

THE  
ANATOMY  
OF THE  
HEAD  
AND  
NECK

BARRY J. ANSON

W. B. SAUNDERS COMPANY

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OF THE  
HEAD AND NECK

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BY

BARRY J. ANSON, Ph.D.

*Professor of Anatomy, Northwestern University Medical School*

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## PREFACE

During the progress of laboratory teaching it became the desire of the author to prepare an atlas of gross anatomy whose pictorial content would be based upon new dissections, serially prepared, and upon variable morphological features statistically presented. It was believed that such a book would be of service to students and practitioners of medicine or dentistry for whom illustrations must serve in substitution for actual specimens.

The *Atlas of Human Anatomy*, published in 1950, covering the gross structure of the entire body, represents the outcome of long-term study of original material. The present volume is the first section of the Atlas; it is intended to meet the special needs of the doctor in dental practice.

The original drawings were executed by Mary Dixon Elder, Willard C. Shepard, Lucille Cassell Innes and Jean McConnell, to whom the author takes opportunity anew to acknowledge his indebtedness.

BARRY J. ANSON

Chicago, Illinois

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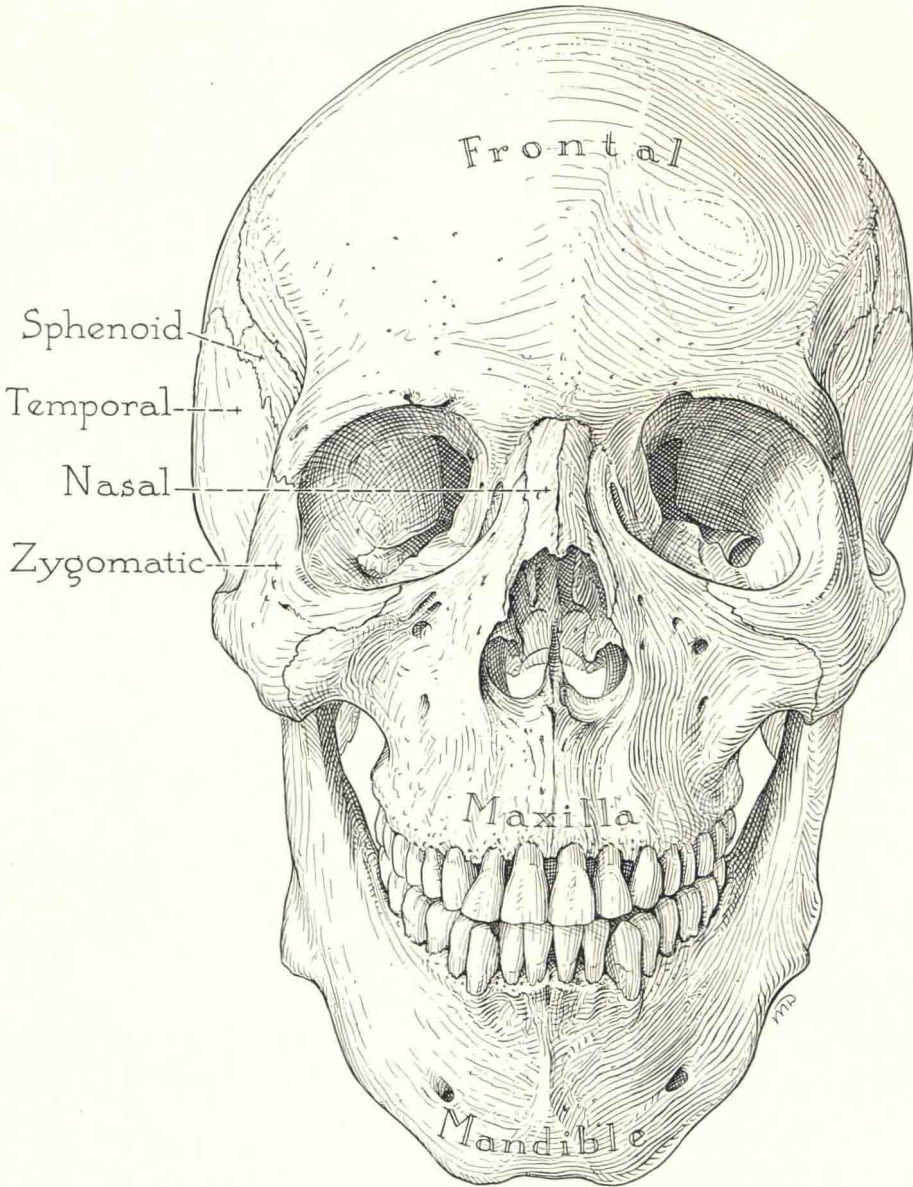
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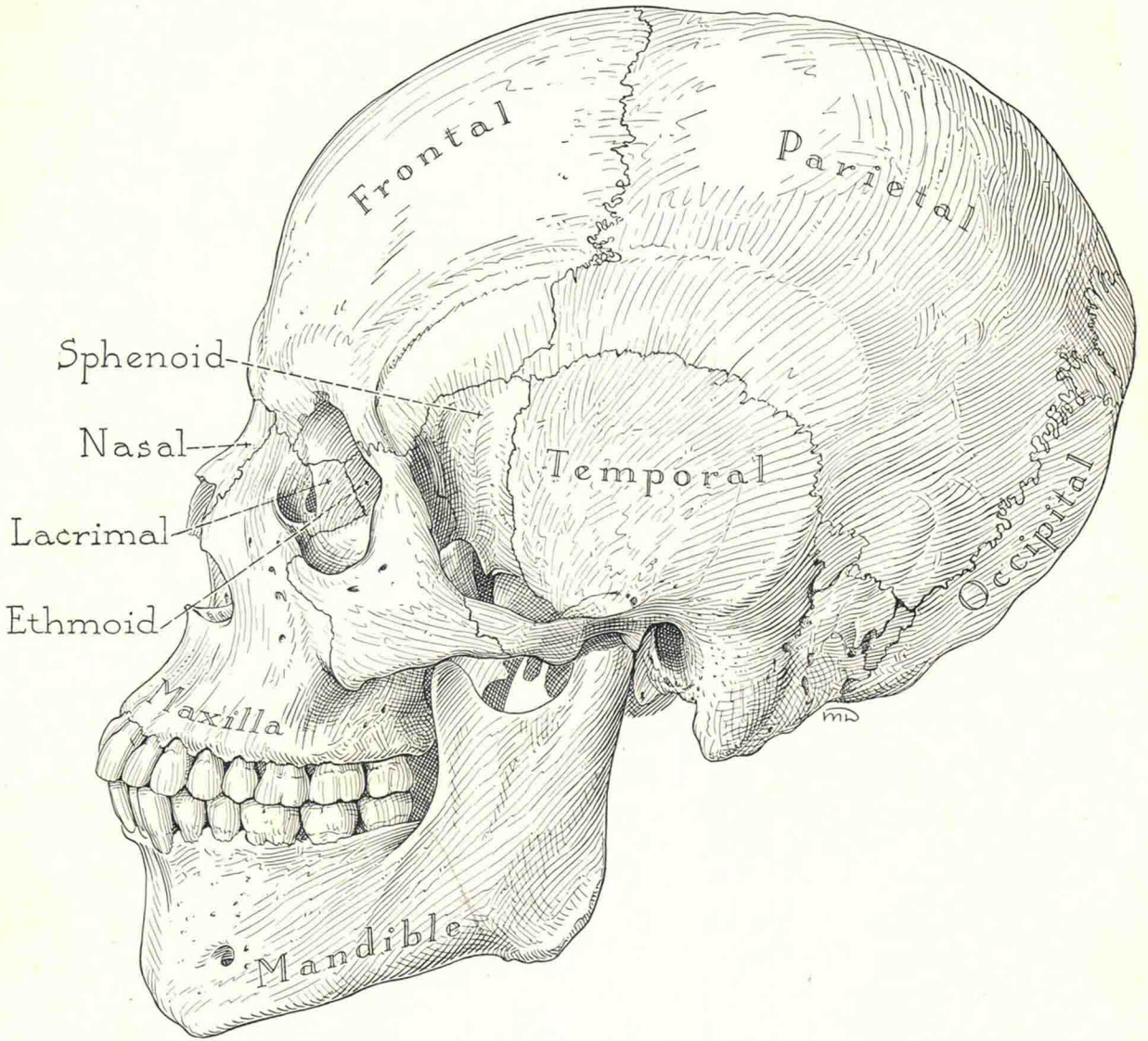
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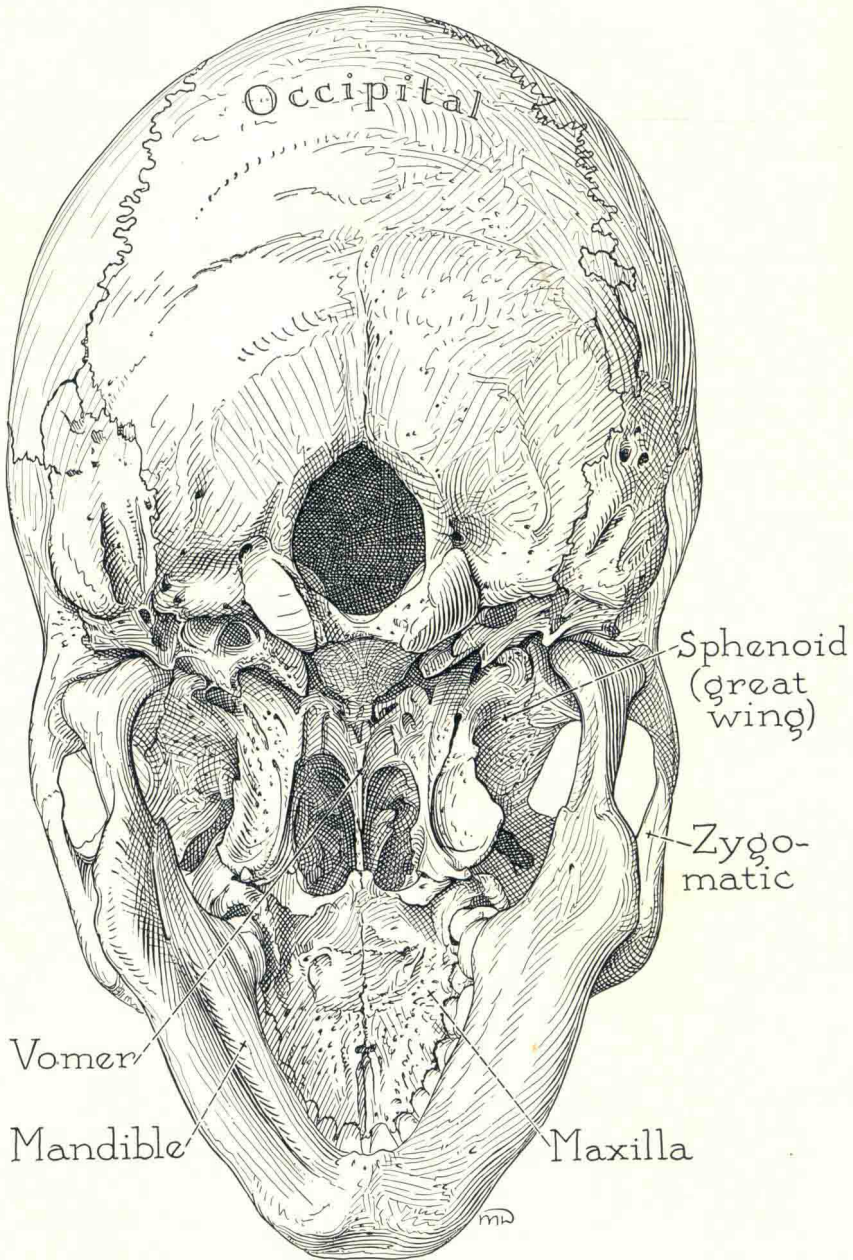




