decussate across the midline to the opposite colliculus. Other fibers from the superior brachium pass into the **stratum opticum** (upper gray-white layer). Some of these turn upward into the gray cap while others terminate among the cells of this layer. Since the superior colliculi appear to be the central organs concerned in the control of eye-muscle movements and eye-muscle reflexes we should expect to find them receiving fibers from other sensory paths. Many fibers pass to the superior colliculus from the medial fillet as the latter passes through the tegmentum bringing the superior colliculus into relation with the sensory fibers of the spinal cord. Fibers from the central sensory path of the trigeminal probably pass with these. Part of the ventral spinocerebellar tract (Gowers) is said to pass up through the reticular formation of the pons and mid-brain toward the superior colliculus and the thalamus. The superior colliculus is intimately connected with the central auditory path (the **lateral lemniscus**), as part of its fibers pass the inferior colliculus and terminate in the superior colliculus. They are probably concerned with reflex movements of the eyes depending on auditory stimuli. The superior colliculus is said to receive fibers from the stria medullaris thalamis of the opposite side which pass through the commissura habenulæ and turn back to the roof of the mid-brain, especially to the superior colliculus. By this path both the primary and cortical olfactory centers are brought into relation with the eye-muscle reflex apparatus.

The fibers which pass to the nuclei of the eye muscles arise from large cells in the stratum opticum and stratum lemnisci and pass around the ventral aspect of the central gray matter where most of them cross the midline in the fountain decussation of Meynert, and then turn downward to form the ventral longitudinal bundle. This bundle runs down partly through the red nucleus, in the formatio reticularis, ventral to the posterior longitudinal bundle of the mid-brain, pons and medulla oblongata into the ventral funiculus of the spinal cord where it is known as the **tectospinal fasciculus.** Some of the fibers are said to pass down with the rubrospinal tract in the lateral funiculus. Some fibers do not decussate but pass down in the ventral longitudinal bundle of the same side on which they arise unless possibly they come from the opposite colliculus over the aqueduct. From the ventral longitudinal bundle collaterals are given off to the nuclei of the eye muscles, the oculomotor, the trochlear and the abducens. Many collaterals pass to the red nucleus, and are probably concerned with the reflexes of the rubrospinal tract. The fibers of the tectospinal tract end by collaterals and terminals either directly or indirectly among the motor cells in the anterior column of the spinal cord.

The superior colliculus receives fibers from the visual sensory area of the occipital cortex; they pass in the optic radiation. Probably no fibers pass from the superior colliculus to the visual sensory cortex.

The **Olfactory Nerves** (*I cranial*) or **nerves of smell** arise from spindle-shaped bipolar cells in the surface epithelium of the olfactory region of the nasal cavity. The non-medullated axons pass upward in groups through numerous foramina in the cribriform plate to the olfactory bulb; here several fibers, each ending in a tuft of terminal filaments, come into relation with the brush-like end of a single dendrite from a mitral cell. This interlacing gives rise to the olfactory glomeruli of the bulb. The termination of several or many olfactory fibers in a single glomerulus where they form synapses with the dendrites of one or two mitral cells provides for the summation of stimuli in the mitral cells and accounts in part at least for the detection by the olfactory organs of very dilute solutions. Lateral arborizations of the dendrites of the mitral cells and the connection of neighboring glomeruli by the axons of small cells of the glomeruli and the return of impulses of the mitral cells by collaterals either directly or through the interpolation of granule cells to the dendrites of the mitral cells reinforce the discharge of the mitral cells along their axons. The axons turn abruptly backward in the deep fiber layer of the bulb to