



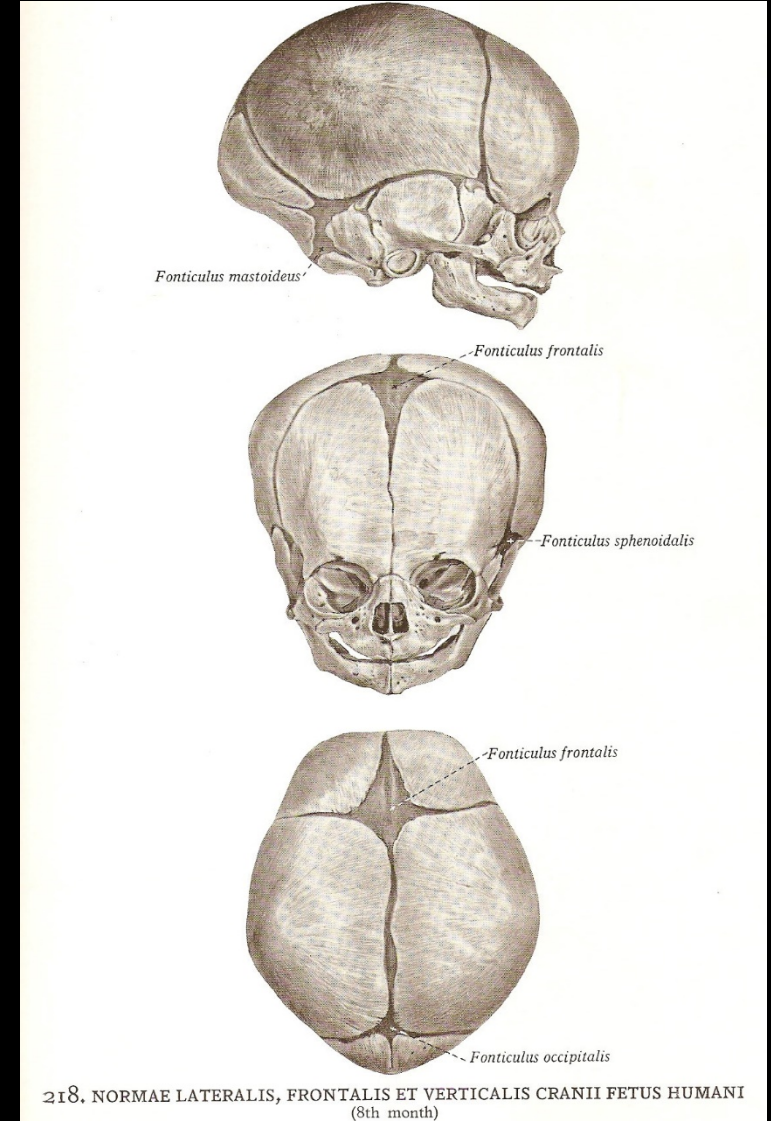
KAFA İSKELETİ DETAY

Kafatasını oluşturan kemikler birbirlerine **sutur** adı verilen dikişlerle bağlanırlar. Kafatasında yer alan en önemli suturlar:

- 1- Koronal sutur (Coronal sutur)
- 2- Sajital sutur (Sagittal sutur)
- 3- Lambda sutur (Lambdoid sutur)

Yeni doğmuş bir bebeğin kafatasında henüz suturlar oluşmamıştır. Kemikler birbirinden ayrıdır ve frontal ve parietaller ile parietallerle occipital arasında büyükçe boşluklar mevcuttur.

Fonticulus (bingıldak=fontenella) adı verilen bu boşluklar, önde olursa **fonticulus anterior**, arkada olursa **fonticulus occipitalis** olarak isimlendirilir.



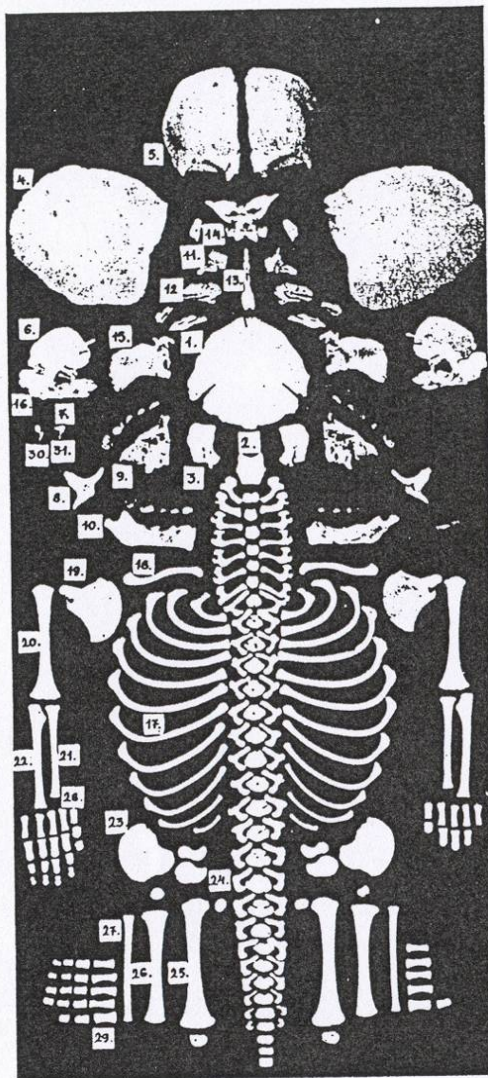


Fig. 31. Preparation of the skeleton of a 9-lunar-month-old male fetus.

1. Squama occipitalis:
a: 53.2 mm b: 52.5 mm
2. Basis ossis occipitalis:
a: 12 mm b: 13.5 mm
3. Pars lateralis ossis occipitalis:
a: 20.2 mm b: 12.1 mm
4. Os parietale:
a: 65.5 mm b: 61 mm
5. Os frontale:
a: 51.2 mm b: 42.4 mm
6. Squama temporalis:
a: 30.4 mm b: 28.2 mm
7. Annulus tympanicus:
a: 12.1 mm
8. Os zygomaticum:
a: 18.3 mm b: 22.3 mm
9. Maxilla:
a: 23 mm b: 31 mm
10. Mandibula:
a: 41.2 mm
11. Os palatinum:
a: 11.6 mm
12. Concha nasalis inferior:
a: 17.2 mm
13. Vomer:
a: 28.3 mm
14. Ala parva ossis sphenoidalis:
a: 14 mm b: 7.8 mm
Corpus ossis sphenoidalis:
a: 7.1 mm b: 12.5 mm
15. Ala magna ossis sphenoidalis:
a: 28.2 mm b: 15 mm
16. Os petrosum:
a: 30 mm b: 18 mm
17. Costae:
I. 18.2 mm VI. 51.7 mm
II. 32.4 mm VII. 52.3 mm
III. 43.0 mm VIII. 48.0 mm
IV. 48.0 mm IX. 44.0 mm
V. 51.0 mm X. 36.0 mm
18. Clavicula:
a: 35.6 mm
19. Scapula:
a: 26.6 mm b: 29.6 mm c: 25.4 mm
20. Humerus:
a: 52.3 mm b: 13.5 mm
21. Radius:
a: 45.5 mm
22. Ulna:
a: 47.9 mm
23. Os ilium:
a: 28 mm b: 26 mm
24. Os ischii: 14 mm
25. Femur:
a: 58.2 mm b: 19 mm
26. Tibia: 51 mm
27. Fibula: 48 mm
28. Metacarpus III.: 11 mm
29. Metatarsus III.: 11.5 mm
30. Malleus: 8 mm
31. Incus: 7 mm

1. Squama occipitalis:
a: 53 mm b: 55.4 mm
2. Basis ossis occipitalis:
a: 12.6 mm b: 13.7 mm
3. Pars lateralis ossis occipitalis:
a: 19 mm b: 9.3 mm
4. Os parietale:
a: 67.9 mm b: 64.6 mm
5. Os frontale:
a: 48.7 mm b: 39.6 mm
6. Squama temporalis:
a: 29 mm b: 26.1 mm
7. Annulus tympanicus: 11 mm
8. Os zygomaticum:
a: 20 mm b: 24.6 mm
9. Maxilla:
a: 24 mm b: 35 mm
10. Mandibula: 47 mm
11. Os palatinum: 13 mm
12. Concha nasalis inf.: 10 mm
13. Vomer: 29 mm
14. Ala parva ossis sphenoidalis:
a: 15 mm b: 9 mm
Corpus ossis sphenoidalis:
a: 10 mm b: 16 mm
15. Ala magna ossis sphenoidalis:
a: 27 mm b: 18.5 mm
16. Os petrosum:
a: 30 mm b: 18 mm
17. Costae:
I. 19.0 mm VI. 59.6 mm
II. 36.3 mm VII. 59.0 mm
III. 47.7 mm VIII. 56.2 mm
IV. 53.0 mm IX. 50.0 mm
V. 58.0 mm X. 47.8 mm
18. Clavicula: 38.7 mm
19. Scapula:
a: 28 mm b: 31 mm c: 25 mm
20. Humerus:
a: 58 mm b: 15 mm
21. Radius: 45.7 mm
22. Ulna: 52.7 mm
23. Os ilium:
a: 28.5 mm b: 25.5 mm
24. Os ischii: 15 mm
25. Femur:
a: 64 mm b: 17 mm
26. Tibia: 56 mm
27. Fibula: 53.6 mm
28. Metacarpus III.: 10.1 mm
29. Metatarsus III.: 12 mm
30. Malleus: 7.8 mm
31. Incus: 7.1 mm
32. Stapes: 3 mm

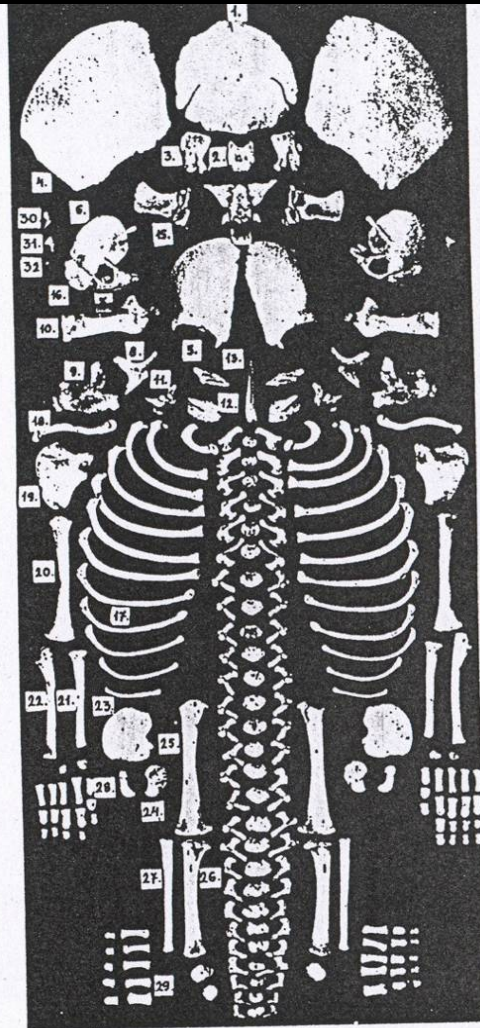


Fig. 32. Preparation of the skeleton of a 9 1/2-lunar-month-old fetus.