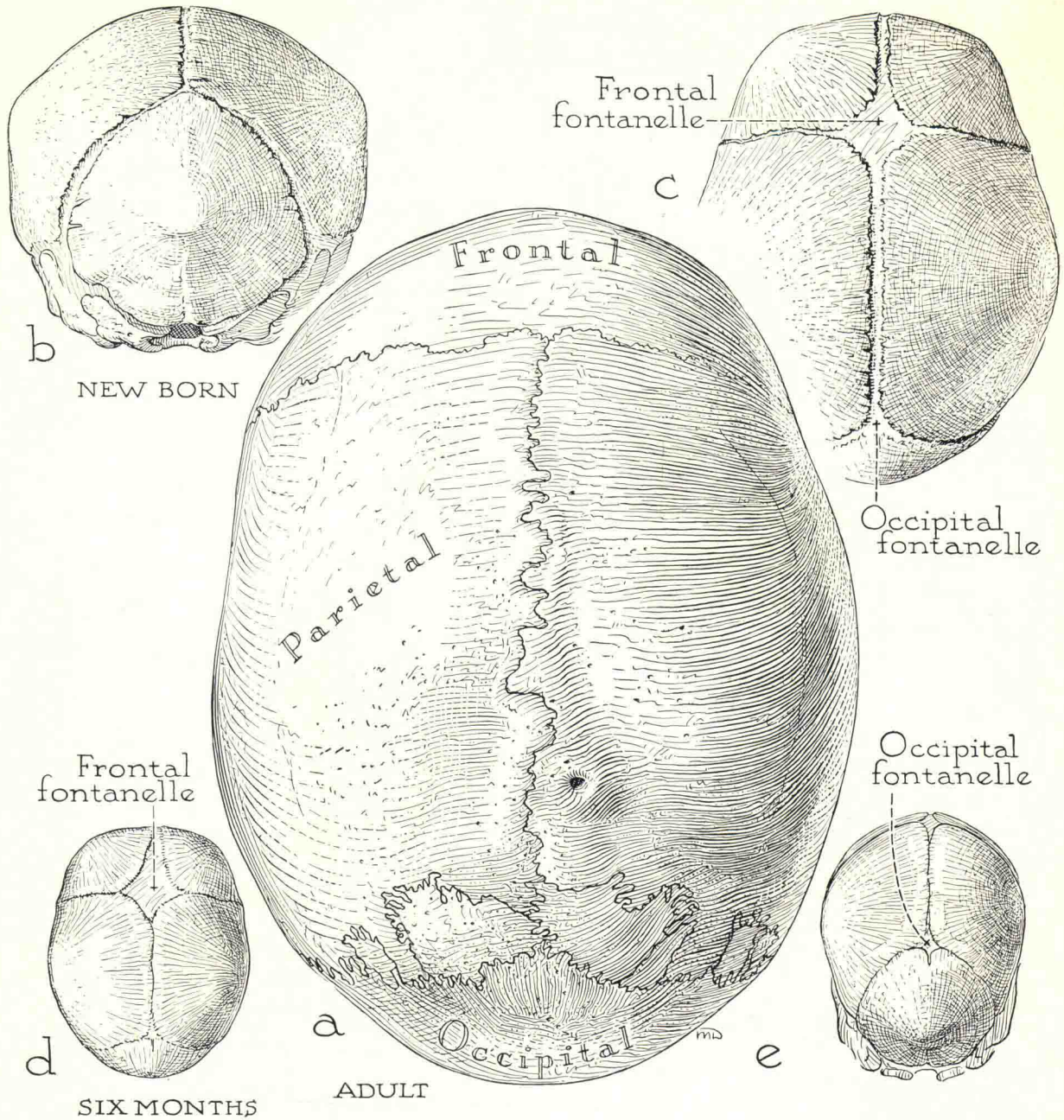
Skull of an adult male; from the front.  
Other views of the same specimen appear in the following figures.



