

of the gray matter. The ventral spinocerebellar fasciculus begins about the level of the third pair of lumbar nerves, and can be followed into the medulla oblongata and pons almost to the level of the inferior colliculus where it crosses over the superior peduncle and then passes backward along its medial border to reach the vermis of the cerebellum. In the pons it lies along the lateral edge of the lateral lemniscus. Some of its fibers join the dorsal spinocerebellar fasciculus at the level of the inferior peduncle and pass with them into the cerebellum. Other fibers are said to continue upward in the dorso-lateral part of the tegmentum of the mid-brain probably as far as the thalamus.

(c) The **lateral spinothalamic fasciculus** is supposed to come from cells in the dorsal column and the intermediate gray matter whose axons cross in the anterior commissure to the opposite lateral funiculus where they pass upward on the medial side of the ventral spinocerebellar fasciculus; on reaching the medulla oblongata they continue in the formatio reticularis near the median fillet and probably terminate in the ventro-lateral region of the thalamus. It is supposed to conduct impulses of pain and temperature. The lateral and ventral spinothalamic fasciculi are sometimes termed the **secondary sensory fasciculus** or **spinal lemniscus**.

(d) The **spinotectal fasciculus** is supposed to arise in the dorsal column and terminate in the (inferior ?) and superior colliculi. It is situated ventral to the lateral spinothalamic fasciculus, but its fibers are more or less intermingled with it. It is also known as the **spino-quadrigeminal system of Mott**. In the brain-stem the fibers run lateral from the inferior olive, ventro-lateral from the superior olive, then ventro-medial from the spinal tract of the trigeminal; the fibers come to lie in the medial portion of the lateral lemniscus.

(e) The **fasciculus of Lissauer** is a small strand situated in relation to the tip of the posterior column close to the entrance of the posterior nerve roots. It consists of fine fibers which do not receive their medullary sheaths until toward the close of fetal life. It is usually regarded as being formed by some of the fibers of the posterior nerve roots, which ascend for a short distance in the tract and then enter the posterior column, but since its fibers are myelinated later than those of the posterior nerve roots, and do not undergo degeneration in locomotor ataxia, they are probably intersegmental in character.

In addition the fasciculus or **tract of Lissauer** contains great numbers of fine non-medullated fibers derived mostly from the dorsal roots but partly endogenous in origin. These fibers are intimately related to the substantia gelatinosa which is probably the terminal nucleus. The non-medullated fibers ascend or descend for short distances not exceeding one or two segments, but most of them enter the substantia gelatinosa at or near the level of their origin. Ransom¹ suggests that these non-medullated fibers and the substantia gelatinosa are concerned with the reflexes associated with pain impulses.

(f) The **lateral proper fasciculus** (*fasciculus lateralis proprius; lateral basis bundle*) constitutes the remainder of the lateral column, and is continuous in front with the anterior proper fasciculus. It consists chiefly of intersegmental fibers which arise from cells in the gray substance, and, after a longer or shorter course, reënter the gray substance and ramify in it. Some of its fibers are, however, continued upward into the brain under the name of the **medial longitudinal fasciculus**.

Fasciculi in the Posterior Funiculus.—This funiculus comprises two main fasciculi, viz., the **fasciculus gracilis**, and the **fasciculus cuneatus**. These are separated from each other in the cervical and upper thoracic regions by the postero-intermediate septum, and consist mainly of ascending fibers derived from the posterior nerve roots.

The **fasciculus gracilis** (*tract of Goll*) is wedge-shaped on transverse section, and lies next the posterior median septum, its base being at the surface of the medulla

¹ Ransom, Am. Jour. Anat., 1914; Brain, 1915.