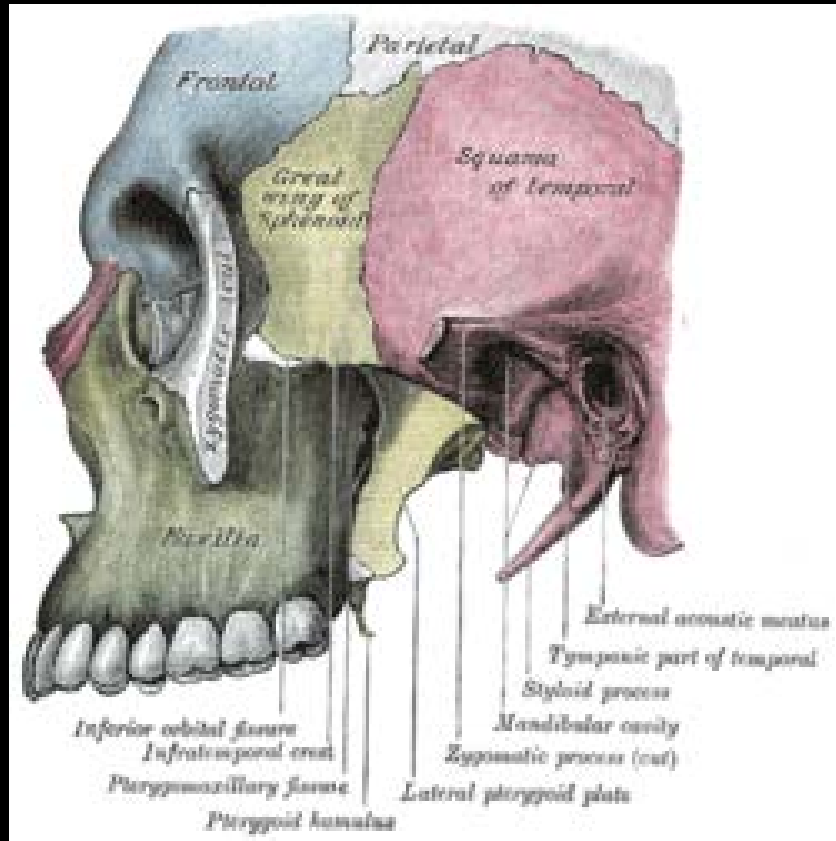


OS FRONTALE (Alın Kemiđi)

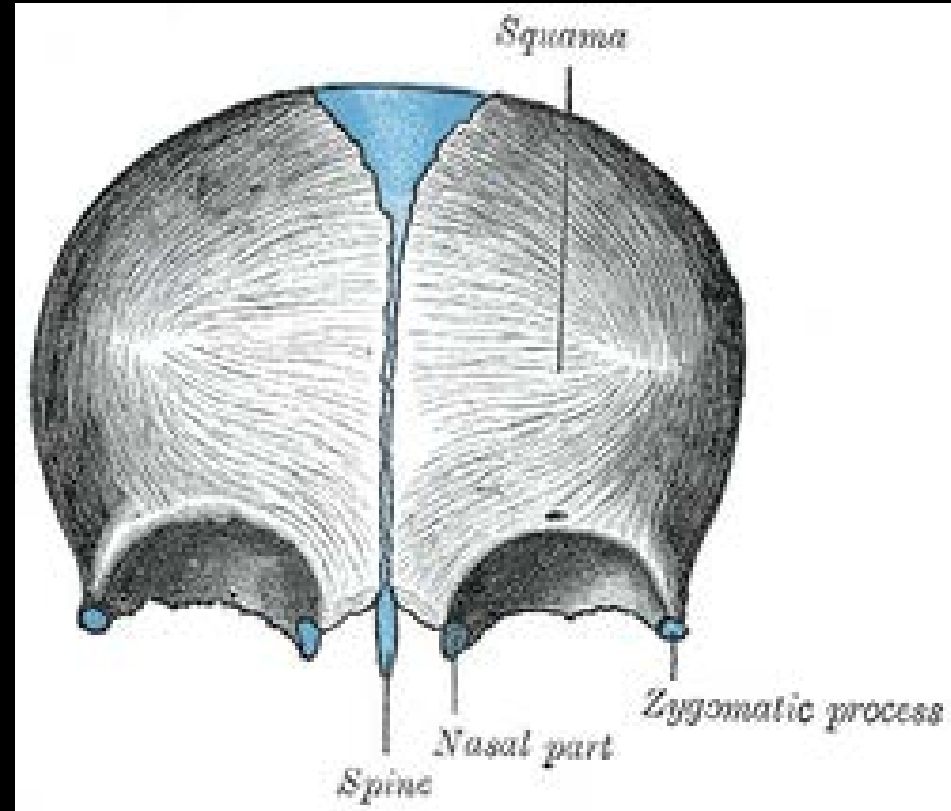
Kafa iskeletinin üst kısmında yerleşmiş olan tek bir kemiktir. Parietallerle, sphenoidle, lacrimallerle, zygomatic ve maxilla ile, ön ortada nasalle, altta da ethmoidle komşu durumdadır. Bu kemik Horizontal ve Vertikal olmak üzere iki kısımdan oluşur ve üç bölümü vardır:

- 1- **Squama frontalis** (Vertikal kısım)
- 2- **Partes orbitalis**
- 3- **Pars nasalis**

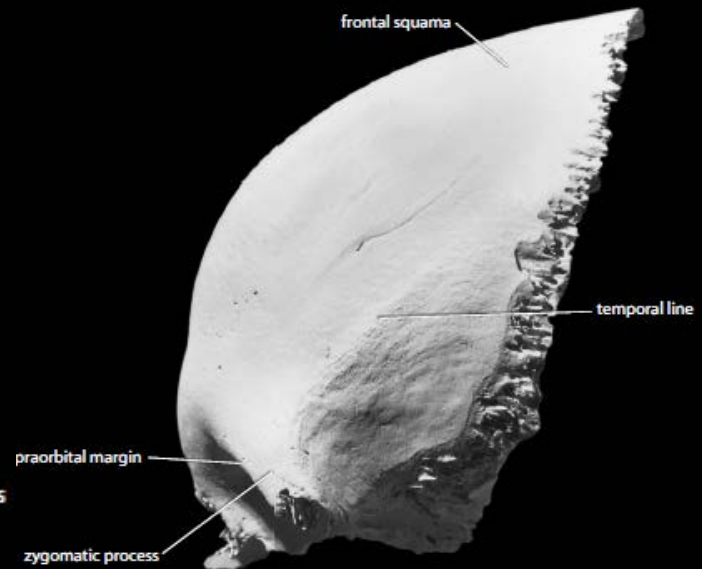
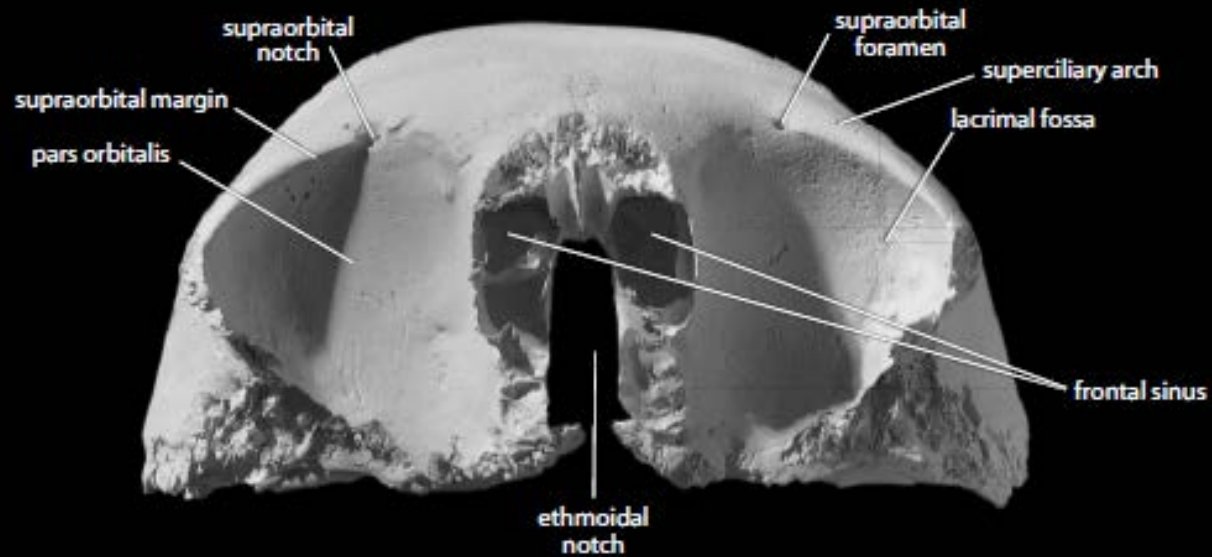
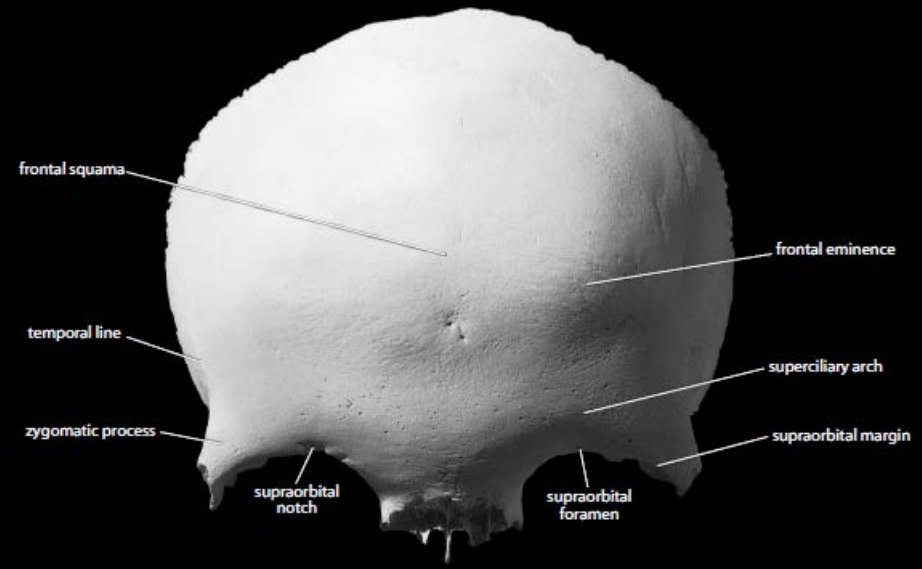
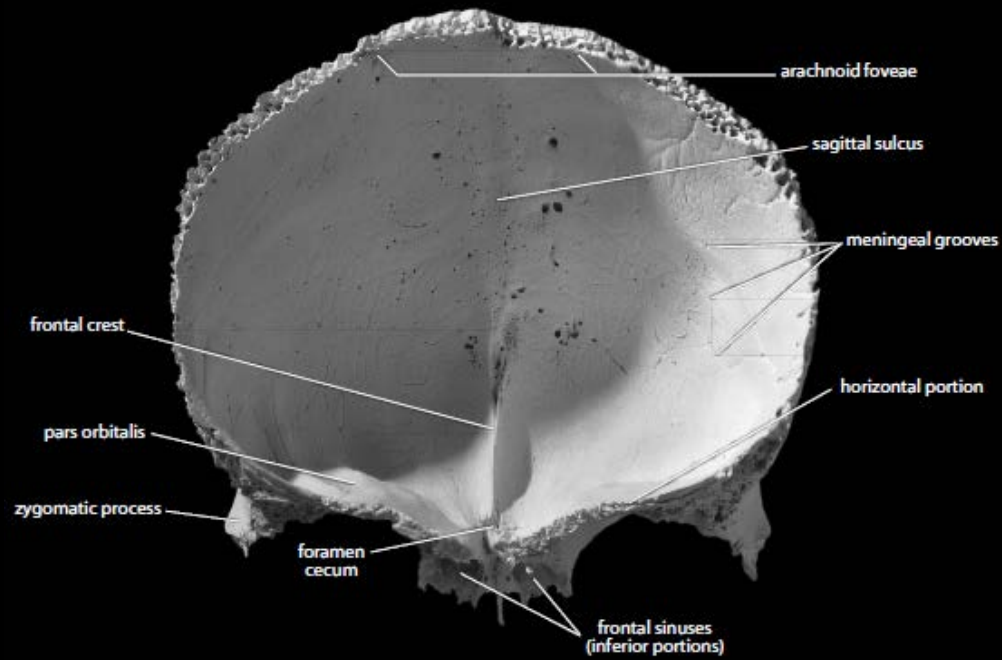
Frontal bone



