

rough, and give attachment to the intervertebral fibrocartilages, and each presents a rim around its circumference. In front, the body is convex from side to side and concave from above downward. Behind, it is flat from above downward and slightly concave from side to side. Its anterior surface presents a few small apertures, for the passage of nutrient vessels; on the posterior surface is a single large, irregular aperture, or occasionally more than one, for the exit of the basi-vertebral veins from the body of the vertebra.

**Pedicles** (*radices arcu vertebræ*).—The pedicles are two short, thick processes, which project backward, one on either side, from the upper part of the body, at the junction of its posterior and lateral surfaces. The concavities above and below the pedicles are named the **vertebral notches**; and when the vertebræ are articulated, the notches of each contiguous pair of bones form the intervertebral foramina, already referred to.

**Laminæ**.—The laminæ are two broad plates directed backward and medialward from the pedicles. They fuse in the middle line posteriorly, and so complete the posterior boundary of the vertebral foramen. Their upper borders and the lower parts of their anterior surfaces are rough for the attachment of the ligamenta flava.

**Processes**.—**Spinous Process**. (*processus spinosus*).—The spinous process is directed backward and downward from the junction of the laminæ, and serves for the attachment of muscles and ligaments.

**Articular Processes**.—The articular processes, two superior and two inferior, spring from the junctions of the pedicles and laminæ. The superior project upward, and their articular surfaces are directed more or less backward; the inferior project downward, and their surfaces look more or less forward. The articular surfaces are coated with hyaline cartilage.

**Transverse Processes** (*processus transversi*).—The transverse processes, two in number, project one at either side from the point where the lamina joins the pedicle, between the superior and inferior articular processes. They serve for the attachment of muscles and ligaments.

**Structure of a Vertebra** (Fig. 83).—The body is composed of cancellous tissue, covered by a thin coating of compact bone; the latter is perforated by numerous orifices, some of large size for the passage of vessels; the interior of the bone is traversed by one or two large canals, for the reception of veins, which converge toward a single large, irregular aperture, or several small apertures, at the posterior part of the body. The thin bony lamellæ of the cancellous tissue are more pronounced in lines perpendicular to the upper and lower surfaces and are developed in response to greater pressure in this direction (Fig. 83). The arch and processes projecting from it have thick coverings of compact tissue.

### The Cervical Vertebræ (Vertebræ Cervicales).

The **cervical vertebræ** (Fig. 84) are the smallest of the true vertebræ, and can be readily distinguished from those of the thoracic or lumbar regions by the presence of a foramen in each transverse process. The first, second, and seventh present exceptional features and must be separately described; the following characteristics are common to the remaining four.

The **body** is small, and broader from side to side than from before backward. The **anterior and posterior surfaces** are flattened and of equal depth; the former

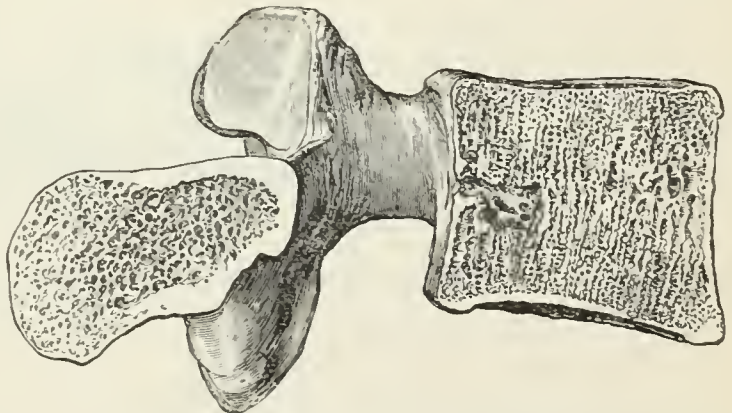


FIG. 83.—Sagittal section of a lumbar vertebra.