

Note: If subdivisions of the arc are to be recorded, include only those specimens in which there are no intercalated bones at bregma or lambda.

VISUAL OBSERVATIONS

As in the case of measurements, so in that of visual observations, only those will be included in the scheme presented here which are of more than casual importance, and which are needed if the observer is to transmit, or the student receive, a well-rounded impression of the specimen or series examined. On special occasions other observations may become of importance and may then be included in the general scheme, or be carried out separately.

A well organized system of observations renders work easier, more rapid, and more accurate. The main care to be exercised by the student in this connection is that his standards correspond as closely as possible to those generally accepted or understood; and in the report on his work he should invariably include brief but clear explanatory statements as to his use of terms and standards. In recording, all unnecessary details should be avoided. Observation blanks are given below.

The subsequent notes will be of assistance in recording the visual observations. They are given in the same order as followed in the blanks. In recording, for "average," "medium," "ordinary," "normal," use always the sign +; for other characters use abbreviations. Rare features deserve separate and comprehensive description.

NOTES

Pathological: Under this term are included injuries, signs of disease, and pathological exostoses, but no morphological abnormalities.

VAULT: *Form from above* (Norma superior)—Main types: Ovoid, pentagonal, elliptical—short, medium or long; rotund.

Supraorbital ridges: Traces, slight, moderate; medium (+, feminine, masculine); pronounced; excessive; neanderthaloid arch.

Mastoids: Small, moderate or submedium, medium (+), large, excessive; peculiarities.

Forehead: High, medium (+), or low; vertical, slightly, moderately or markedly sloping; eminences reduced to one central, or unduly bulging; assymetry (slight or marked); overhanging (hydrocephalus). Metopic suture; metopic ridge.

SAMPLE BLANKS:

CRANIA—OBSERVATIONS

Sex—

| Cat. No. | Pathological | Vault | | | | | | |
|----------|--------------|-----------------------------------|----------------------|----------|----------|-----------------|-------------------------|---------|
| | | Shape from above (Norma Superior) | Supra-orbital Ridges | Mastoids | Forehead | Sagittal Region | Temporo-Parietal Region | Occiput |
| | | | | | | | | |

CRANIA—OBSERVATIONS (continued)

Sex—

| Temporal Crests | Occipital Crests | Sutures | | | | Face | |
|-----------------|------------------|-----------|-------------------------|-----------|----------|--|--------|
| | | Serration | Synostosis (Externally) | Anomalies | Pterions | Prognathism: (a) Facial (b) Alveolar | Orbits |
| | | | | | | | |

CRANIA—OBSERVATIONS (continued)

Sex—

| Malars | Zygomas | Suborbital Fosse | Nose | | | Palate | | Base |
|--------|---------|------------------|-------------|-------|---------------------------|--------|---------------|-------------------------|
| | | | Nasal Bones | Spine | Lower Borders of Aperture | Form | Peculiarities | Foramen Lacrimum Medium |
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CRANIA—OBSERVATIONS (continued)

Sex—

| Depression of Petrous Parts | Styloids | Special | Lower Jaw | | Teeth | | | |
|-----------------------------|----------|---------|-----------|---------------|-----------|------|-------|-----------------------|
| | | | Chin | Peculiarities | Dentition | Wear | Decay | Special and Anomalies |
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Sagittal region; Under normal conditions, from side to side, oval, moderately or markedly elevated (keeled).

Temporo-parietal region: Parietal eminences may be indistinct, medium, or prominent; temporal region may be flat, medium, or bulging.

Occiput: Assymetry? Flattening? If undeformed: convex, moderately protruding, markedly protruding.

External occipital protuberance: absent, moderate, pronounced, double; iniac fossa.

Temporal crests: State nearest approach to sagittal suture; and whether or not extending over the lambdoid suture on to the occipital.

Occipital crests: Absent, slight, moderate, well developed, pronounced.

Sutures: Serration—none, slight, medium, complex (terms based on conditions in average skulls of Whites). Student may also refer to given standards (Broca, Martin), but above terms when used with proper care are quite sufficient. *Synostosis*: State briefly location, and percentage of suture involved. *Anomalies*: Abnormal sutures—give location and extent. Intercalated bones—state briefly location, nature, number; in more important cases give separately size and other particulars.

Pterions: Give type (H, K, X, I); breadth, if special; note epipteric bones; watch for possible anomalous sutures in wing of sphenoid.

FACE: *Prognathism*, facial and alveolar—none, slight, medium (+), above medium, pronounced.

Orbits: Borders sharp or dull; note important anomalies.

Suborbital fossae: Slight convexity instead; or, concavity slight, medium (+), pronounced.

Malars: Size—submedium, medium (+), large; protrusion—slight, submedium, medium (+), marked. Watch for partial and complete malar sutures.

Zygomæ: Strength: Slender, moderate, strong, massive.

Nose: Nasal bones—narrow, medium (+), broad; anomalies.

Nasal spine: Absent (may even be groove instead), diminutive, medium (+), pronounced; when small may be bifid.

Lower borders of nasal aperture: Sharp, dull; simian gutters—moderate or pronounced; subnasal fossae—small, moderate, large. Assymetry.

Palate: Form—elliptic, ovoid, U-shaped, rotund, horseshoe-shaped. Shallow or high. Torus. Marked remnants of or complete intermaxillary sutures.

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|----|---------|
| o- | Occiput |
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|---|--------|
| r | Orbits |
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|----|------------------------------|
| | Base |
| r- | Foramen Lacerum Medium |

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|---|--------------------------|
| y | Special and Anomalies |
|---|--------------------------|

BASE: *Foramen lacerum medium*: Of evolutionary and developmental importance.¹ May be small, submedium, medium, or spacious.

Depression of Petrous Parts: Of evolutionary and developmental importance.¹ The depression is in relation to the inferior surface of the basilar process. The petrous portions may be slightly above the level of the process, or present a slight, medium (+), or pronounced depression below the plane of the basilar process (as viewed with the base facing the observer).

Styloids: Absent, diminutive, small, medium (+), excessive.

Special: The base offers numerous anomalies, such as pterygo-spinous foramina, defects in the floor of the auditory meatus, basilar fossa, pharyngeal canal, great inequalities of the jugular canals, various anomalies about the foramen magnum—basilar spine, third condyle, pre-condylar processes, rudimentary atlas, accessory articular facets, paroccipital (paramastoid) processes, etc. In view of the multiplicity of these features it is best to make a special examination for those the observer may wish to report upon.

LOWER JAW: *Chin*—pointed, rounded, square; receding, vertical, slight, medium or marked protrusion. **Peculiarities:** Report extraordinary features of importance.

TEETH: **Dentition:** In children and adolescents note all teeth erupting or erupted. Teeth of first and second dentition must be carefully distinguished. **Wear:** None, slight, moderate, marked, excessive. **Decay:** Note number of teeth lost through or affected by decay. **Special and Anomalies:** Ventral surface of upper incisors may be marked by shovel-shaped concavity with pronounced rim, which is characteristic of the American Indian, occurs occasionally in other yellow-brown people, but is rare or less frequent in other races. In line of dental irregularities and anomalies note crowding, impactions, congenital defects of eruption, supernumerary teeth, and abnormalities of individual teeth. A study of the cusps, as well as that of the form and size of the teeth, is best carried out separately.

¹ See Hrdlička (A.), "Certain Racial Characteristics of the Base of the Skull," *Science*, 1901, XIII, 309; also *Proc. Assoc. Amer. Anatomists*, 15th Session, *Amer. J. Anat.*, 1901-2, I, 508-9.

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