Left infratemporal fossa.
(Frontal bone visible at upper right, in blue.)



Frontal bone at birth.





Sağda ve solda ayrı merkezlerden kemikleşen squama'da bazen bu sürecin bir kalıntısı olan bir dikiş izine rastlanır. Ortada erişkin bir bireyde bile aşağıda ortada burun kökünden başlayarak yukarı doğru uzanan bu dikişe **metopic sutur** denir.

Squamanın dış yüzeyinde sağda ve solda **tuber frontalis** denilen kemiğin kemikleşme merkezlerini oluşturan kabartılar vardır. Orbital parçanın birleşmesinden oluşan alt kenara **margo supraorbitalis** denir.

Processus zygomaticustan başlayan ve squamanın alt yan bölümünde bir yay çizerek geriye ve arkaya doğru uzanan çizgiye ise **linea temporalis** denir.

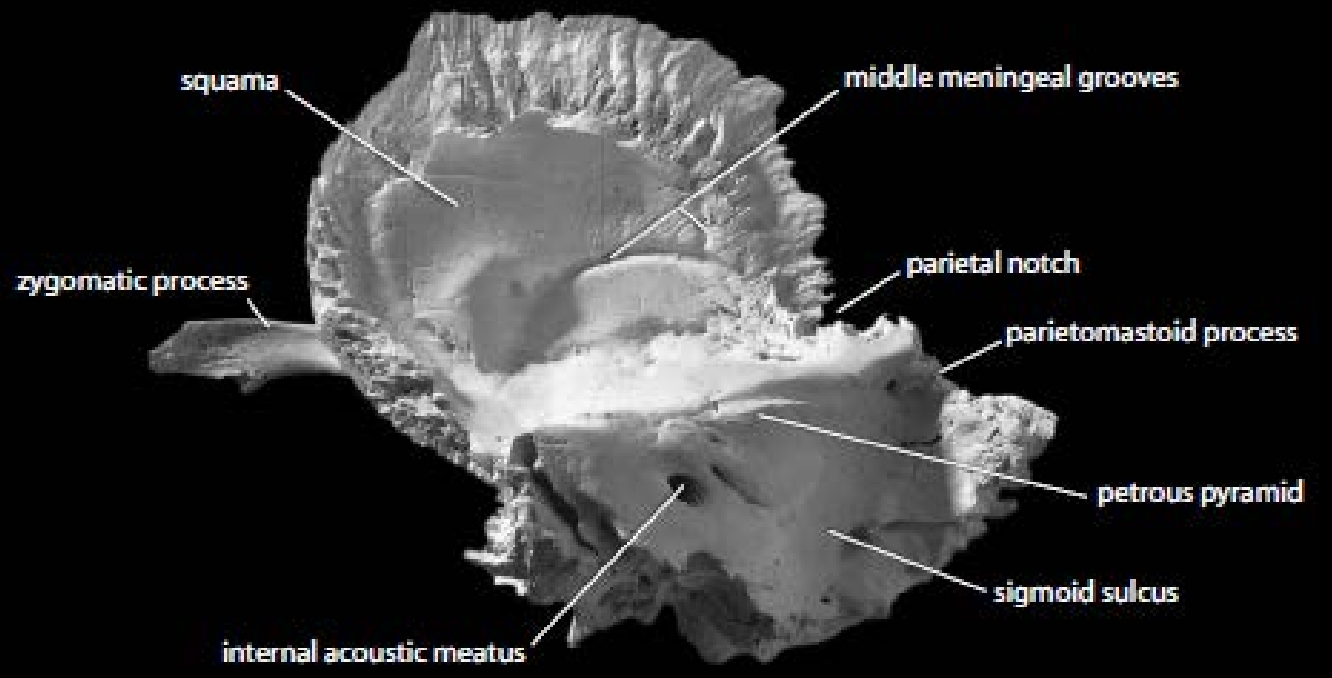
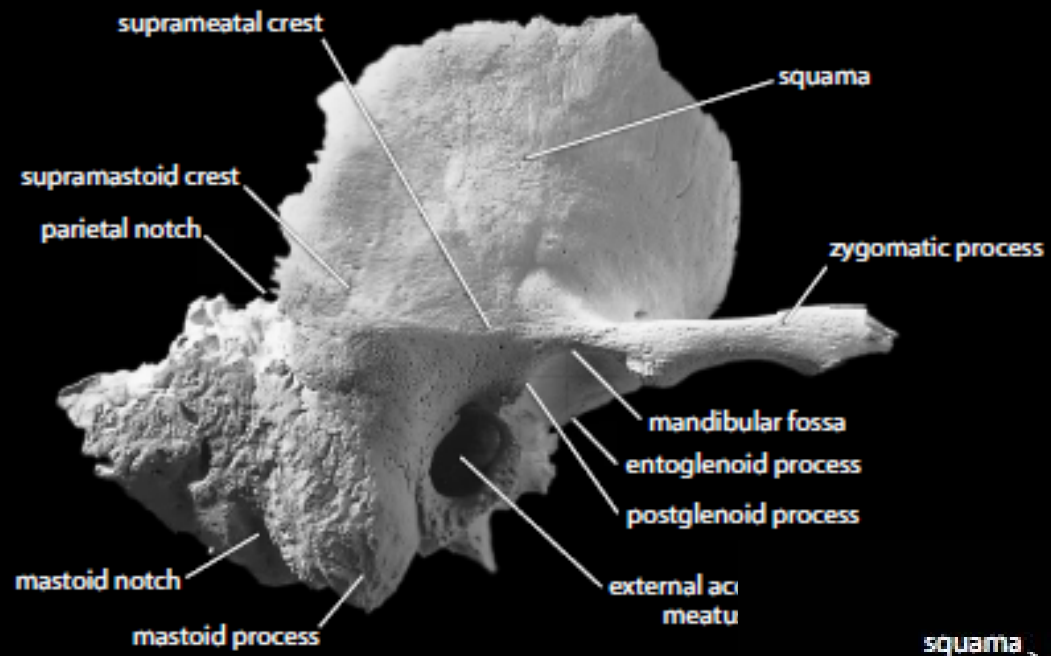


OS TEMPORALE (Şakak Kemiđi)

