

matter of the cerebral hemispheres. The roof-plate of the telencephalon remains thin, and is continuous in front with the lamina terminalis and behind with the roof-plate of the diencephalon. In the basal laminae and floor-plate the *pars optica hypothalami* is developed; this comprises the anterior part of the tuber cinereum, the infundibulum and posterior lobe of the hypophysis, and the optic chiasma. The anterior part of the tuber cinereum is derived from the posterior part of the floor of the telencephalon; the infundibulum and posterior lobe of the hypophysis arise as a downward diverticulum from the floor. The most dependent part of the diverticulum becomes solid and forms the posterior lobe of the hypophysis; the anterior lobe of the hypophysis is developed from a diverticulum of the ectodermal lining of the stomodeum. The optic chiasma is formed by the meeting and partial decussation of the optic nerves, which subsequently grow backward as the optic tracts and end in the diencephalon.

The **cerebral hemispheres** arise as diverticula of the alar laminae of the telencephalon (Figs. 650 to 654); they increase rapidly in size and ultimately overlap the structures developed from the mid- and hind-brains. This great expansion

of the hemispheres is a characteristic feature of the brains of mammals, and attains its maximum development in the brain of man. Elliott-Smith divides each cerebral hemisphere into three fundamental parts, viz., the **rhinencephalon**, the **corpus striatum**, and the **neopallium**.

The **rhinencephalon** (Fig. 655) represents the oldest part of the telencephalon, and forms almost the whole of the hemisphere in fishes, amphibians, and reptiles. In man it is feebly developed in comparison with the rest of the hemisphere, and comprises the following parts, viz., the olfactory lobe (con-

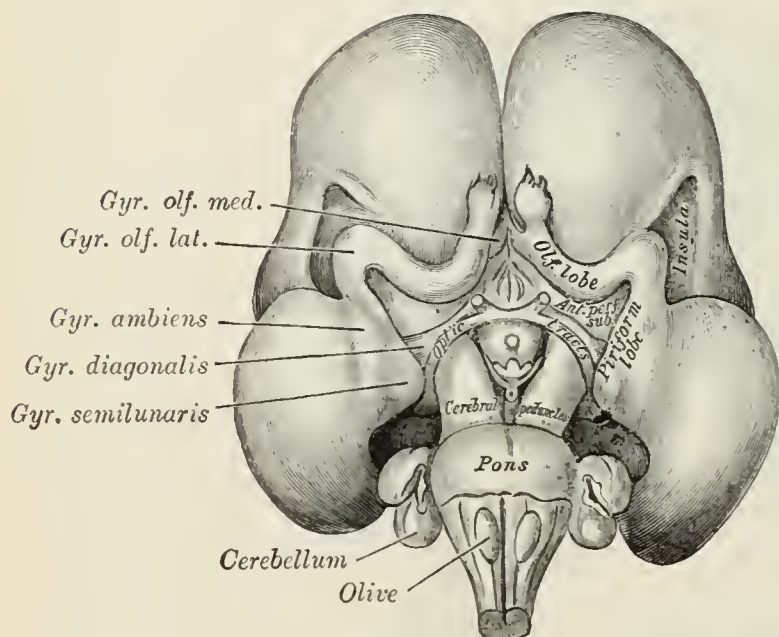


FIG. 655.—Inferior surface of brain of embryo at beginning of fourth month. (From Kollmann.)

sisting of the olfactory tract and bulb and the trigonum olfactorium), the anterior perforated substance, the septum pellucidum, the subcallosal, supracallosal, and dentate gyri, the fornix, the hippocampus, and the uncus. The rhinencephalon appears as a longitudinal elevation, with a corresponding internal furrow, on the under surface of the hemisphere close to the lamina terminalis; it is separated from the lateral surface of the hemisphere by a furrow, the **external rhinal fissure**, and is continuous behind with that part of the hemisphere, which will ultimately form the anterior end of the temporal lobe. The elevation becomes divided by a groove into an anterior and a posterior part. The anterior grows forward as a hollow stalk the lumen of which is continuous with the anterior part of the ventricular cavity. During the third month the stalk becomes solid and forms the rudiment of the olfactory bulb and tract; a strand of gelatinous tissue in the interior of the bulb indicates the position of the original cavity. From the posterior part the anterior perforated substance and the pyriform lobe are developed; at the beginning of the fourth month the latter forms a curved elevation continuous behind with the medial surface of the temporal lobe, and consisting, from before backward, of the gyrus olfactorius lateralis, gyrus ambiens, and gyrus semilunaris, parts which