and **posterior ethmoidal canals** by the ethmoid, and open on the medial wall of the orbit. The anterior canal transmits the nasociliary nerve and anterior ethmoidal vessels, the posterior, the posterior ethmoidal nerve and vessels. In front of the ethmoidal notch, on either side of the frontal spine, are the openings of the **frontal air sinuses.** These are two irregular cavities, which extend backward, upward, and lateralward for a variable distance between the two tables of the skull; they are separated from one another by a thin bony septum, which often deviates to one or other side, with the result that the sinuses are rarely symmetrical. Absent at birth, they are usually fairly well-developed between the seventh and eighth years, but only reach their full size after puberty. They vary in size in different persons, and are larger in men than in women.[1] They are lined by mucous membrane, and each communicates with the corresponding nasal cavity by means of a passage called the **frontonasal duct.**

Borders.—The **border of the squama** is thick, strongly serrated, bevelled at the expense of the inner table above, where it rests upon the parietal bones, and at the expense of the outer table on either side, where it receives the lateral pressure of those bones; this border is continued below into a triangular, rough surface, which articulates with the great wing of the sphenoid. The **posterior borders of the orbital plates** are thin and serrated, and articulate with the small wings of the sphenoid.

Structure.—The squama and the zygomatic processes are very thick, consisting of diploic tissue contained between two compact laminæ; the diploic tissue is absent in the regions occupied by the frontal air sinuses. The orbital portion is thin, translucent, and composed entirely of compact bone; hence the facility with which instruments can penetrate the cranium through this part of the orbit; when the frontal sinuses are exceptionally large they may extend backward for a considerable distance into the orbital portion, which in such cases also consists of only two tables.

Ossification (Fig. 136).—The frontal bone is ossified in membrane from *two primary* centers, one for each half, which appear toward the end of the second month of fetal life, one above each supraorbital margin. From each of these centers ossification extends upward to form the corresponding half of the squama, and backward to form the orbital plate. The spine is ossified from a pair of *secondary* centers, on either side of the middle line; similar centers appear in the nasal part and zygomatic processes. At birth the bone consists of two pieces, separated by the frontal suture, which is usually obliterated, except at its lower part, by the eighth year, but occasionally persists throughout life. It is generally maintained that the development of the frontal sinuses begins at the end of the first or beginning of the second year, but Onodi's researches indicate that development begins at birth. The sinuses are of considerable size by the seventh or eighth year, but do not attain their full proportions until after puberty.

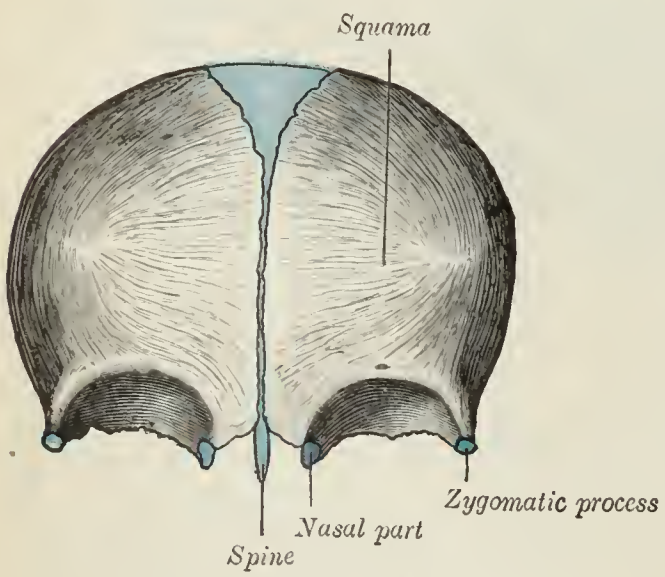

Fig. 136.—Frontal bone at birth.

Articulations.—The frontal articulates with *twelve* bones: the sphenoid, the ethmoid, the two parietals, the two nasals, the two maxillæ, the two lacrimals, and the two zygomatics.

The Temporal Bone (Os Temporale).

The **temporal bones** are situated at the sides and base of the skull. Each consists of five parts, viz., the **squama**, the **petrous, mastoid,** and **tympanic parts,** and the **styloid process.**

[1] Aldren Turner (The Accessory Sinuses of the Nose, 1901) gives the following measurements for a sinus of average size: height, 1¼ inches; breadth, 1 inch; depth from before backward, 1 inch.