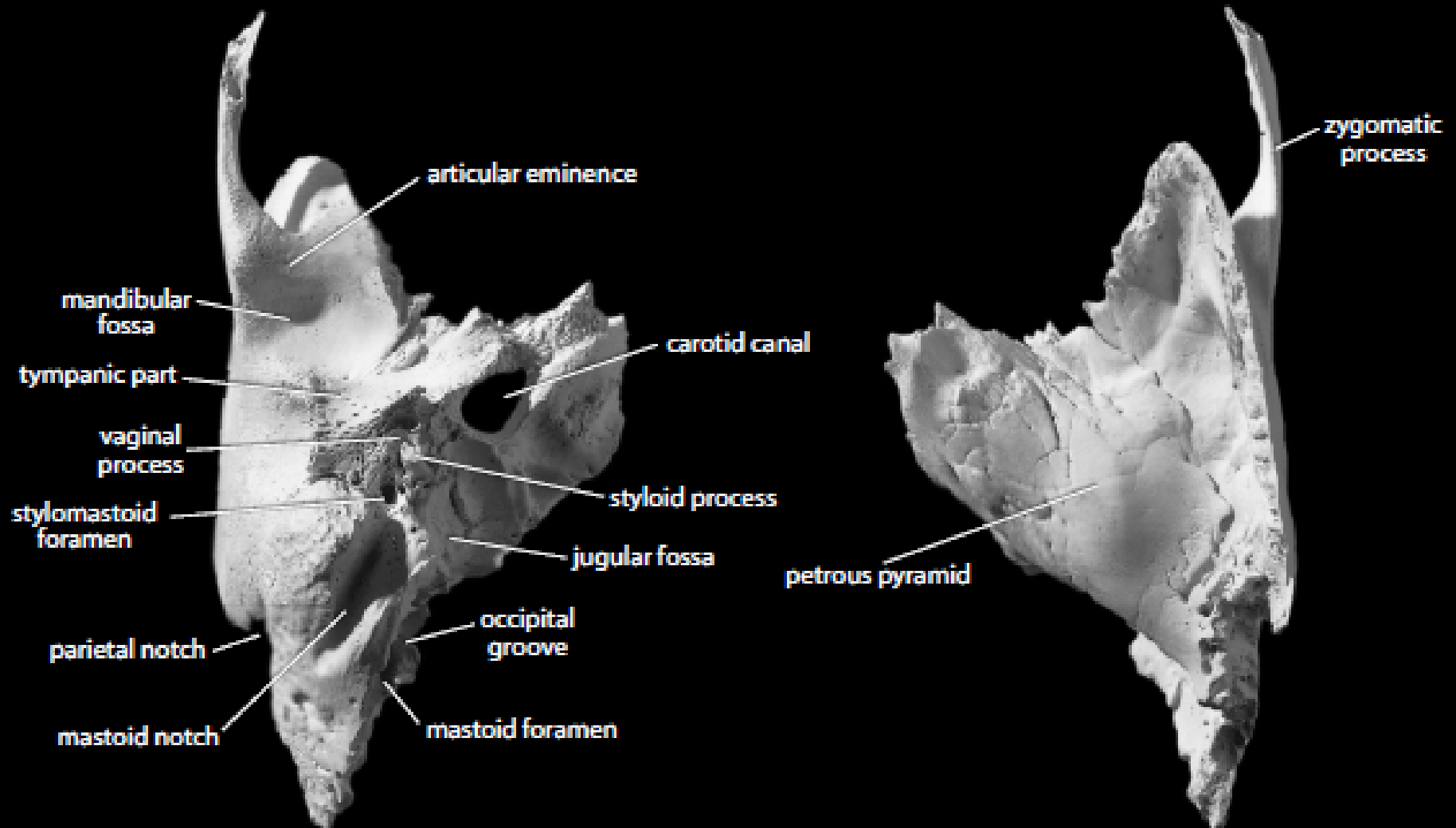
İşitme ve denge organını taşıyan ve kafatasının iki yanında yerleşmiş bir çift kemiktir. Yeni doğmuş bir çocukta temporal erişkindekinden farklıdır ve **processus mastoideus** yoktur ve temporal birbirleriyle kıkırdak dokusu aracılığıyla birleşmiş üç kısımdan oluşur:

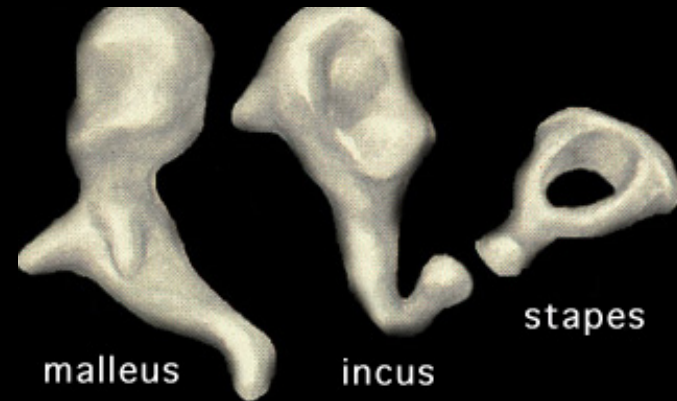
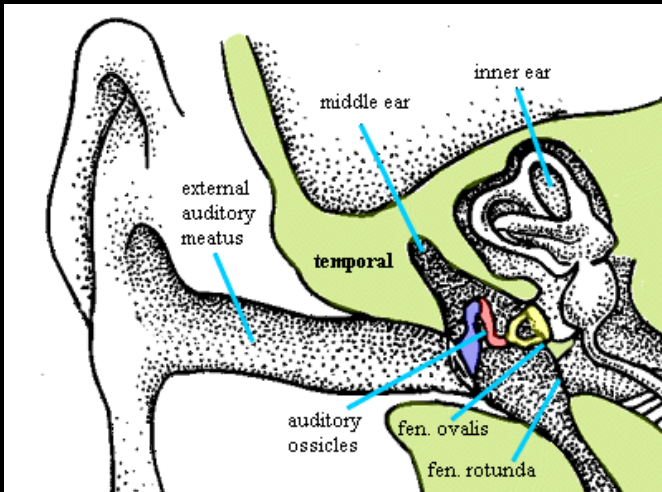
- 1- Pars squamosa
- 2- Pars petrosa
- 3- Pars tympanica

Kemik gelişmesi sürerken petrosa daha sonradan oluşan mastoid çıkıntıyla birleşir ve **pars petromastoidea** adını alır. Böylece bir erişkinde temporal; **pars squamosa, pars petromastoidea, pars tympanica** 'dan oluşur.

