

In comparing the shape of one skull with that of another it is necessary to adopt some definite position in which the skulls should be placed during the process of examination. They should be so placed that a line carried through the lower margin of the orbit and upper margin of the external acoustic meatus is in the horizontal plane. The normæ of one skull can then be compared with those of another, and the differences in contour and surface form noted. Further, it is necessary that the various linear measurements used to determine the shape of the skull should be made between definite and easily localized points on its surface. The principal points may be divided into two groups: (1) those in the median plane, and (2) those on either side of it.

The Points in the Median Plane are the:

Mental Point. The most prominent point of the chin.

Alveolar Point or *Prosthion.* The central point of the anterior margin of the upper alveolar arch.

Subnasal Point. The middle of the lower border of the anterior nasal aperture, at the base of the anterior nasal spine.

Nasion. The central point of the frontonasal suture.

Glabella. The point in the middle line at the level of the superciliary arches.

Ophryon. The point in the middle line of the forehead at the level where the temporal lines most nearly approach each other.

Bregma. The meeting point of the coronal and sagittal sutures.

Obelion. A point in the sagittal suture on a level with the parietal foramina.

Lambda. The point of junction of the sagittal and lambdoidal sutures.

Occipital Point. The point in the middle line of the occipital bone farthest from the glabella.

Inion. The external occipital protuberance.

Opisthion. The mid-point of the posterior margin of the foramen magnum.

Basion. The mid-point of the anterior margin of the foramen magnum.

The Points on Either Side of the Median Plane are the:

Gonion. The outer margin of the angle of the mandible.

Dacryon. The point of union of the antero-superior angle of the lacrimal with the frontal bone and the frontal process of the maxilla.

Stephanion. The point where the temporal line intersects the coronal suture.

Pterion. The point where the great wing of the sphenoid joins the sphenoidal angle of the parietal.

Auricular Point. The center of the orifice of the external acoustic meatus.

Asterion. The point of meeting of the lambdoidal, mastoöccipital, and mastoparietal sutures.

The *horizontal circumference* of the cranium is measured in a plane passing through the glabella (Turner) or the ophryon (Flower) in front, and the occipital point behind; it averages about 50 cm. in the female and 52.5 cm. in the male.

The *occipitofrontal* or *longitudinal arc* is measured from the nasion over the middle line of the vertex to the opisthion: while the *basinasal length* is the distance between the basion and the nasion. These two measurements, plus the antero-posterior diameter of the foramen magnum, represent the *vertical circumference* of the cranium.

The *length* is measured from the glabella to the occipital point, while the *breadth* or greatest transverse diameter is usually found near the external acoustic meatus. The proportion of

breadth to length $\frac{(\text{breadth} \times 100)}{\text{length}}$ is termed the *cephalic index* or *index of breadth*.

The *height* is usually measured from the basion to the bregma, and the proportion of height to length $\frac{(\text{height} \times 100)}{\text{length}}$ constitutes the *vertical* or *height index*.

In studying the face the principal points to be noticed are the proportion of its length and breadth, the shape of the orbits and of the anterior nasal aperture, and the degree of projection of the jaws.

The *length of the face* may be measured from the ophryon or nasion to the chin, or, if the mandible be wanting, to the alveolar point; while its *width* is represented by the distance between the zygomatic arches. By comparing the length with the width of the face, skulls may be divided into two groups; *dolichofacial* or *leptoprosop* (long faced) and *brachyfacial* or *chemoprosop* (short faced).

The *orbital index* signifies the proportion which the orbital height bears to the orbital width, thus:

$$\frac{\text{orbital height} \times 100}{\text{orbital width}}$$

The *nasal index* expresses the proportion which the width of the anterior nasal aperture bears to the height of the nose, the latter being measured from the nasion to the lower margin of the nasal aperture, thus:

$$\frac{\text{nasal width} \times 100}{\text{nasal height}}$$