic sensory. This involves reduction of each component in some segments and hyper-