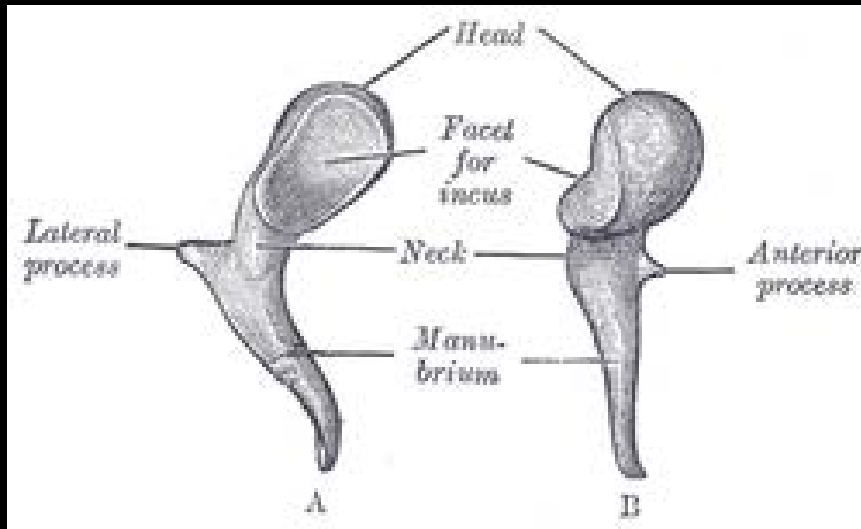


Sağ temporal kemik anterior ve inferior görünüm

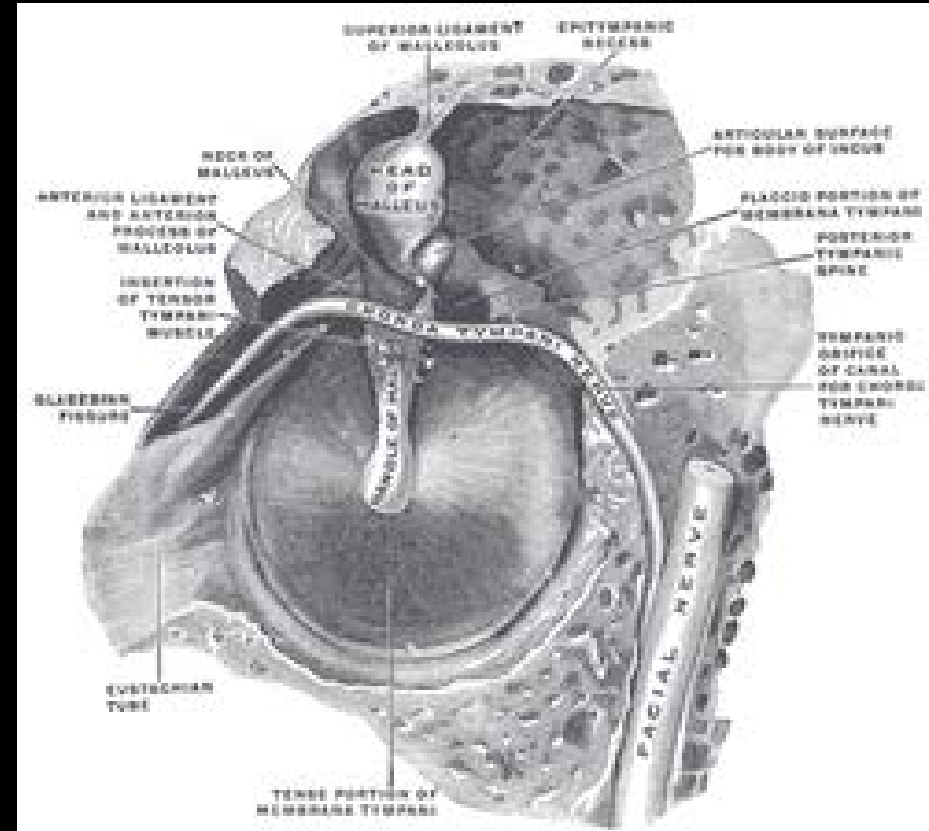




Malleus

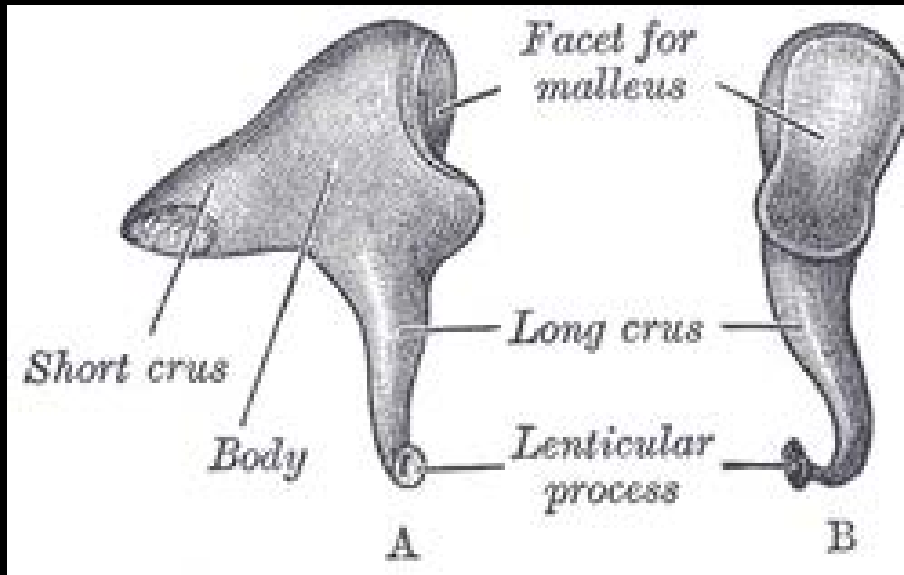


Left malleus. A. From behind. B. From within

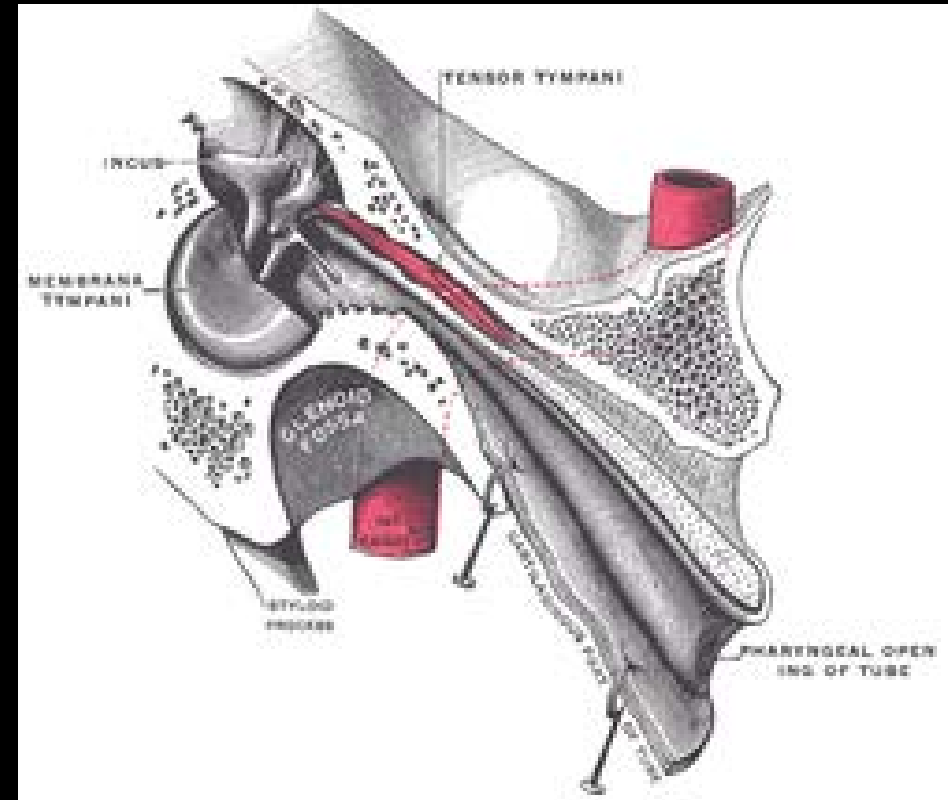


The right [membrana tympani](#) with the hammer and the [chorda tympani](#), viewed from within, from behind, and from above. (Malleus visible at center.)

Incus

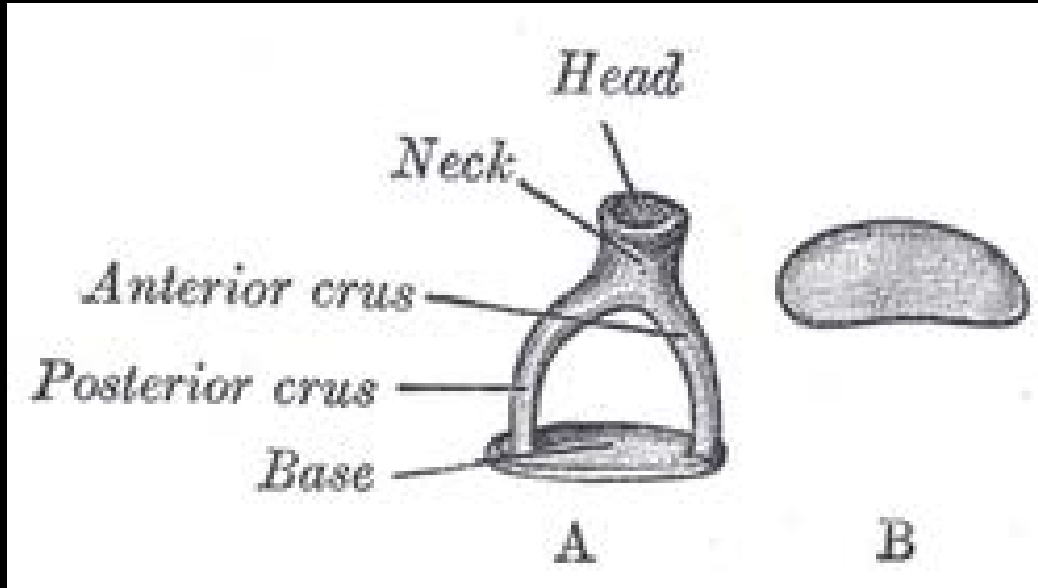


Left incus. A. From within. B. From the front.

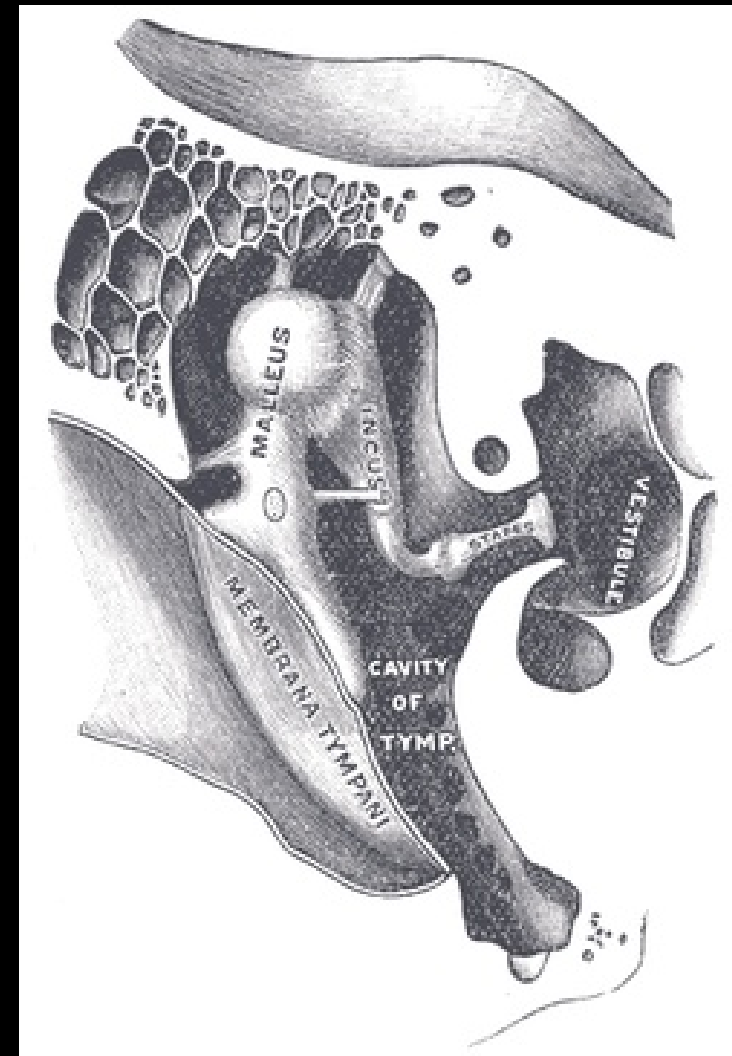


Auditory tube, laid open by a cut in its long axis.

Stapes



A. Left stapes. B. Base of stapes, medial surface



Chain of ossicles and their ligaments, seen from the front in a vertical, transverse section of the tympanum



OS OCCİPİTALE (Art Kafa Kemiđi)

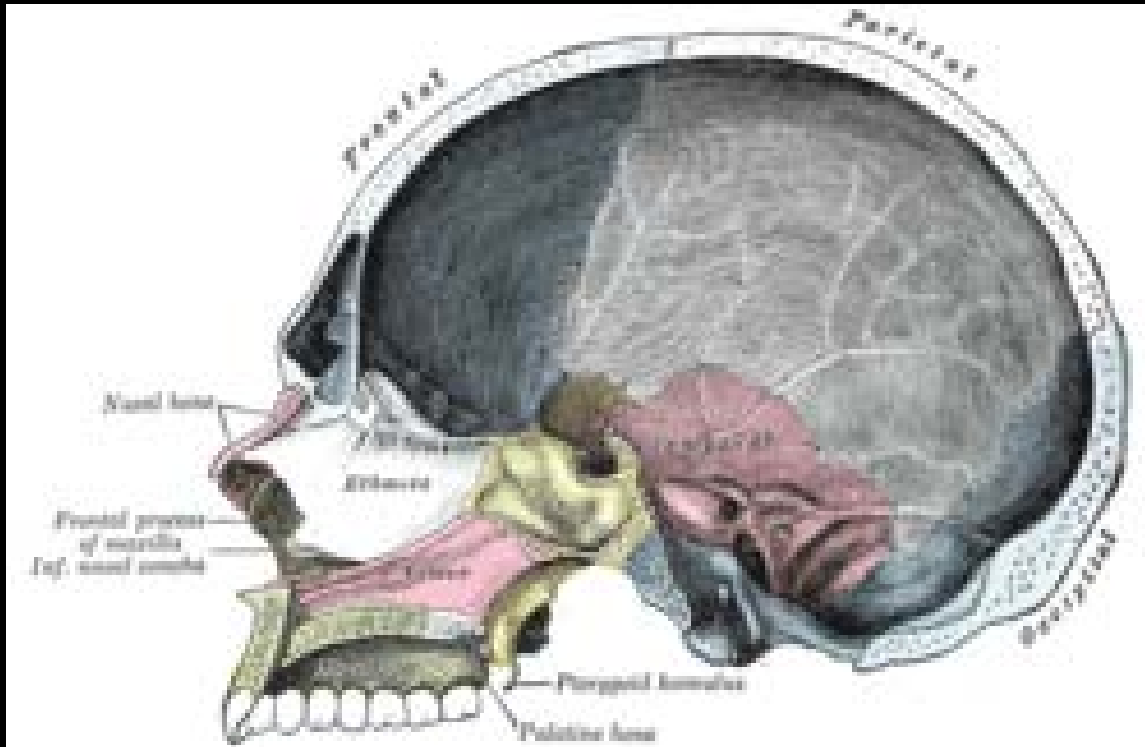
Occipital, parietal, temporal ve sphenoid ile komşudur. Altta 1. omur **atlas** ile eklem yapar.

