These preganglionic fibers terminate in sympathetic ganglia from which the impulses are carried by other neurons. The cells of the dorsal nucleus are spindle-shaped, like those of the posterior column of the spinal cord, and the nucleus is usually considered as representing the base of the posterior column. It measures about 2 cm. in length, and in the lower, closed part of the medulla oblongata is situated behind the hypoglossal nucleus; whereas in the upper, open part it lies lateral to that nucleus, and corresponds to an eminence, named the **ala cinerea** (*trigonum vagi*), in the rhomboid fossa.

4. The **nuclei of the cochlear and vestibular nerves** are described on page 788.

5. The **olivary nuclei** (Fig. 694) are three in number on either side of the middle line, viz., the inferior olivary nucleus, and the medial and dorsal accessory olivary nuclei; they consist of small, round, yellowish cells and numerous fine nerve fibers. (*a*) The **inferior olivary nucleus** is the largest, and is situated within the olive. It consists of a gray folded lamina arranged in the form of an incomplete capsule, opening medially by an aperture called the **hilum**; emerging from the hilum are numerous fibers which collectively constitute the **peduncle of the olive.** The axons, **olivocerebellar fibers,** which leave the olivary nucleus pass out through the hilum and decussate with those from the opposite olive in the raphé, then as internal arcuate fibers they pass partly through and partly around the opposite olive and enter the inferior peduncle to be distributed to the cerebellar hemisphere of the opposite side from which they arise. The fibers are smaller than the internal arcuate fibers connected with the median lemniscus. Fibers passing in the opposite direction from the cerebellum to the olivary nucleus are often described but their existence is doubtful. Much uncertainty also exists in regard to the connections of the olive and the spinal cord. Important connections between the cerebrum and the olive of the same side exist but the exact pathway is unknown. Many collaterals from the reticular formation and from the pyramids enter the inferior olivary nucleus. Removal of one cerebellar hemisphere is followed by atrophy of the opposite olivary nucleus. (*b*) The **medial accessory olivary nucleus** lies between the inferior olivary nucleus and the pyramid, and forms a curved lamina, the concavity of which is directed laterally. The fibers of the hypoglossal nerve, as they

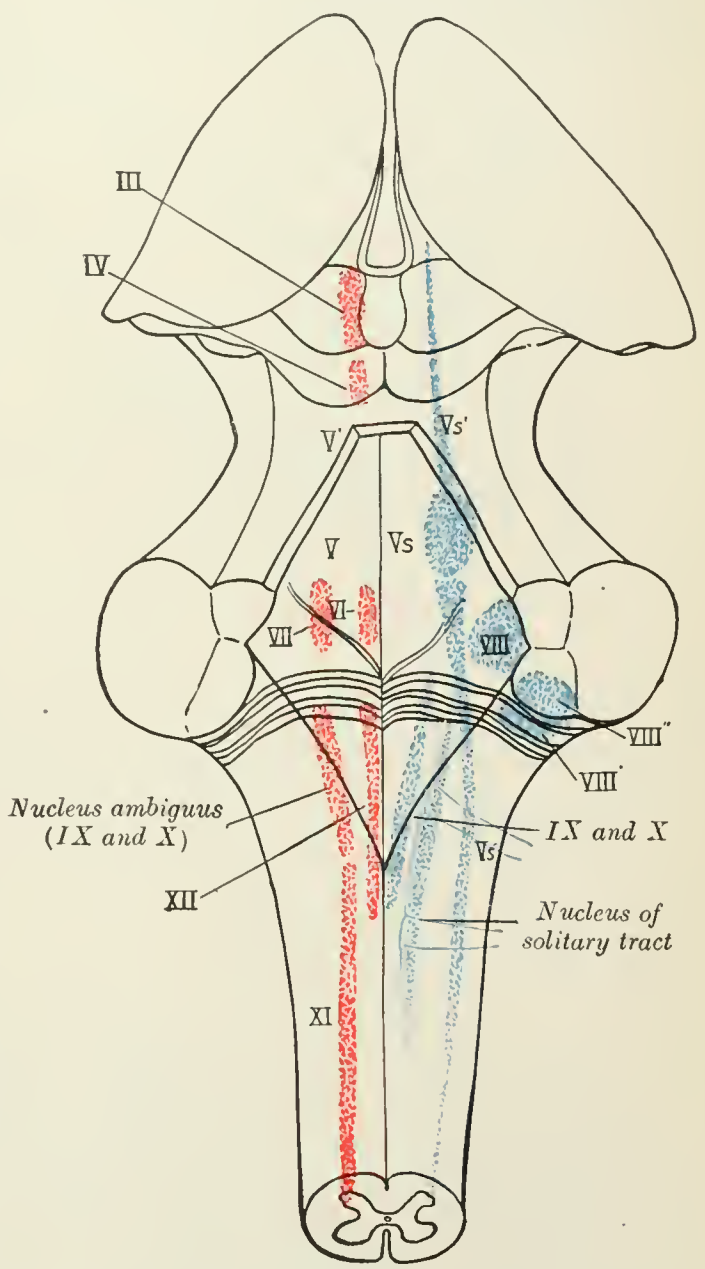

FIG. 696.—The cranial nerve nuclei schematically represented; dorsal view. Motor nuclei in red; sensory in blue. (The olfactory and optic centers are not represented.)