

Sylvius), which serves as a tubular communication between the third and fourth ventricles; while its walls are thickened to form the corpora quadrigemina and cerebral peduncles. The fore-brain undergoes great modification: its anterior part or **telencephalon** expands laterally in the form of two hollow vesicles, the cavities of which become the lateral ventricles, while the surrounding walls form the cerebral hemispheres and their commissures; the cavity of the posterior part or **diencephalon** forms the greater part of the third ventricle, and from its walls are developed most of the structures which bound that cavity.

THE HIND-BRAIN OR RHOMBENCEPHALON.

The **hind-brain** or **rhombencephalon** occupies the posterior fossa of the cranial cavity and lies below a fold of dura mater, the **tentorium cerebelli**. It consists of (a) the **myelencephalon**, comprising the medulla oblongata and the lower part of the fourth ventricle; (b) the **metencephalon**, consisting of the pons, cerebellum, and the intermediate part of the fourth ventricle; and (c) the **isthmus rhombencephali**, a constricted portion immediately adjoining the mid-brain and including the superior peduncles of the cerebellum, the anterior medullary velum, and the upper part of the fourth ventricle.

The Medulla Oblongata (*spinal bulb*).—The medulla oblongata extends from the lower margin of the pons to a plane passing transversely below the pyramidal decussation and above the first pair of cervical nerves; this plane corresponds with the upper border of the atlas behind, and the middle of the odontoid process of the axis in front; at this level the medulla oblongata is continuous with the medulla spinalis. Its anterior surface is separated from the basilar part of the occipital bone and the upper part of the odontoid process by the membranes of the brain and the occipitoaxial ligaments. Its posterior surface is received into the fossa between the hemispheres of the cerebellum, and the upper portion of it forms the lower part of the floor of the fourth ventricle.

The medulla oblongata is pyramidal in shape, its broad extremity being directed upward toward the pons, while its narrow, lower end is continuous with the medulla spinalis. It measures about 3 cm. in length, about 2 cm. in breadth at its widest part, and about 1.25 cm. in thickness. The central canal of the medulla spinalis is prolonged into its lower half, and then opens into the cavity of the fourth ventricle; the medulla oblongata may therefore be divided into a lower *closed part* containing the central canal, and an upper *open part* corresponding with the lower portion of the fourth ventricle.

The **Anterior Median Fissure** (*fissura mediana anterior; ventral or ventromedian fissure*) contains a fold of pia mater, and extends along the entire length of the medulla oblongata: it ends at the lower border of the pons in a small triangular expansion, termed the **foramen cecum**. Its lower part is interrupted by bundles of fibers which cross obliquely from one side to the other, and constitute the **pyramidal decussation**. Some fibers, termed the **anterior external arcuate fibers**, emerge from the fissure above this decussation and curve lateralward and upward over the surface of the medulla oblongata to join the inferior peduncle.

The **Posterior Median Fissure** (*fissura mediana posterior; dorsal or dorsomedian fissure*) is a narrow groove; and exists only in the closed part of the medulla oblongata; it becomes gradually shallower from below upward, and finally ends about the middle of the medulla oblongata, where the central canal expands into the cavity of the fourth ventricle.

These two fissures divide the closed part of the medulla oblongata into symmetrical halves, each presenting elongated eminences which, on surface view, are continuous with the funiculi of the medulla spinalis. In the open part the halves are separated by the anterior median fissure, and by a median raphé which