trapezoid body. This consists of fibers which arise from the cells of the cochlear nucleus, and will be referred to in connection with the cochlear division of the acoustic nerve. In the substance of the trapezoid body is a collection of nerve cells, which constitutes the **trapezoid nucleus.** The longitudinal fibers, which are continuous with those of the medulla oblongata, are mostly collected into two fasciculi on either side. One of these lies between the trapezoid body and the reticular formation, and forms the upward prolongation of the lemniscus; the second is situated near the floor of the fourth ventricle, and is the **medial longitudinal fasciculus.** Other longitudinal fibers, more diffusely distributed, arise from the cells of the gray substance of the pons.

The rest of the dorsal part of the pons is a continuation upward of the formatio reticularis of the medulla oblongata, and, like it, presents the appearance of a network, in the meshes of which are numerous nerve cells. Besides these scattered nerve cells, there are some larger masses of gray substance, viz., the superior olivary nucleus and the nuclei of the trigeminal, abducent, facial, and acoustic nerves (Fig. 696).

1. The **superior olivary nucleus** (*nucleus olivaris superior*) is a small mass of gray substance situated on the dorsal surface of the lateral part of the trapezoid body. Rudimentary in man, but well developed in certain animals, it exhibits the same structure as the inferior olivary nucleus, and is situated immediately above it. Some of the fibers of the trapezoid body end by arborizing around the cells of this nucleus, while others arise from these cells.

2. The **nuclei of the trigeminal nerve** (*nuclei n. trigemini*) in the pons are two in number: a motor and a sensory. The **motor nucleus** is situated in the upper part of the pons, close to its posterior surface and along the line of the lateral margin of the fourth ventricle. It is serially homologous with the nucleus ambiguus and the dorso-lateral cell group of the anterior column of the spinal cord. The axis-cylinder processes of its cells form the motor root of the trigeminal nerve. The **mesencephalic root** arises from the gray substance of the floor of the cerebral aqueduct, joins the motor root and probably conveys fibers of muscle sense from the temporal, masseter and pterygoid muscles. It is not altogether clear whether the mesencephalic root is motor or sensory. The **sensory nucleus** is lateral to the motor one, and beneath the superior peduncle. Some of the sensory fibers of the trigeminal nerve end in this nucleus; but the greater number descend, under the name of the spinal tract of the trigeminal nerve, to end in the substantia gelatinosa of Rolando. The roots, motor and sensory, of the trigeminal nerve pass through the substance of the pons and emerge near the upper margin of its anterior surface.

3. The **nucleus of the abducent nerve** (*nucleus n. abducentis*) is a circular mass of gray substance situated close to the floor of the fourth ventricle, above the striæ medullares and subjacent to the medial eminence: it lies a little lateral to the ascending part of the facial nerve. The fibers of the abducent nerve pass forward through the entire thickness of the pons on the medial side of the superior olivary nucleus, and between the lateral fasciculi of the cerebrospinal fibers, and emerge in the furrow between the lower border of the pons and the pyramid of the medulla oblongata.

4. The **nucleus of the facial nerve** (*nucleus n. fascialis*) is situated deeply in the reticular formation of the pons, on the dorsal aspect of the superior olivary nucleus, and the roots of the nerve derived from it pursue a remarkably tortuous course in the substance of the pons. At first they pass backward and medialward until they reach the rhomboid fossa, close to the median sulcus, where they are collected into a round bundle; this passes upward and forward, producing an elevation, the **colliculus facialis,** in the rhomboid fossa, and then takes a sharp bend, and arches lateralward through the substance of the pons to emerge at its lower border in the interval between the olive and the inferior peduncle of the medulla oblongata.