1- Pars basilaris

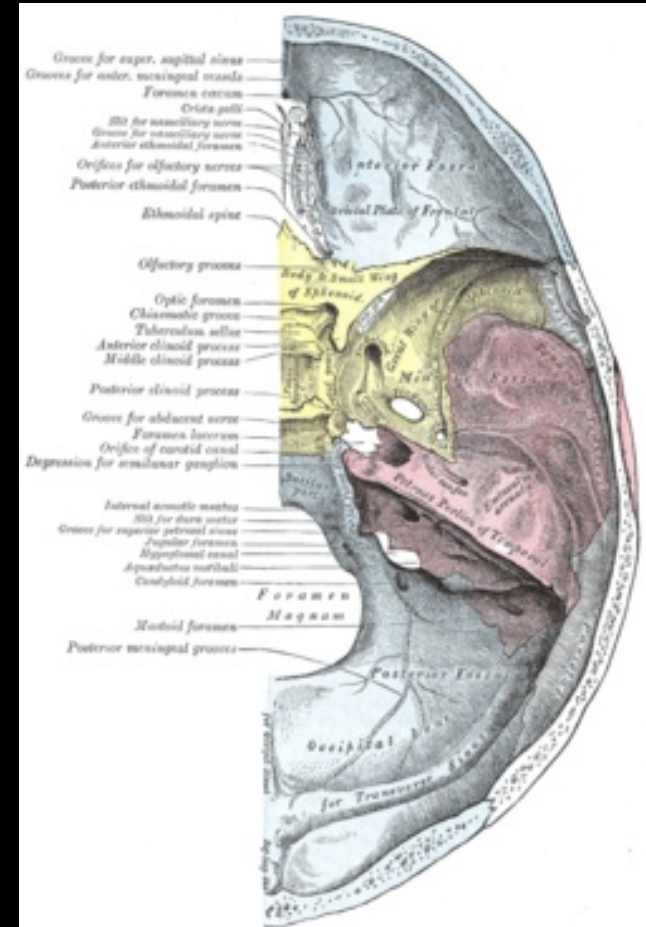
2- Pars lateralis

3- Squama occipitale

Occipital bone



Sagittal section of skull. (Occipital bone is at right, in blue.)



Base of the skull. Upper surface. (Occipital bone is at bottom, in blue.)

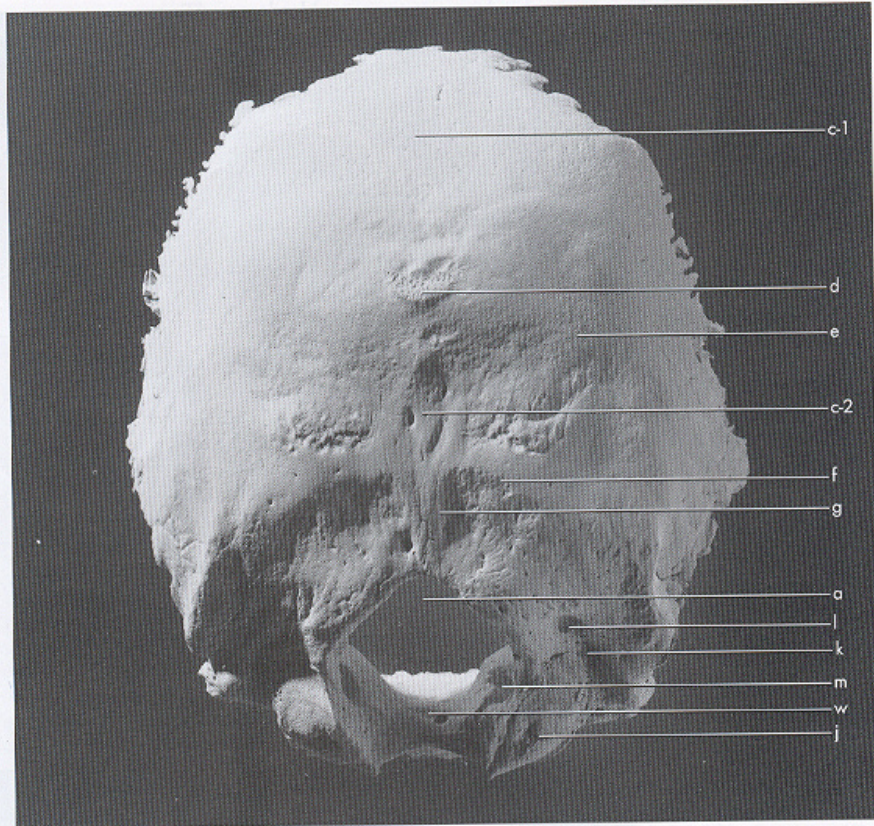


Figure 4.25 **Occipital, posteroinferior** (ectocranial). Superior is up. Natural size. Key: a, foramen magnum; c-1, occipital planum; c-2, nuchal planum; d, external occipital protuberance; e, superior nuchal line; f, inferior nuchal line; g, external occipital crest (median nuchal line); j, occipital condyle; k, condylar fossa; l, condylar foramen (canal); m, hypoglossal canal; w, groove for the medulla oblongata.

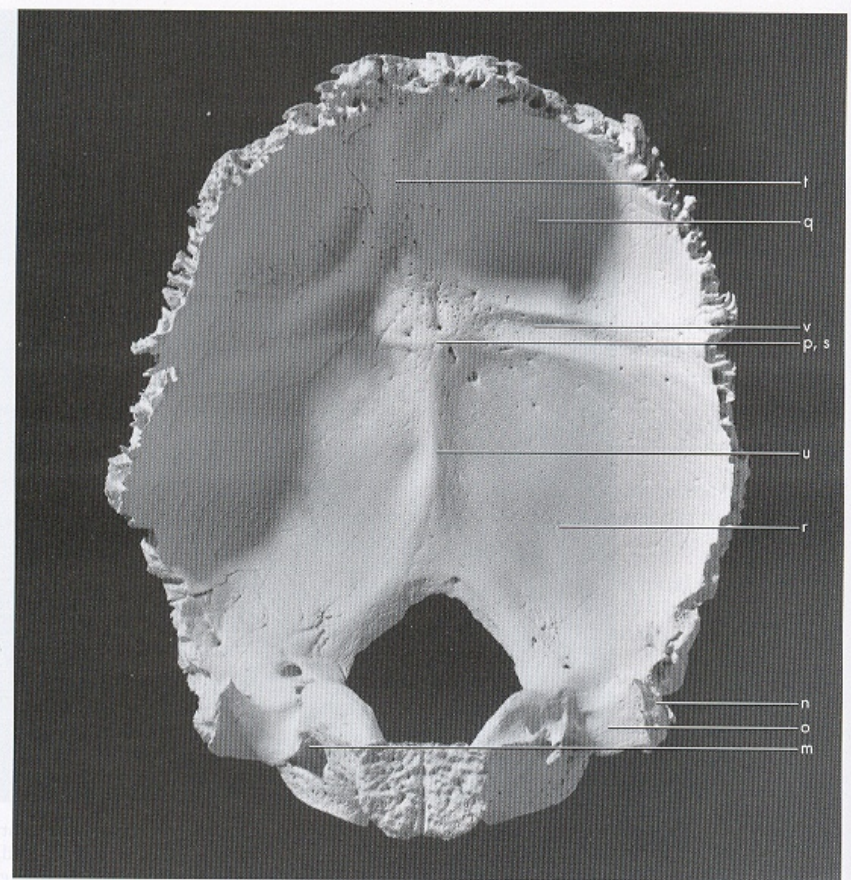


Figure 4.26 **Occipital, anterior** (endocranial). Superior is up. Natural size. Key: m, hypoglossal canal; n, jugular process; o, jugular notch; p, cruciform eminence; q, cerebral fossa; r, cerebellar fossa; s, internal occipital protuberance; t, occipital (sagittal) sulcus; u, internal occipital crest; v, transverse sulcus.

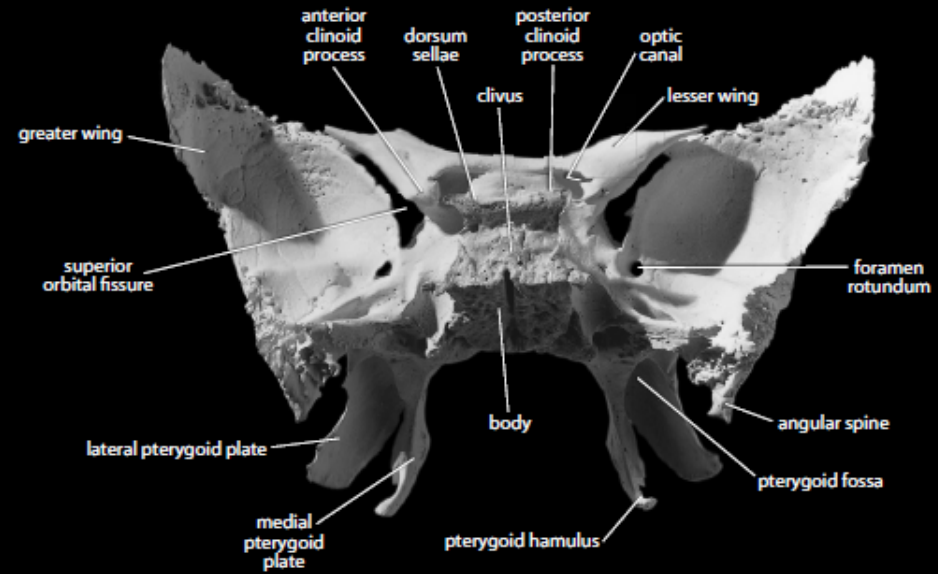


OS SPHENOİDALE (Kelebek Kemiđi)