Skull, adult male; from the side.

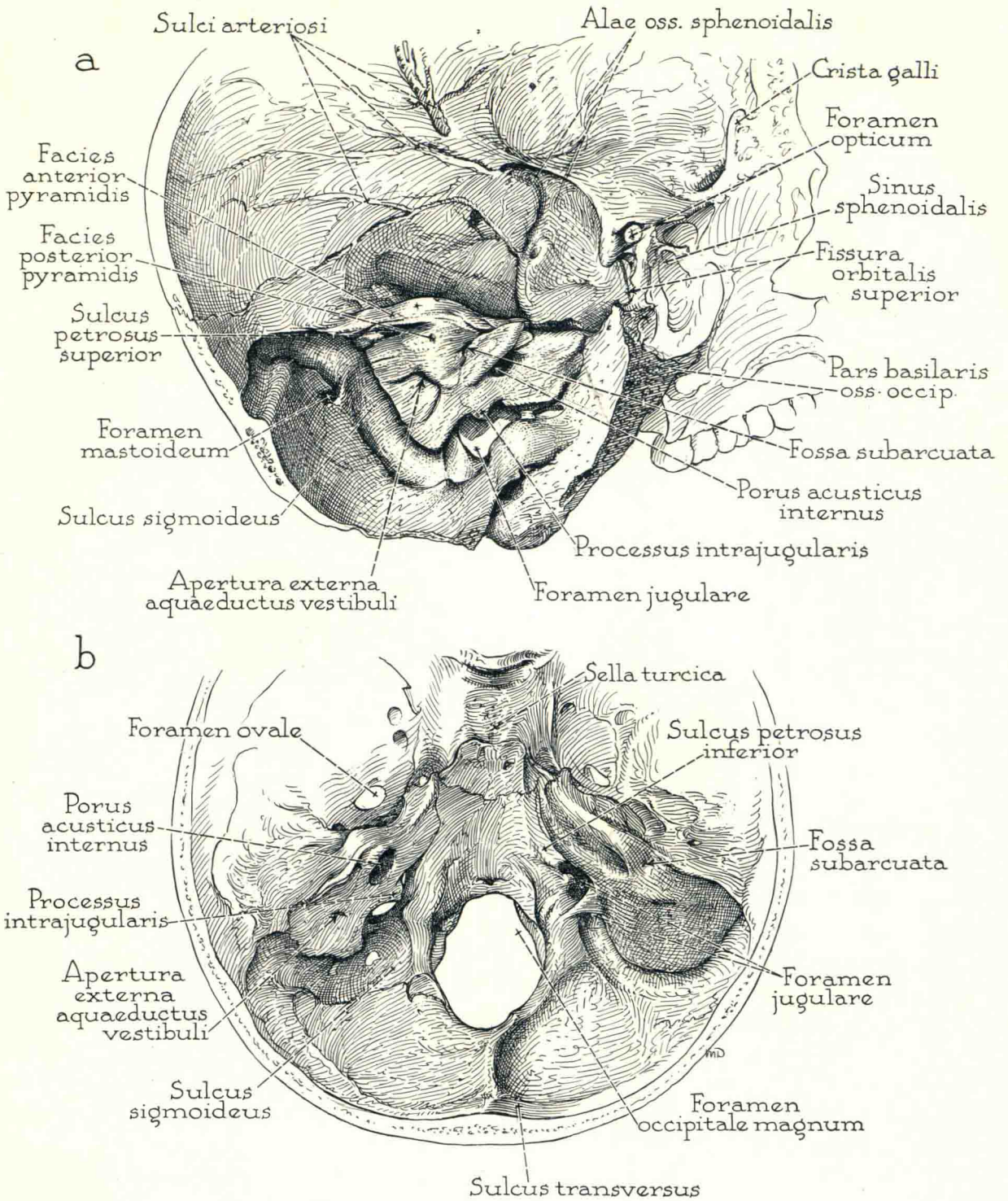


Skull, adult male; from below (base of skull).



Skulls of an adult male, six-month fetus and newborn infant.  
Viewed from above or from behind. Drawn to scale.

*a*, Adult skull, seen from above; showing wormian bones and a large, unilateral, parietal foramen (for transmission of a parietal emissary vein). *b* and *c*, Skull of the newborn, posterior and superior views, respectively; showing the fontanelles. *d* and *e*, Skull of the fetus; superior and posterior views, respectively.



