

in the upper part of the medulla oblongata, lies between the lemniscus and the gray substance of the rhomboid fossa. The longitudinal fibers in the reticularis grisea are derived from the lateral funiculus of the medulla spinalis after the lateral cerebrospinal fasciculus has passed over to the opposite side, and the dorsal spino-cerebellar fasciculus has entered the inferior peduncle. They form indeterminate fibers, with the exception of a bundle named the *fasciculus solitarius*, which is made up of descending fibers of the vagus and glossopharyngeal nerves. The transverse fibers of the formatio reticularis are the arcuate fibers already described (page 782).

The Pons (*pons Varoli*).—The pons or forepart of the hind-brain is situated in front of the cerebellum. From its superior surface the cerebral peduncles emerge, one on either side of the middle line. Curving around each peduncle, close to the upper surface of the pons, a thin white band, the *tænia pontis*, is frequently seen; it enters the cerebellum between the middle and superior peduncles. Behind and below, the pons is continuous with the medulla oblongata, but is separated from it in front by a furrow in which the abducent, facial, and acoustic nerves appear.

Its **ventral or anterior surface** (*pars basilaris pontis*) is very prominent, markedly convex from side to side, less so from above downward. It consists of transverse fibers arched like a bridge across the middle line, and gathered on either side into a compact mass which forms the **middle peduncle**. It rests upon the clivus of the sphenoidal bone, and is limited above and below by well-defined borders. In the middle line is the **sulcus basilaris** for the lodgement of the basilar artery; this sulcus is bounded on either side by an eminence caused by the descent of the cerebrospinal fibers through the substance of the pons. Outside these eminences, near the upper border of the pons, the trigeminal nerves make their exit, each consisting of a smaller, medial, motor root, and a larger, lateral, sensory root; vertical lines drawn immediately beyond the trigeminal nerves, may be taken as the boundaries between the ventral surface of the pons and the middle cerebellar peduncle.

Its **dorsal or posterior surface** (*pars dorsalis pontis*), triangular in shape, is hidden by the cerebellum, and is bounded laterally by the superior peduncle; it forms the upper part of the rhomboid fossa, with which it will be described.

Structure (Fig. 701).—Transverse sections of the pons show it to be composed of two parts which differ in appearance and structure: thus, the basilar or ventral portion consists for the most part of fibers arranged in transverse and longitudinal bundles, together with a small amount of gray substance; while the dorsal tegmental portion is a continuation of the reticular formation of the medulla oblongata, and most of its constituents are continued into the tecta of the cerebral peduncles.

The **basilar part** of the pons consists of—(a) superficial and deep transverse fibers, (b) longitudinal fasciculi, and (c) some small nuclei of gray substance, termed the *nuclei pontis* which give rise to the transverse fibers.

The **superficial transverse fibers** (*fibrae pontis superficiales*) constitute a rather thick layer on the ventral surface of the pons, and are collected into a large rounded bundle on either side of the middle line. This bundle, with the addition of some transverse fibers from the deeper part of the pons, forms the greater part of the *brachium pontis*.

The **deep transverse fibers** (*fibrae pontis profundæ*) partly intersect and partly lie on the dorsal aspect of the cerebrospinal fibers. They course to the lateral border of the pons, and form part of the middle peduncle; the further connections of this *brachium* will be discussed with the anatomy of the cerebellum.

The **longitudinal fasciculi** (*fasciculi longitudinales*) are derived from the cerebral peduncles, and enter the upper surface of the pons. They stream downward on either side of the middle line in larger or smaller bundles, separated from each other by the deep transverse fibers; these longitudinal bundles cause a forward