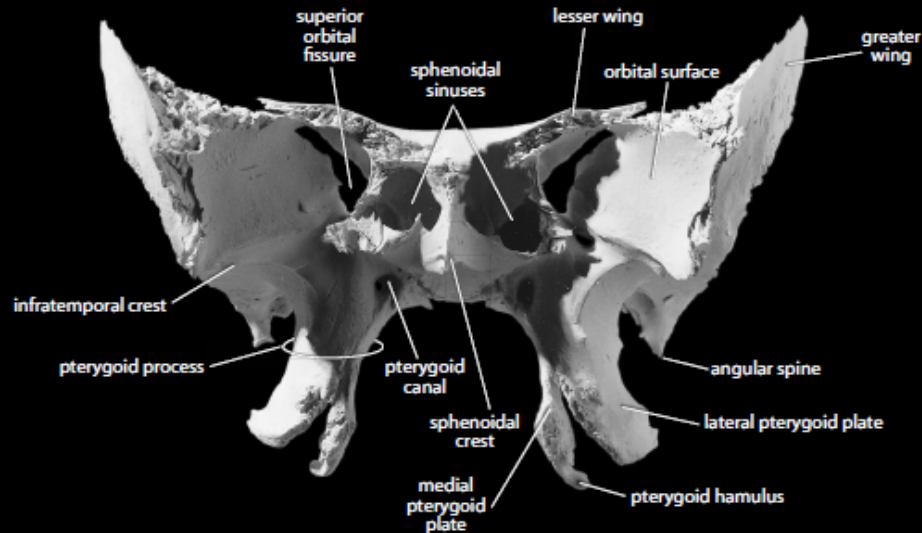
Başın basal ve yan kısımlarının oluşmasına katkıda bulunan tek bir kemiktir. Occipital, parietaller, frontal, ethmoid, temporaller, palatin, vomer ve zygomaticlerle eklem yapar. **Gövde, büyük ve küçük kanatlar ile pterygoid çıkıntıdan oluşur.**

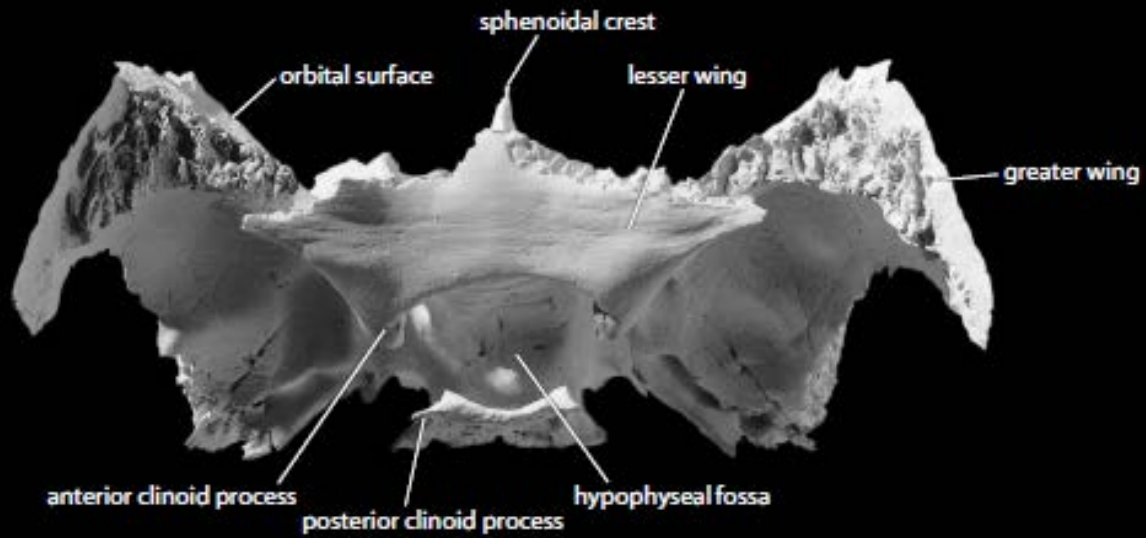


Sphenoid anterior görünüm.



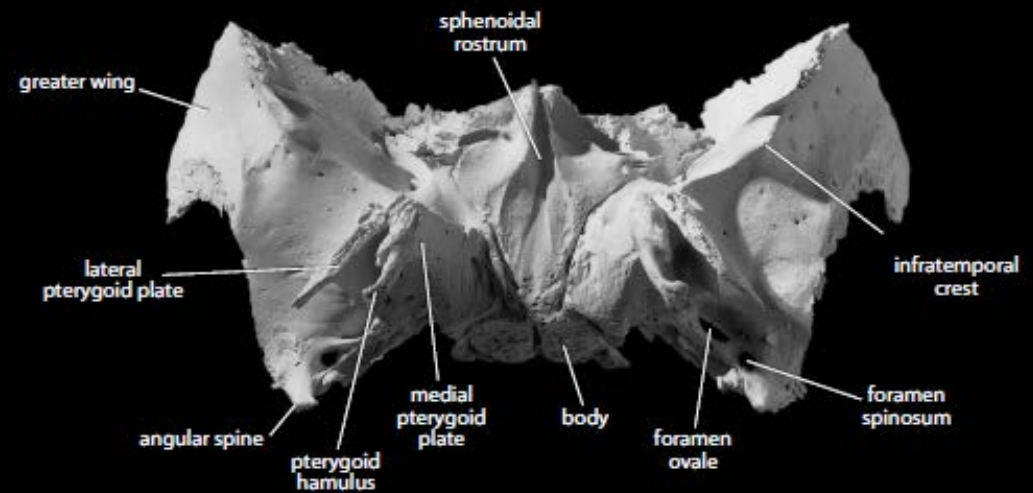
Sphenoid posterior görünüm.

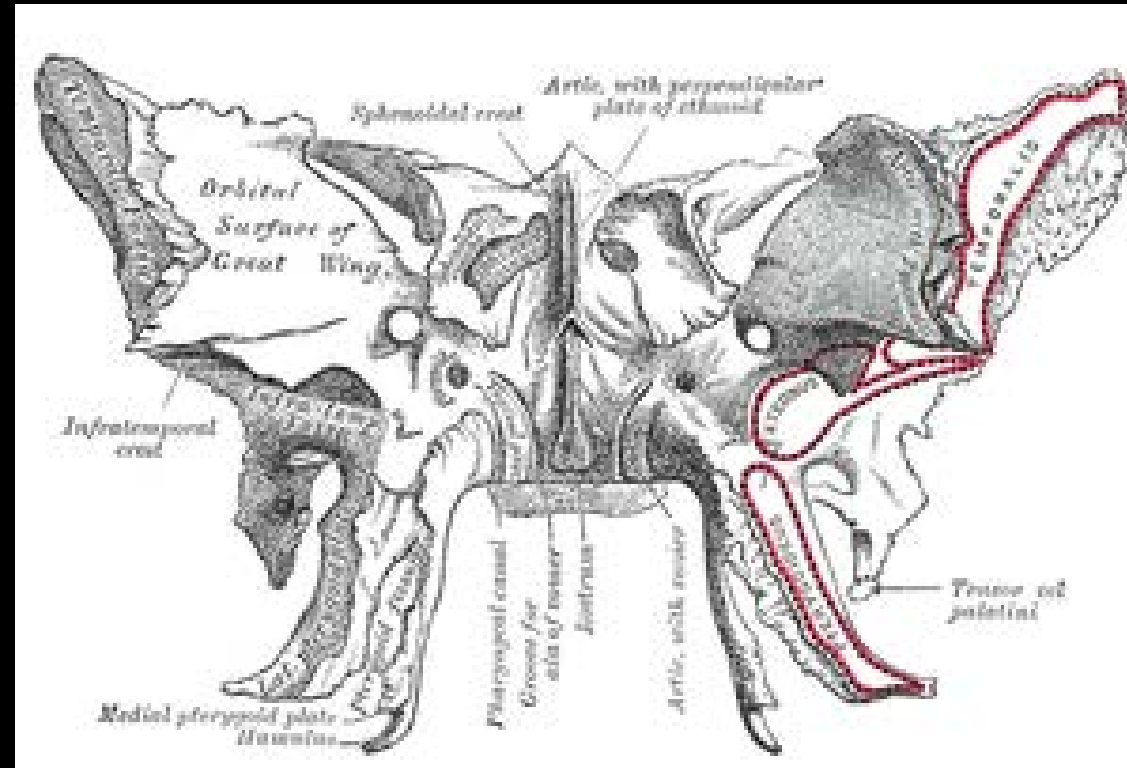




- Sphenoid superior görünüm.

- Sphenoid inferior görünüm.





Sphenoid bone, anterior and inferior surfaces

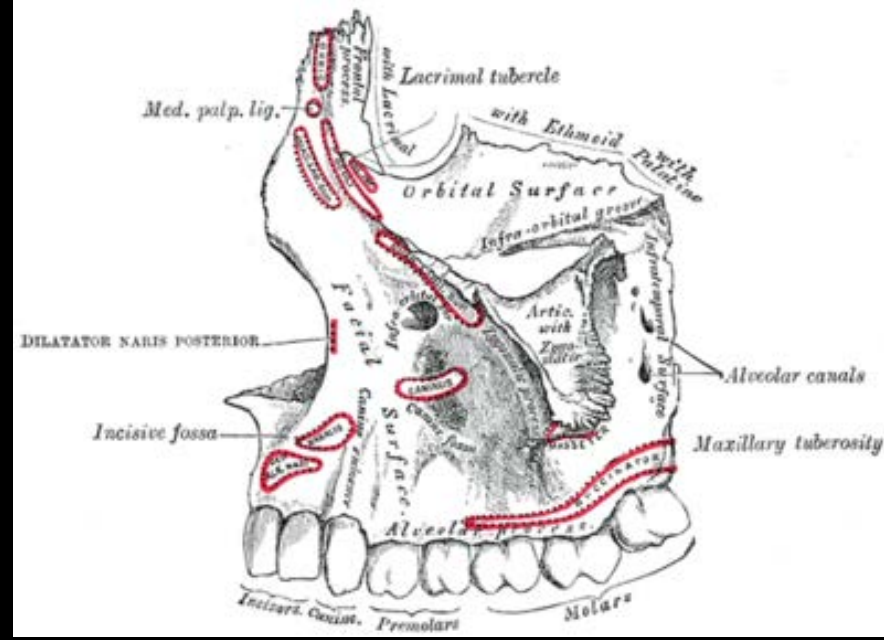


OS MAXILLA (Üst Çene Kemiđi)

Yüz iskeletinin büyük bir kısmını oluşturur. Maxilla, **gövdesi**, **cavum higmori** ya da **sinüs maxillaris** içerir. Gövdenin, burun boşluđuna bakan iç yüzü **facies nasalis**, **fossa pterygopalatina**'ya bakan arka yüzü **facies infratemporalis**, önde deri altında hissedilen ön yüz **facies anterior** ve göz çukurunun tabanını oluşturan üst yüz **facies orbitalis** olmak üzere 4 yüze sahiptir.

