

fibers join the optic tract as it passes over the edge of the medial geniculate and passes through the posterior part of the optic chiasma. It is probably a commissure connected with the auditory system.

The **Vestibular Nerve** (*vestibular root, VIII cranial*) arise from the bipolar cells in the vestibular ganglion (Scarpa's ganglion). The peripheral fibers end in the semicircular canals, the saccule and the utricle, the end-organs concerned with mechanism for the maintenance of bodily equilibrium. The central fibers enter the medulla oblongata and pass between the inferior peduncle and the spinal tract of the trigeminal. They bifurcate into ascending and descending branches as do the dorsal root fibers of all the spinal nerves and all afferent cranial nerves. The descending branches terminate in the dorsal (medial) vestibular nucleus, the principal nucleus of the vestibular nerve. This nucleus is prolonged downward into a descending portion in which end terminals and collaterals of the descending branch. The ascending branches pass to Deiters's nucleus, to Bechterew's nucleus

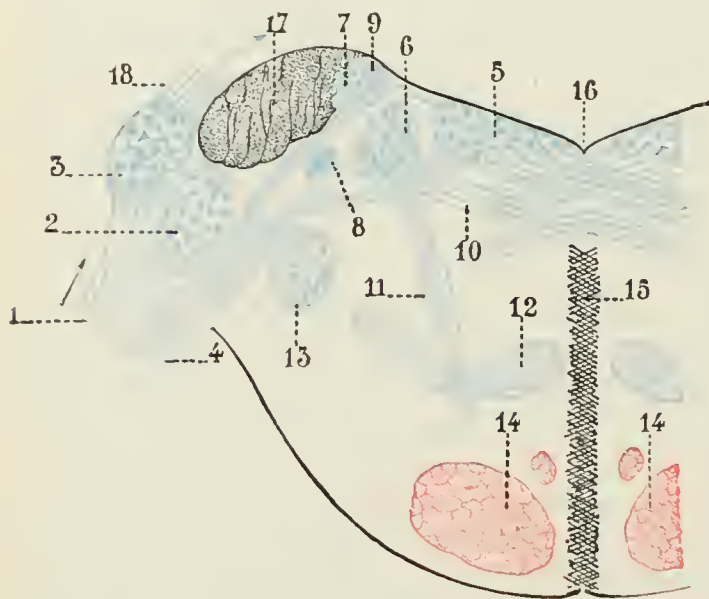


FIG. 761.—Terminal nuclei of the vestibular nerve, with their upper connections. (Schematic.) 1. Cochlear nerve, with its two nuclei. 2. Accessory nucleus. 3. Tuberculum acusticum. 4. Vestibular nerve. 5. Internal nucleus. 6. Nucleus of Deiters. 7. Nucleus of Bechterew. 8. Inferior or descending root of acoustic. 9. Ascending cerebellar fibers. 10. Fibers going to raphé. 11. Fibers taking an oblique course. 12. Lemniscus. 13. Inferior sensory root of trigeminal. 14. Cerebrospinal fasciculus. 15. Raphé. 16. Fourth ventricle. 17. Inferior peduncle. Origin of striæ medullares. (Testut.)

and through the inferior peduncle of the cerebellum to the nucleus tecti of the opposite side.

The **dorsal vestibular nucleus** (*medial or principal nucleus*) is a large mass of small cells in the floor of the fourth ventricle under the area acustica, located partly in the medulla and partly in the pons. The striæ medullares cross the upper part of it. It is separated from the median plane by the nucleus intercalatus. Its axons pass into the posterior longitudinal bundle of the same and the opposite side and ascend to terminate in the nucleus abducens of the same side and in the trochlear nucleus and the oculo-motor nucleus of the opposite side, and to the motor nuclei of the trigeminal on both sides. The descending portion, the nucleus of the descend-

ing tract extends downward as far as the upper end of the nucleus gracilis, and the decussation of the medial lemniscus. It is sometimes called the **inferior vestibular nucleus**. Many of its axons cross the midline and probably ascend with the medial lemniscus to the ventro-lateral region of the thalamus.

The **lateral vestibular nucleus** (*Deiters's nucleus*) is the continuation upward and lateralward of the principal nucleus, and in it terminate many of the ascending branches of the vestibular nerve. It consists of very large multipolar cells whose axons form an important part of the posterior longitudinal bundle of the same and the opposite side. The axons bifurcate as they enter the posterior longitudinal bundle, the ascending branches send terminals and collaterals to the motor nuclei of the abducens, trochlear and oculomotor nerves, and are concerned in coördinating the movements of the eyes with alterations in the position of the head; the descending branches pass down in the posterior longitudinal bundle into the anterior funiculus of the spinal cord as the vestibulospinal fasciculus (anterior marginal bundle) and are distributed to motor nuclei of the anterior column by terminals and collaterals. Other fibers are said to pass directly to the vestibulospinal fasciculus without passing into the posterior longitudinal bundle. The fibers which pass into the