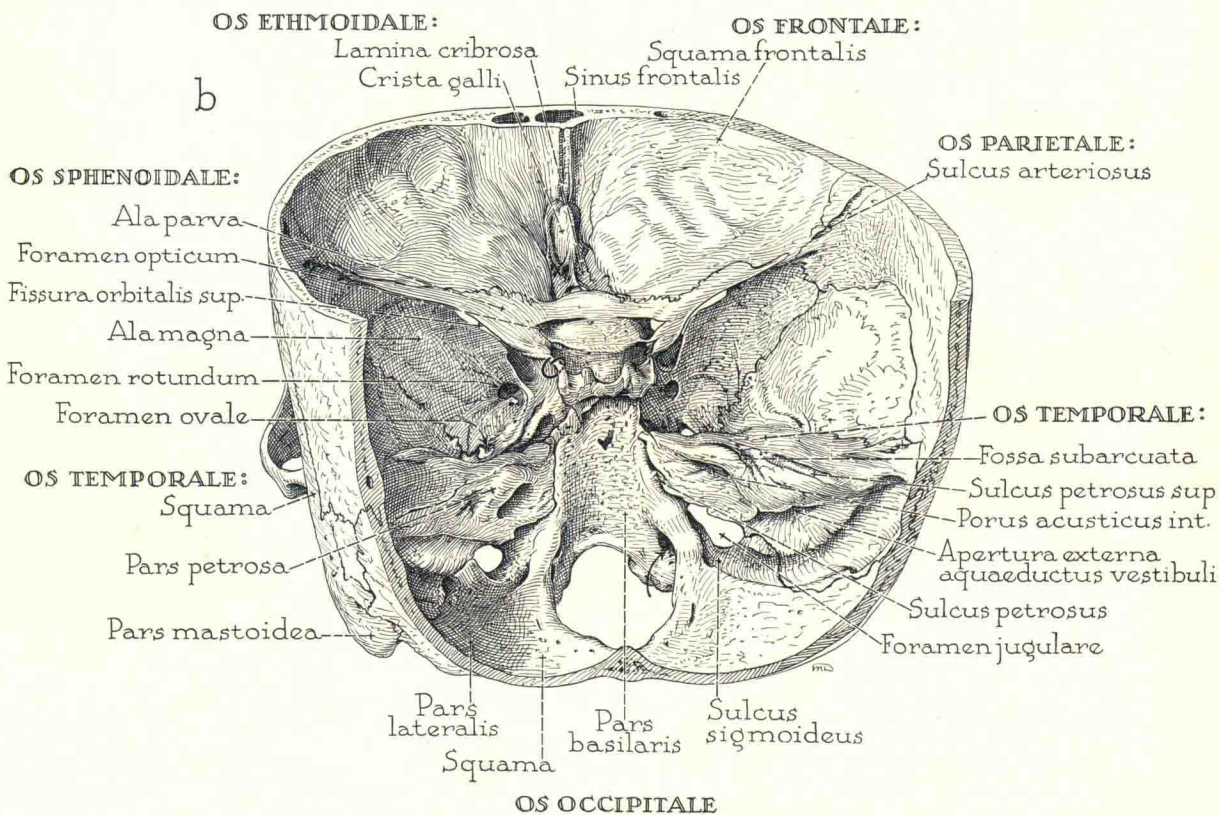
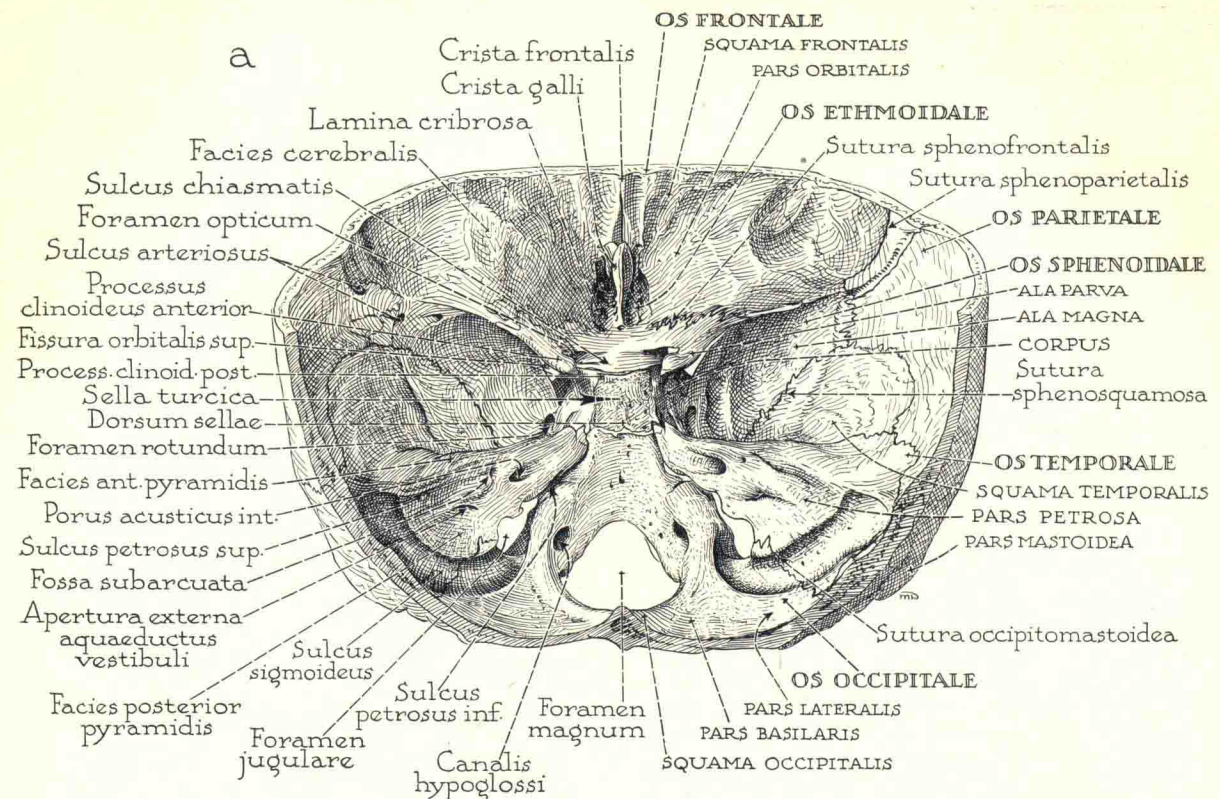
Interior of the cranium; two adult specimens.