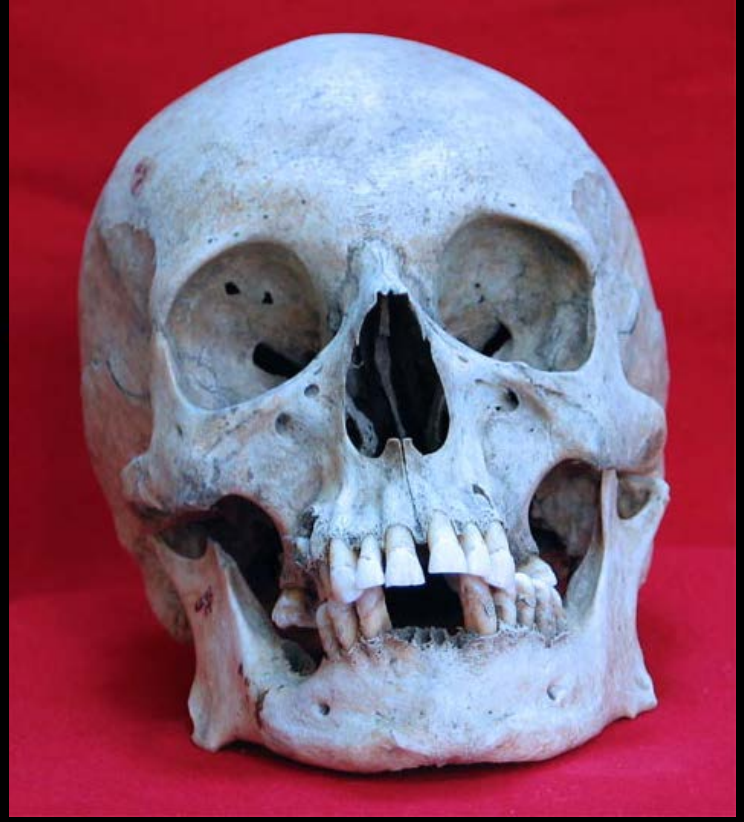
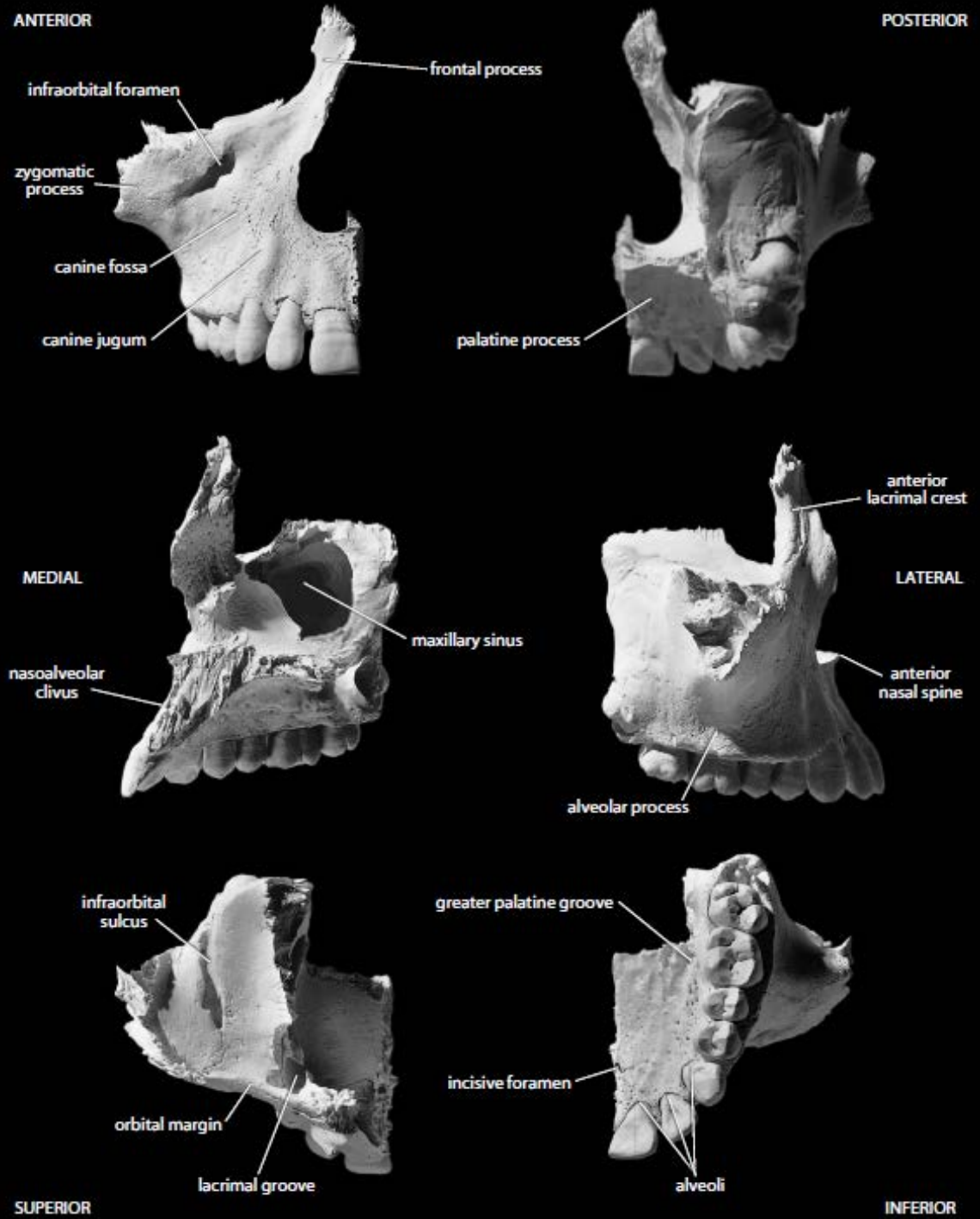
Maxilla gövdesinden uzanan **alveolar**, **frontal**, **zygomatic** ve **palatin** çıkıntılar vardır.

Surfaces

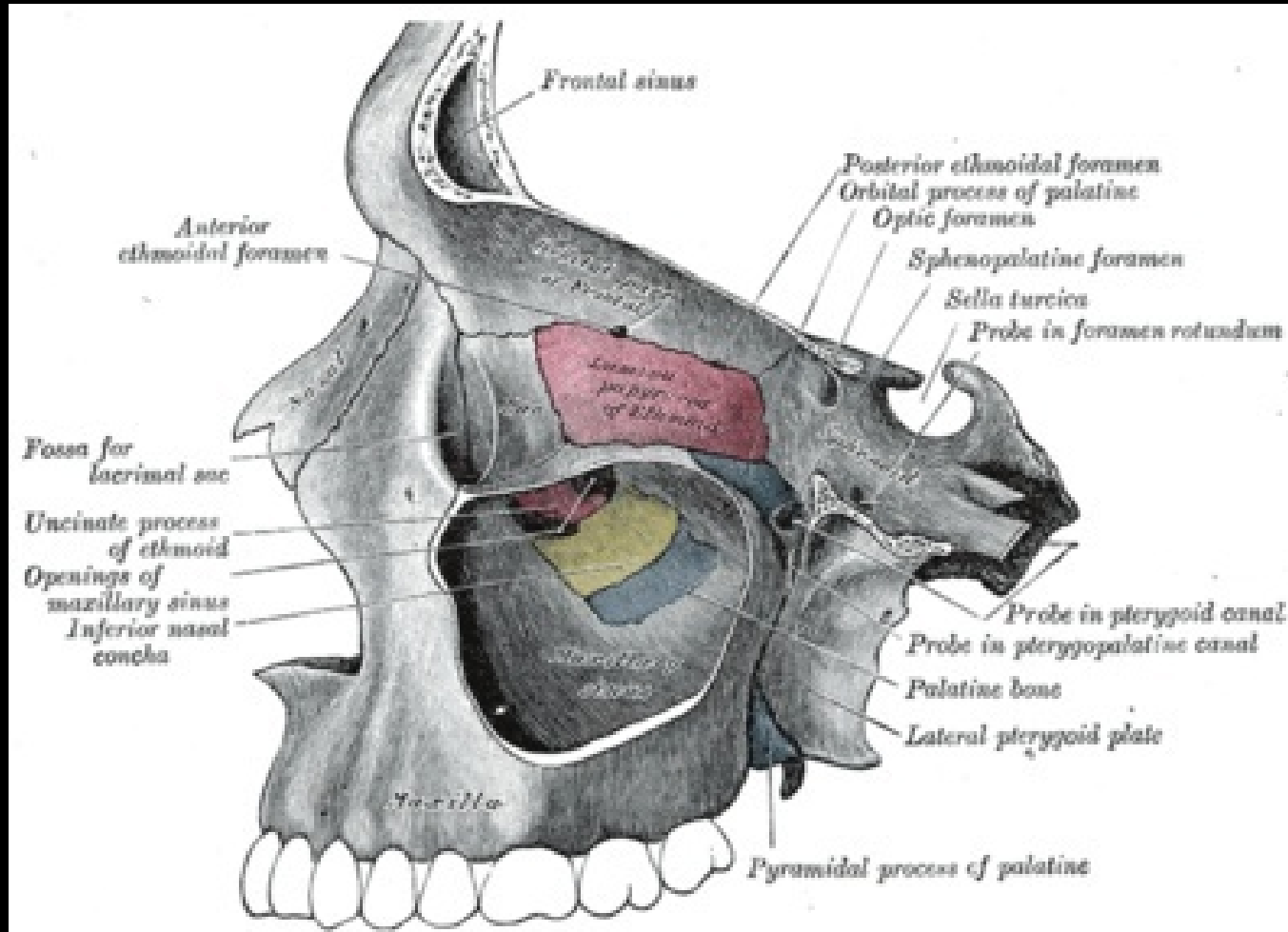


Maxilla ön yüz

• Sağ maxilla.



The maxillary sinus (antrum of highmore)



Left maxillary sinus opened from the exterior.