

vestibulospinal fasciculus are intimately concerned with equilibratory reflexes. Other axons from Deiters's nucleus are supposed to cross and ascend in the opposite medial lemniscus to the ventro-lateral nuclei of the thalamus; still other fibers pass into the cerebellum with the inferior peduncle and are distributed to the cortex of the vermis and the roof nuclei of the cerebellum; according to Cajal they merely pass through the nucleus fastigii on their way to the cortex of the vermis and the hemisphere.

The **superior vestibular nucleus** (*Bechterew's nucleus*) is the dorso-lateral part of the vestibular nucleus and receives collaterals and terminals from the ascending branches of the vestibular nerve. Its axons terminate in much the same manner as do those from the lateral nucleus.

The **Facial Nerve** (*VII cranial*) consists of somatic sensory, sympathetic afferent, taste, somatic motor and sympathetic efferent fibers. The afferent or sensory fibers arise from cells in the geniculate ganglion. This portion of the nerve is often described as the *nervus intermedius*.

(1) The **somatic sensory fibers** are few in number and convey sensory impulses from the middle ear region. Their existence has not been fully confirmed. Their central termination is likewise uncertain, it is possible that they join the spinal tract of the trigeminal as do the somatic sensory fibers of the vagus and glossopharyngeal.

(2) The **sympathetic afferent fibers** are likewise few in number and of unknown termination.

(3) **Taste fibers** convey impulses from the anterior two-thirds of the tongue via the chorda tympani. They are supposed to join the tractus solitarius and terminate in its nucleus. The central connections of this nucleus have already been considered.

(4) **Somatic motor fibers**, supplying the muscles derived from the hyoid arch, arise from the large multipolar cells of the nucleus of the facial nerve. This nucleus is serially homologous with the nucleus ambiguus and lateral part of the anterior column of the spinal cord. Voluntary impulses from the cerebral cortex are conveyed by terminals and collaterals of the pyramidal tract of the opposite side, indirectly, that is with the interpolation of a connecting neuron, to the facial nucleus. This nucleus undoubtedly receives many reflex fibers from various sources, *i. e.*, from the superior colliculus via the ventral longitudinal bundle (*tectospinal fasciculus*) for optic reflexes; from the inferior colliculus via the auditory reflex path; and indirectly from the terminal sensory nuclei of the brain-stem. Through the posterior longitudinal bundle it is intimately connected with other motor nuclei of the brain-stem.

(5) **Sympathetic efferent fibers** (*preganglionic fibers*) arise according to some authors from the small cells of the facial nucleus, or according to others from a special nucleus of cells scattered in the reticular formation, dorso-medial to the facial nucleus. This is sometimes called the **superior salivatory nucleus**. These preganglionic fibers are distributed partly via the chorda tympani and lingual nerves to the submaxillary ganglion, thence by postganglionic (vasodilator) fibers to the submaxillary and sublingual glands. Some of the preganglionic fibers pass to the sphenopalatine ganglion via the great superficial petrosal nerve.

The **Abducens Nerve** (*VI cranial*) contains somatic motor fibers only which supply the lateral rectus muscle of the eye. The fibers arise from the nucleus of the abducens nerve and pass ventrally through the *formatio reticularis* of the pons to emerge in the transverse groove between the caudal edge of the pons and the pyramid. The nucleus is serially homologous with the nuclei of the trochlear and oculomotor above and with the hypoglossal and medial part of the anterior column of the spinal cord below. It is situated close to the floor of the fourth ventricle, just above the level of the *striae medullares*. Voluntary impulses from the cerebral