*a*, Base of the skull, from within. Parasagittal section; posterolateral view of the left side. Showing especially the petrous part, or pyramid, of the temporal bone and the related anatomy of the middle and posterior cranial fossa.

*b*, Base of the posterior portion of a second specimen of adult skull seen from within. Superior (cranial) view of both sides, to include the posterior cranial fossa and the adjacent part of the middle fossa.

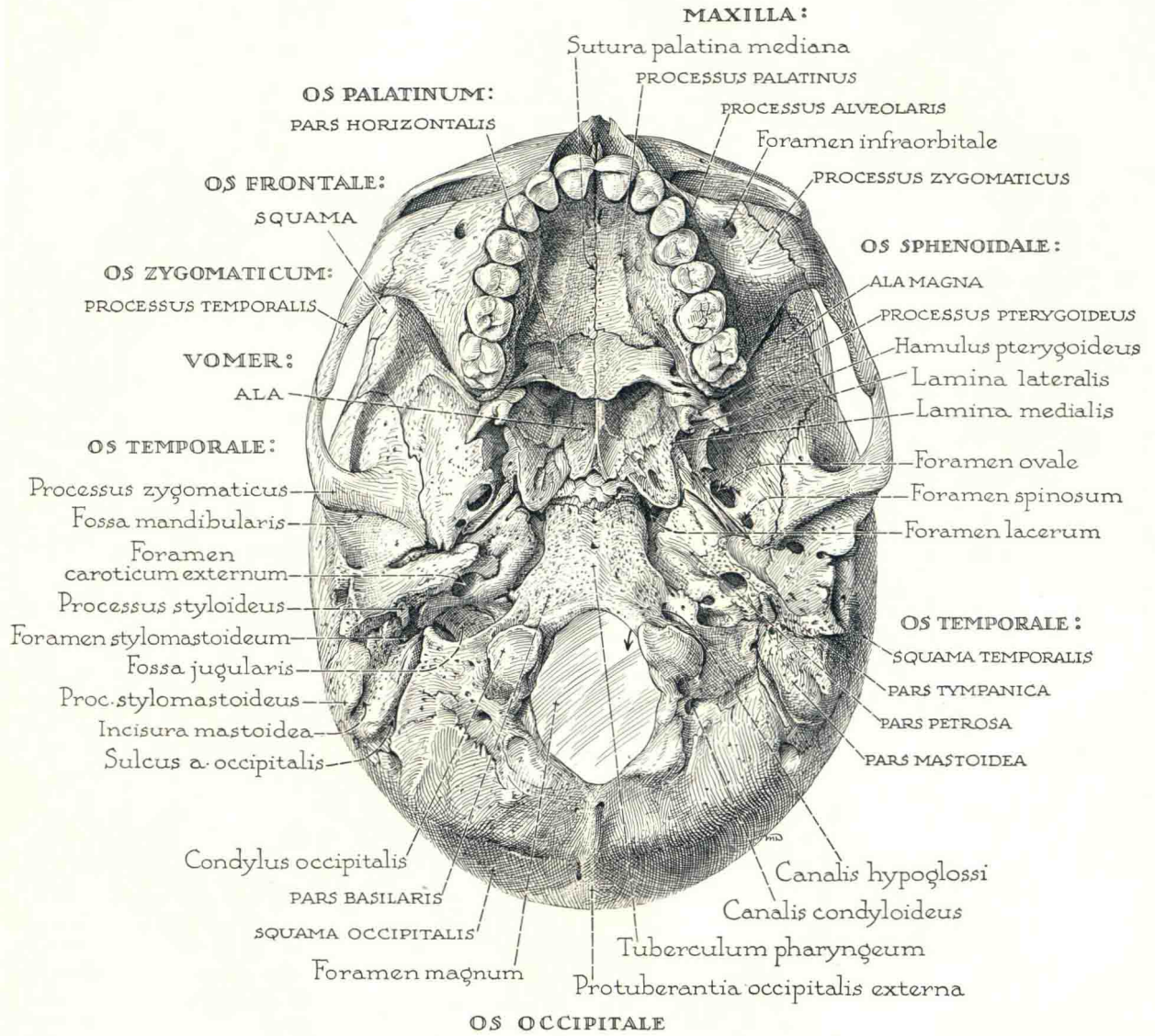
The anatomy of the cranium, both internal and external, is described in the text following the fifth figure in this series.

