

Its **roots** are three in number, and enter its posterior border. One, the long or sensory root, is derived from the nasociliary nerve, and joins its postero-superior angle. The second, the short or motor root, is a thick nerve (occasionally divided into two parts) derived from the branch of the oculomotor nerve to the Obliquus inferior, and connected with the postero-inferior angle of the ganglion. The motor root is supposed to contain sympathetic efferent fibers (preganglionic fibers) from the nucleus of the third nerve in the mid-brain to the ciliary ganglion where they form synapses with neurons whose fibers (postganglionic) pass to the Ciliary muscle and to Sphincter muscle of the pupil. The third, the sympathetic root, is a slender filament from the cavernous plexus of the sympathetic; it is frequently blended with the long root. According to Tiedemann, the ciliary ganglion receives a twig of communication from the sphenopalatine ganglion.

Its **branches** are the **short ciliary nerves**. These are delicate filaments, from six to ten in number, which *arise* from the forepart of the ganglion in two bundles connected with its superior and inferior angles; the lower bundle is the larger. They run forward with the ciliary arteries in a wavy course, one set above and the other below the optic nerve, and are accompanied by the long ciliary nerves from the nasociliary. They pierce the sclera at the back part of the bulb of the eye, pass forward in delicate grooves on the inner surface of the sclera, and are distributed to the Ciliaris muscle, iris, and cornea. Tiedemann has described a small branch as penetrating the optic nerve with the arteria centralis retinae.

The **Maxillary Nerve** (*n. maxillaris; superior maxillary nerve*) (Fig. 778), or **second division** of the trigeminal, is a sensory nerve. It is intermediate, both in position and size, between the ophthalmic and mandibular. It begins at the middle of the semilunar ganglion as a flattened plexiform band, and, passing horizontally forward, it leaves the skull through the foramen rotundum, where it becomes more cylindrical in form, and firmer in texture. It then crosses the pterygopalatine fossa, inclines lateralward on the back of the maxilla, and enters the orbit through the inferior orbital fissure; it traverses the infraorbital groove and canal in the floor of the orbit, and appears upon the face at the infraorbital foramen.<sup>1</sup> At its termination, the nerve lies beneath the Quadratus labii superioris, and divides into a leash of branches which spread out upon the side of the nose, the lower eyelid, and the upper lip, joining with filaments of the facial nerve.

**Branches.**—Its branches may be divided into four groups, according as they are given off in the **cranium**, in the **pterygopalatine fossa**, in the **infraorbital canal**, or on the **face**.

In the Cranium . . . . .	Middle meningeal.
In the Pterygopalatine Fossa . . . . .	{ Zygomatic.
	{ Sphenopalatine.
	{ Posterior superior alveolar.
In the Infraorbital Canal . . . . .	{ Anterior superior alveolar.
	{ Middle superior alveolar.
On the Face . . . . .	{ Inferior palpebral.
	{ External nasal.
	{ Superior labial.

The **Middle Meningeal Nerve** (*n. meningeus medius; meningeal or dural branch*) is given off from the maxillary nerve directly after its origin from the semilunar ganglion; it accompanies the middle meningeal artery and supplies the dura mater.

The **Zygomatic Nerve** (*n. zygomaticus; temporomalar nerve; orbital nerve*) arises in the pterygopalatine fossa, enters the orbit by the inferior orbital fissure, and divides at the back of that cavity into two branches, **zygomaticotemporal** and **zygomaticofacial**.

<sup>1</sup> After it enters the infraorbital canal, the nerve is frequently called the *infraorbital*.