

Broca) and course backward in the longitudinal striæ to the dentate gyrus and the hippocampal region. The indusium is usually considered as a rudimentary part of the rhinencephalon.

The **olfactory projection fibers** which arise from the pyramid cells of the uncus and hippocampus and from the polymorphic cells of the dentate gyrus form a dense stratum on the ventricular surface, especially on the hippocampus, called the **alveus**. These fibers pass over into the fimbria and are continued into the **fornix**. About one-fourth of all the fibers of the fimbria are large projection fibers, the other three-fourths consist of fine commissural fibers which pass from the hippocampus of one side through the fimbria and **hippocampal commissure** (*ventral psalterium or lyre*), to the fimbria and hippocampus of the opposite side where they penetrate the pyramidal layer and terminate in the stratum radiatum. The fibers which course in the fornix pass forward and downward into the corpora mammillare where numerous collaterals are given off and a few terminate. Most of the fibers in the fornix, however, pass through the corpora, cross the middle line and turn downward in the reticular formation in which they are said to be traceable as far as the pons and possibly farther. As the fornix passes beneath the corpus callosum it receives fibers from the longitudinal striæ of the indusium and from the cingulum; these are the perforating fibers of the fornix which pass through the corpus callosum and course in the fornix toward the mammillary body. As the fornix passes the anterior end of the thalamus a few fibers are given off to the stria medullaris of the thalamus and turn back in the stria to the habenular ganglion of the same and the opposite side, having probably the same relation that the reflex fibers have which arise from the primary centers and course in the stria medullaris of the thalamus. Aside from the fibers of the fornix which pass through the mammillary body to decussate and descend (as the mammillo-mesencephalic fasciculus), many fibers are said to pass into the **bundle of Vicq d'Azyr**, and one bundle of fibers is said to pass from the fornix to the tuber cinereum.

The mammillary bodies receive collaterals and terminals then from the cortical centers via the fornix and probably other collaterals and terminals are received directly from the primary centers through the tractus olfactomesencephalicus. According to Cajal fibers also reach the mammillary body through the peduncle of the corpus mammillare from the arcuate fibers of the tegmentum and from the main fillet. The fornix probably brings the cortical centers into relation with the reflex path that runs from the primary centers to the mammillary body and the tuber cinereum.

The **bundle of Vicq d'Azyr** (*mammillo-thalamic fasciculus*) arises from cells in both the medial and lateral nuclei of the mammillary body and by fibers that are directly continued from the fornix. There axons divide within the gray matter; the coarser branches pass into the anterior nucleus of the thalamus as the bundle of Vicq d'Azyr, the finer branches pass downward as the mammillo-tegmental bundle of Gudden. The bundle of Vicq d'Azyr spreads out fan-like as it terminates in the anterior or dorsal nucleus of the thalamus. A few of the fibers pass through the dorsal nucleus to the angular nucleus of the thalamus. The axons from these nuclei are supposed to form part of the thalamocortical system.

The mammillo-tegmental bundle has already been considered under the olfactory reflex paths.

The **amygdaloid nucleus** and the **tænia semicircularis** (*stria terminalis*) probably belong to the central olfactory apparatus. The tænia semicircularis extends from the region of the anterior perforated substance to the nucleus amygdalæ. Its anterior connections are not clearly understood. Fibers are said to arise from cells in the anterior perforated substance; some of the fibers pass in front of the anterior commissure, others join the fornix for a short distance as they pass behind the anterior commissure. The two strands ultimately join to form the tænia and pass