

Cochlear Nerve.—The cochlear nerve or root, the **nerve of hearing**, arises from bipolar cells in the spiral ganglion of the cochlea, situated near the inner edge of the osseous spiral lamina. The peripheral fibers pass to the organ of Corti. The central ones pass down the modiolus and then through the foramina of the tractus spiralis foraminosus or through the foramen centrale into the lateral or outer end of the internal auditory meatus. The nerve passes along the internal auditory meatus with the vestibular nerve and across the subarachnoid space, just above the flocculus, almost directly medialward toward the inferior peduncle to terminate in the cochlear nucleus.

The cochlear nerve is placed lateral to the vestibular root. Its fibers end in two nuclei: one, the **accessory nucleus**, lies immediately in front of the inferior peduncle; the other, the **tuberculum acusticum**, somewhat lateral to it.

The **striæ medullares** (*striæ acusticæ*) are the axons of the cells of the tuberculum acusticum. They pass over the inferior peduncle, and across the rhomboid fossa to the median sulcus. Here they dip into the substance of the pons, to end around the cells of the superior olivary nuclei of both sides. There are, however, other fibers, and these are both direct and crossed, which pass into the lateral lemniscus. The cells of the accessory nucleus give origin to fibers which run transversely in the pons and constitute the trapezium. Of the trapezoid fibers some end around the cells of the superior olivary nucleus or of the trapezoid nucleus of the same or opposite side, while others, crossed or uncrossed, pass directly into the lateral lemniscus.

If the further connections of the cochlear nerve of one side, say the left, be considered, it is found that they lie lateral to the main sensory tract, the lemniscus, and are therefore termed the **lateral lemniscus**. The fibers comprising the left lateral lemniscus *arise* in the superior olivary and trapezoid nuclei of the same or opposite side, while others are the uninterrupted fibers already alluded to, and these are either crossed or uncrossed, the former being the axons of the cells of the right accessory nucleus or of the cells of the right tuberculum acusticum, while the latter are derived from the cells of the left nuclei. In the upper part of the lateral lemniscus there is a collection of nerve cells, the **nucleus of the lateral lemniscus**, around the cells of which some of the fibers arborize and from the cells of which axons originate to continue upward the tract of the lateral lemniscus. The ultimate ending of the left lateral lemniscus is partly in the opposite medial geniculate body, and partly in the inferior colliculi. From the cells of these bodies new fibers arise and ascend in the occipital part of the internal capsule to reach the posterior three-fifths of the left superior temporal gyrus and the transverse temporal gyri.

Vestibular Nerve.—The vestibular nerve or root, the **nerve of equilibration**, arises from bipolar cells in the vestibular ganglion, **ganglion of Scarpa**, which is situated in the upper part of the outer end of the internal auditory meatus. The peripheral fibers divide into three branches: the superior branch passes through the foramina in the area vestibularis superior and ends in the utricle and in the ampullæ of the superior and lateral semicircular ducts; the fibers of the inferior branch traverse the foramina in the area vestibularis inferior and end in the saccule; the posterior branch runs through the foramen singulare and supplies the ampulla of the posterior semicircular duct.

THE GLOSSOPHARYNGEAL NERVE (N. GLOSSOPHARYNGEUS; NINTH NERVE) (Figs. 791, 792, 793).

The **glossopharyngeal nerve** contains both motor and sensory fibers, and is distributed, as its name implies, to the tongue and pharynx. It is the nerve of ordinary sensation to the mucous membrane of the pharynx, fauces, and palatine tonsil, and the nerve of taste to the posterior part of the tongue. It is attached by three or