## THE SKULL



Interior of the cranium; two adolescent specimens. Viewed from behind.

a, Base of skull. b, Posterior portion cut away. Opened ring encircles fused anterior and posterior clinoid processes.



Exterior of the skull, adolescent specimen.

Base of the skull seen from below, showing the chief portions of each of the constituent bones, the foramina and the processes. Peripheral areas of sutural relation are labelled in the following series of figures of the separate bones of the skull.



### Interior of the skull

The inner surface of the base of the skull presents numerous irregular depressions corresponding to the convolutions of the cerebrum and series of branching arterial and venous grooves to accommodate the meningeal vessels.

The floor of the cranial cavity presents three subdivisions termed the anterior, middle and posterior fossae in adaptation to the contour of the base of the brain. The fossae lie at successively lower levels from before backward.

The floor of the anterior cranial fossa is formed by the orbital part of the frontal bone, the cribriform plate of the ethmoid, the lesser wings of the sphenoid and the forepart of the body of the sphenoid. It supports the frontal lobes of the cerebrum. On the floor of the fossa are situated the following: the crista galli, the foramen cecum, the frontal crest, the cribriform plate of the ethmoid bone and the orbital part of the frontal bone.

The floor of the middle cranial fossa, on each lateral half, is formed by the body and great wing of the sphenoid bone and the anterior surface of the petrous portion of the temporal. On the floor of each lateral part of the fossa are found conspicuous sulci for lodgement of the middle meningeal vessels, the shallow trigeminal impression on the apex of the petrous pyramid, the foramen ovale, the foramen rotundum, the superior orbital fissure and the carotid canal. The middle portion of the middle cranial fossa is occupied mainly by the sella turcica, which includes the hypophyseal fossa. The sella is limited behind by a quadrilateral plate, the dorsum sellae, laterally by the clinoid processes.

The floor of the posterior cranial fossa is formed by the dorsum sellae and clivus of the sphenoid, the occipital bone, the petrous and mastoid portions of the temporal bones and the mastoid angles of the parietal bones. The fossa is bounded posteriorly and above by the transverse sulcus of the occipital bone. Inferiorly the posterior cranial fossa communicates with the vertebral canal through the foramen magnum. On the floor of the fossa are seen the internal acoustic meatus, the subarcuate fossa, the vestibular aqueduct, foramen magnum, and grooves for lodgement of the inferior petrosal, transverse and sigmoid venous sinuses. A low ridge in the midline of the occipital squama extends from the internal occipital protuberance to the foramen magnum. To either side of the foramen are situated the hypoglossal canal, the condyloid foramen and the jugular foramen.

### Exterior of the skull

The outer surface of the base of the skull (exclusive of the mandible) extends from the incisor teeth to the occipital protuberance, and is bounded on each side by the alveolar arch, zygomatic arch, temporal bone and the superior nuchal line of the occipital bone.

The external surface of the cranial base is formed by the palatine processes of the maxillary and palatine bones, the vomer, the pterygoid process, the inferior surfaces of the great wings, the spinous processes and body of the sphenoid bone, the inferior surfaces of the squamous, mastoid and petrous portions of the temporal bones. On this undersurface of the skull the following openings and prominences are readily identifiable: incisive canals and palatine foramina; the posterior nasal spine, choanae, pterygoid canals and hamulus; the pharyngeal tubercle; the foramen ovale, foramen spinosum, stylomastoid foramen and foramen lacerum; the carotid canal, the depression leading to the cochlear aqueduct, the jugular foramen, the foramen magnum and the condyloid canal; the mandibular fossa, occipital groove, the sulcus for the auditory tube and the mastoid process.

For portrayal of the less prominent features the reader is referred to the illustrations of the separate bones of the skull.