

ossification (Fawcett).¹ The medial joins the lateral pterygoid plate about the sixth month. About the fourth month a center appears for each lingula and speedily joins the rest of the bone.

The presphenoid is united to the postsphenoid about the eighth month, and at birth the bone is in three pieces (Fig. 148): a central, consisting of the body and small wings, and two lateral, each comprising a great wing and pterygoid process. In the first year after birth the great wings and body unite, and the small wings extend inward above the anterior part of the body, and, meeting with each other in the middle line, form an elevated smooth surface, termed the *jugum sphenoidale*. By the twenty-fifth year the sphenoid and occipital are completely fused. Between the pre- and postsphenoid there are occasionally seen the remains of a canal, the *canalis cranio-pharyngeus*, through which, in early fetal life, the hypophyseal diverticulum of the buccal ectoderm is transmitted.

The sphenoidal sinuses are present as minute cavities at the time of birth (Onodi), but do not attain their full size until after puberty.

Intrinsic Ligaments of the Sphenoid.—The more important of these are: the *pterygospinous*, stretching between the spina angularis and the lateral pterygoid plate (see *cervical fascia*); the *interclinoid*, a fibrous process joining the anterior to the posterior clinoid process; and the *caroticoclinoid*, connecting the anterior to the middle clinoid process. These ligaments occasionally ossify.

Articulations.—The sphenoid articulates with *twelve* bones: four single, the vomer, ethmoid, frontal, and occipital; and four paired, the parietal, temporal, zygomatic, and palatine.²

The Ethmoid Bone (*Os Ethmoidale*).

The **ethmoid bone** is exceedingly light and spongy, and cubical in shape; it is situated at the anterior part of the base of the cranium, between the two orbits, at the roof of the nose, and contributes to each of these cavities. It consists of four parts: a **horizontal** or **cribriform plate**, forming part of the base of the cranium; a **perpendicular plate**, constituting part of the nasal septum; and two **lateral masses** or **labyrinths**.

Cribriform Plate (*lamina cribrosa; horizontal lamina*).—The cribriform plate (Fig. 149) is received into the ethmoidal notch of the frontal bone and roofs in the nasal cavities. Projecting upward from the middle line of this plate is a thick, smooth, triangular process, the **crista galli**, so called from its resemblance to a cock's comb. The long thin posterior border of the crista galli serves for the attachment of the falx cerebri.

Its anterior border, short and thick, articulates with the frontal bone, and presents two small projecting *alæ*, which are received into corresponding depressions in the frontal bone and complete the foramen cecum. Its sides are smooth, and sometimes bulging from the presence of a small air sinus in the interior. On either side of the crista galli, the cribriform plate is narrow and deeply grooved; it supports the olfactory bulb and is perforated by foramina for the passage of the olfactory nerves. The foramina in the middle of the groove are small and transmit the nerves to the

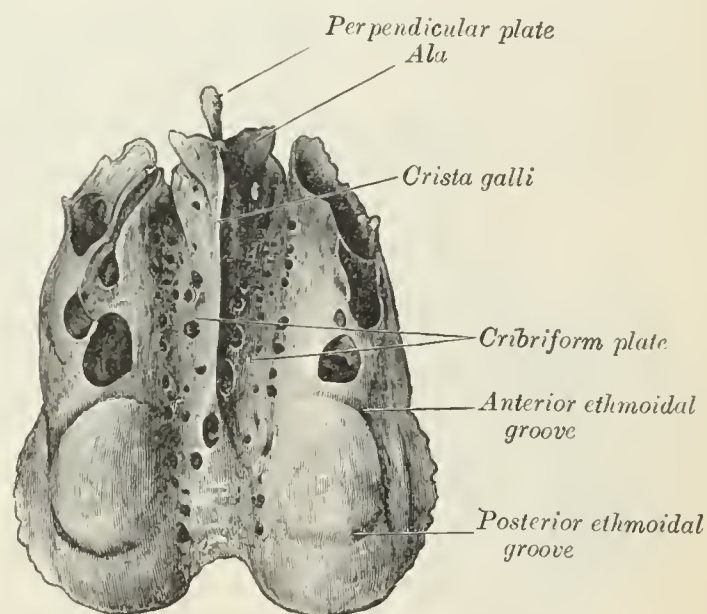


FIG. 149.—Ethmoid bone from above.

roof of the nasal cavity; those at the medial and lateral parts of the groove are larger—the former transmit the nerves to the upper part of the nasal septum, the latter those to the superior nasal concha. At the front part of the cribriform

¹ Anatomischer Anzeiger, March, 1905.

It also sometimes articulates with the tuberosity of the maxilla (see page 159).