

The superior colliculus, the pulvinar, and the lateral geniculate body receive many fibers from the optic tracts, and are therefore intimately connected with sight, constituting what are termed the **lower visual centers**. Extirpation of the eyes in a newly born animal entails an arrest of the development of these centers, but has no effect on the medial geniculate bodies or on the inferior colliculi. Moreover, the latter are well-developed in the mole, an animal in which the superior colliculi are rudimentary.

The **Epithalamus** comprises the **trigonum habenulæ**, the **pineal body**, and the **posterior commissure**.

The **trigonum habenulæ** is a small depressed triangular area situated in front of the superior colliculus and on the lateral aspect of the posterior part of the tænia thalami. It contains a group of nerve cells termed the **ganglion habenulæ**. Fibers enter it from the stalk of the pineal body, and others, forming what is termed the **habenular commissure**, pass across the middle line to the corresponding ganglion of the opposite side. Most of its fibers are, however, directed downward and form a bundle, the **fasciculus retroflexus** of Meynert, which passes medial to the red nucleus, and, after decussating with the corresponding fasciculus of the opposite side, ends in the interpeduncular ganglion.

The **pineal body** (*corpus pineale; epiphysis*) is a small, conical, reddish-gray body which lies in the depression between the superior colliculi. It is placed beneath the splenium of the corpus callosum, but is separated from this by the tela chorioidea of the third ventricle, the lower layer of which envelops it. It measures about 8 mm. in length, and its base, directed forward, is attached by a stalk or peduncle of white substance. The **stalk** of the pineal body divides anteriorly into two laminae, a dorsal and a ventral, separated from one another by the pineal recess of the third ventricle. The ventral lamina is continuous with the posterior commissure; the dorsal lamina is continuous with the habenular commissure and divides into two strands the medullary striæ, which run forward, one on either side, along the junction of the medial and upper surfaces of the thalamus to blend in front with the columns of the fornix.

The **posterior commissure** is a rounded band of white fibers crossing the middle line on the dorsal aspect of the upper end of the cerebral aqueduct. Its fibers acquire their medullary sheaths early, but their connections have not been definitely determined. Most of them have their origin in a nucleus, the **nucleus of the posterior commissure** (*nucleus of Darkschewitsch*), which lies in the central gray substance of the upper end of the cerebral aqueduct, in front of the nucleus of the oculomotor nerve. Some are probably derived from the posterior part of the thalamus and from the superior colliculus, while others are believed to be continued downward into the medial longitudinal fasciculus.

The **Hypothalamus** (Fig. 720) includes the **subthalamic tegmental region** and the structures forming the greater part of the floor of the third ventricle, viz., the **corpora mammillaria**, **tuber cinereum**, **infundibulum**, **hypophysis**, and **optic chiasma**.

The **subthalamic tegmental region** consists of the upward continuation of the tegmentum; it lies on the ventro-lateral aspect of the thalamus and separates it from the fibers of the internal capsule. The red nucleus and the substantia nigra are prolonged into its lower part; in front it is continuous with the substantia innominata of Meynert, medially with the gray substance of the floor of the third ventricle.

It consists from above downward of three strata: (1) **stratum dorsale**, directly applied to the under surface of the thalamus and consisting of fine longitudinal fibers; (2) **zona incerta**, a continuation forward of the formatio reticularis of the tegmentum; and (3) the **corpus subthalamicum** (*nucleus of Luys*), a brownish mass presenting a lenticular shape on transverse section, and situated on the dorsal aspect of the fibers of the base of the cerebral peduncle; it is encapsuled by a lamina