of Monro. This sulcus ends anteriorly at the medial end of the optic stalk, and in the adult brain is retained as a slight groove extending backward from the interventricular foramen to the cerebral aqueduct.

At a very early period—in some animals before the closure of the cranial part of the neural tube—two lateral diverticula, the **optic vesicles**, appear, one on either side of the fore-brain; for a time they communicate with the cavity of the fore-brain by relatively wide openings. The peripheral parts of the vesicles expand, while the proximal parts are reduced to tubular stalks, the **optic stalks.** The optic vesicle gives rise to the retina and the epithelium on the back of the ciliary body and iris; the optic stalk is invaded by nerve fibers to form the optic nerve. The fore-brain then grows forward, and from the alar laminæ of this front portion the cerebral hemispheres originate as diverticula which rapidly expand to form two large pouches, one on either side. The cavities of these diverticula are the rudiments of the lateral ventricles; they communicate with the median part of the fore-brain cavity by relatively wide openings, which ultimately form the interventricular

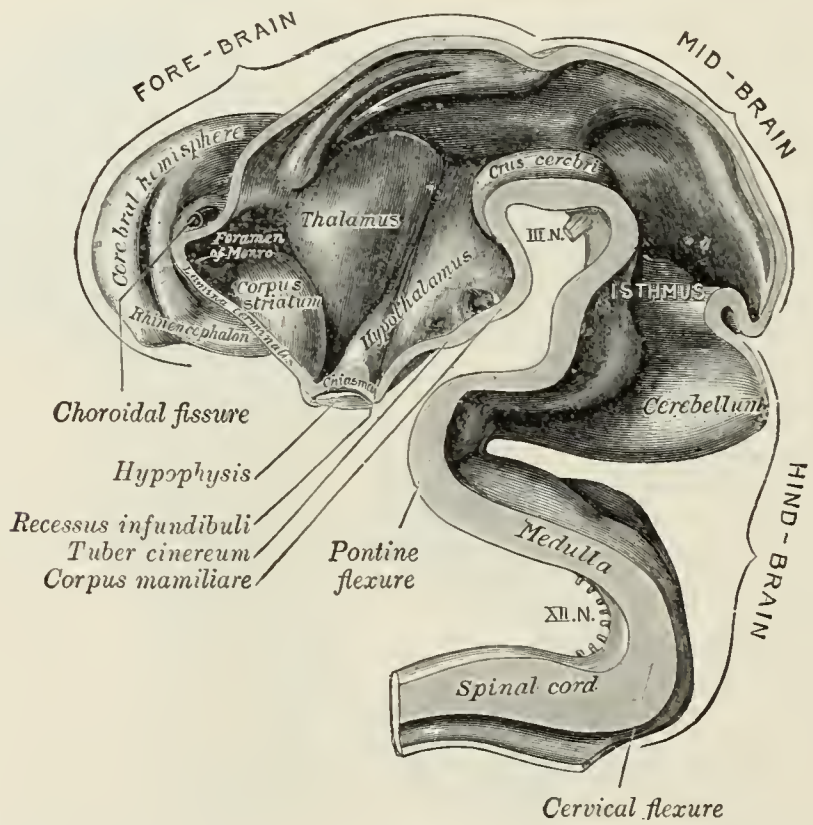

Fig. 653.—Interior of brain of human embryo of five weeks. (From model by His.)

foramen. The median portion of the wall of the fore-brain vesicle consists of a thin lamina, the **lamina terminalis** (Figs. 654, 657), which stretches from the interventricular foramen to the recess at the base of the optic stalk. The anterior part of the fore-brain, including the rudiments of the cerebral hemispheres, is named the **telencephalon**, and its posterior portion is termed the **diencephalon**; both of these contribute to the formation of the third ventricle.

The Diencephalon.—From the alar lamina of the diencephalon, the thalamus, metathalamus, and epithalamus are developed. The **thalamus** (Figs. 650 to 654) arises as a thickening which involves the anterior two-thirds of the alar lamina. The two thalami are visible, for a time, on the surface of the brain, but are subsequently hidden by the cerebral hemispheres which grow backward over them. The thalami extend medialward and gradually narrow the cavity between them into a slit-like aperture which forms the greater part of the third ventricle; their medial surfaces ultimately adhere, in part, to each other, and the **intermediate**