The fibers of **tactile discrimination**, according to Head and Thompson, pass up in the fasciculus cuneatus and fasciculus gracilis of the same side and follow the path of the muscle-sense fibers. The axons of the second order arising in the nucleus cuneatus and gracilis cross with the internal arcuate fibers and ascend to the thalamus with the medial lemniscus, thence by neurons of higher order the impulses are carried to the somatic sensory area of the cortex through the internal capsule. The other **touch fibers**, shortly after entering the spinal cord, terminate in the dorsal column or intermediate gray matter. Neurons of the second order send their axons through the anterior commissure to pass upward in the antero-lateral funiculus probably in the **ventral spinothalamic fasciculus**. In the medulla they join or pass upward in the neighborhood of the medial lemniscus to the thalamus and thence by neurons of higher order to the somatic sensory area of the cortex.

The remaining ascending fasciculi form a part of the complex known as the **superficial antero-lateral fasciculus** (*tract of Gowers*). The **spinotectal fasciculus**, as its name indicates, is supposed to have its origin in the gray matter of the cord and terminations in the superior and inferior (?) colliculi of the mid-brain serving for reflexes between the cord and the visceral and auditory centers of the mid-brain.

The **spino-olivary fasciculus** (*olivospinal; bulbospinal, Helweg's bundle*) is likewise of unknown constitution and function; there is uncertainty even in regard to the direction of its fibers.

**Sympathetic afferent fibers** (*visceral afferent; viscero-sensory; splanchnic afferent*) enter the spinal cord by the posterior roots of the thoracic and first two or three lumbar nerves and the second to the fourth sacral nerves. The fibers pass to these nerves from the peripheral sympathetic system through the white rami communicantes. Some of the cell bodies of these afferent fibers are located in the spinal ganglia and others are in the sympathetic ganglia. Some of the afferent sympathetic fibers end about the cell bodies of somatic sensory neurons and visceral impulses are thus transmitted to these neurons which conduct them as well as their own special impulses to the spinal cord. Other sympathetic afferent neurons whose cell bodies are located in the spinal ganglia send collaterals to neighboring cells of somatic sensory neurons and thus have a double path of transmission to the spinal cord. Such an arrangement provides a mechanism for some of the referred pains.

These sympathetic afferent fibers presumably divide on entering the spinal cord into ascending and descending branches. Their distribution and termination within the spinal cord are unknown. Some of them probably eventually come into relation with the sympathetic efferent fibers whose cell bodies are located in the lateral column. Our knowledge concerning both the termination and origin of these fibers is very unsatisfactory.

The **sympathetic efferent fibers** (*splanchnic motor; viscero-motor; preganglionic fibers*) are supposed to arise from cells in the intermediate zone between the dorsal and ventral gray columns and in the intermedio-lateral column at the margin of the lateral column. These preganglionic sympathetic fibers are not distributed throughout the entire series of spinal nerves but are confined to two groups, the thoraco-lumbar from the first thoracic to the second or third lumbar nerves and the sacral group from the second to the fourth sacral nerves. They pass out with the anterior root fibers and through the rami communicantes to end in sympathetic ganglia. The impulses are distributed from cells in these ganglia through post-ganglionic fibers to the smooth muscles and glands. The thoraco-lumbar outflow and the sacral outflow form two distinct functional groups which are considered more fully under the sympathetic system.