through the mass of connective tissue which unites the two nerves. As the nerve winds around the occipital artery it gives off a filament to the pharyngeal plexus.

The communication with the sympathetic takes place opposite the atlas by branches derived from the superior cervical ganglion, and in the same situation the nerve is joined by a filament derived from the loop connecting the first and second cervical nerves.

The communications with the lingual take place near the anterior border of the Hyoglossus by numerous filaments which ascend upon the muscle.

Branches of Distribution.—The branches of distribution of the hypoglossal nerve are:

Meningeal.	Thyrohyoid.
Descending.	Muscular.

Of these branches, the meningeal, descending, thyrohyoid, and the muscular twig to the Geniohyoideus, are probably derived mainly from the branch which passes from the loop between the first and second cervical to join the hypoglossal (Fig. 795).

Meningeal Branches (*dural branches*).—As the hypoglossal nerve passes through the hypoglossal canal it gives off, according to Luschka, several filaments to the dura mater in the posterior fossa of the skull.

The **Descending Ramus** (*ramus descendens; descendens hypoglossi*), long and slender, quits the hypoglossal where it turns around the occipital artery and descends in front of or in the sheath of the carotid vessels; it gives a branch to the superior belly of the Omohyoideus, and then joins the communicantes cervicales from the second and third cervical nerves; just below the middle of the neck, to form a loop, the **ansa hypoglossi.** From the convexity of this loop branches pass to supply the Sternohyoideus, the Sternothyreoideus, and the inferior belly of the Omohyoideus. According to Arnold, another filament descends in front of the vessels into the thorax, and joins the cardiac and phrenic nerves.

The **Thyrohyoid Branch** (*ramus thyreohyoideus*) *arises* from the hypoglossal near the posterior border of the hyoglossus; it runs obliquely across the greater cornu of the hyoid bone, and supplies the Thyreohyoideus muscle.

The **Muscular Branches** are distributed to the Styloglossus, Hyoglossus, Geniohyoideus, and Genioglossus. At the under surface of the tongue numerous slender branches pass upward into the substance of the organ to supply its intrinsic muscles.

THE SPINAL NERVES (NERVI SPINALES).

The **spinal nerves** spring from the medulla spinalis, and are transmitted through the intervertebral foramina. They number thirty-one pairs, which are grouped as follows: Cervical, 8; Thoracic, 12; Lumbar, 5; Sacral, 5; Coccygeal, 1.

The **first cervical nerve** emerges from the vertebral canal between the occipital bone and the atlas, and is therefore called the **suboccipital nerve**; the eighth issues between the seventh cervical and first thoracic vertebræ.

Nerve Roots.—Each nerve is attached to the medulla spinalis by two roots, an **anterior** or **ventral**, and a **posterior** or **dorsal**, the latter being characterized by the presence of a ganglion, the **spinal ganglion.**

The **Anterior Root** (*radix anterior; ventral root*) emerges from the anterior surface of the medulla spinalis as a number of rootlets or filaments (*fila radicularia*), which coalesce to form two bundles near the intervertebral foramen.

The **Posterior Root** (*radix posterior; dorsal root*) is larger than the anterior owing to the greater size and number of its rootlets; these are attached along the posterolateral furrow of the medulla spinalis and unite to form two bundles which join the spinal ganglion. The posterior root of the first cervical nerve is exceptional in that it is smaller than the anterior; it is occasionally wanting.