

of puberty, when a second period of activity occurs: this results in an increase in all directions, but it is especially marked in the frontal and facial regions, where it is associated with the development of the air sinuses.

Obliteration of the sutures of the vault of the skull takes place as age advances. This process may commence between the ages of thirty and forty, and is first seen on the inner surface, and some ten years later on the outer surface of the skull. The dates given are, however, only approximate, as it is impossible to state with anything like accuracy the time at which the sutures are closed. Obliteration usually occurs first in the posterior part of the sagittal suture, next in the coronal, and then in the lambdoidal.

In old age the skull generally becomes thinner and lighter, but in a small proportion of cases it increases in thickness and weight, owing to an hypertrophy of the inner table. The most striking feature of the old skull is the diminution in the size of the maxillæ and mandible consequent on the loss of the teeth and the absorption of the alveolar processes. This is associated with a marked reduction in the vertical measurement of the face and with an alteration in the angles of the mandible.

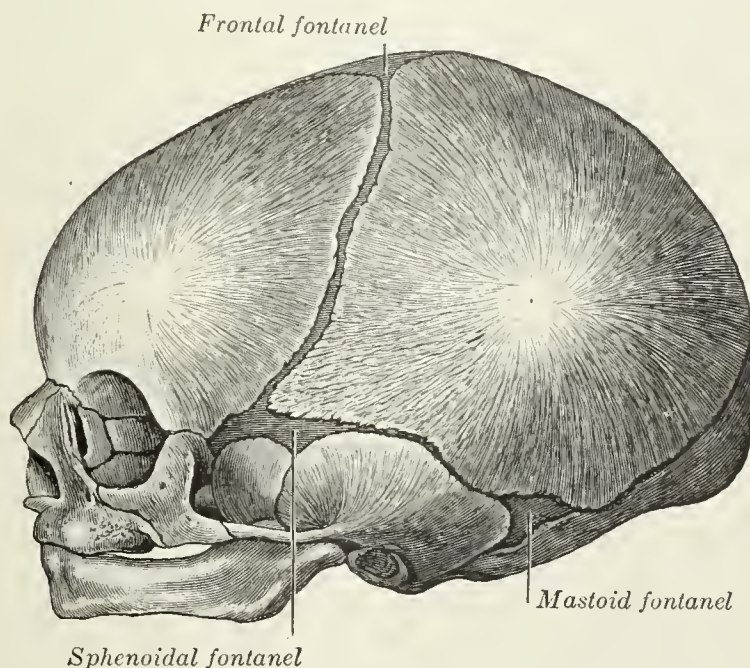


FIG. 198.—Skull at birth, showing sphenoidal and mastoid fonticuli.

### SEXUAL DIFFERENCES IN THE SKULL.

Until the age of puberty there is little difference between the skull of the female and that of the male. The skull of an adult female is, as a rule, lighter and smaller, and its cranial capacity about 10 per cent. less, than that of the male. Its walls are thinner and its muscular ridges less strongly marked; the glabella, superciliary arches, and mastoid processes are less prominent, and the corresponding air sinuses are small or rudimentary. The upper margin of the orbit is sharp, the forehead vertical, the frontal and parietal eminences prominent, and the vault somewhat flattened. The contour of the face is more rounded, the facial bones are smoother, and the maxillæ and mandible and their contained teeth smaller. From what has been said it will be seen that more of the infantile characteristics are retained in the skull of the adult female than in that of the adult male. A well-marked male or female skull can easily be recognized as such, but in some cases the respective characteristics are so indistinct that the determination of the sex may be difficult or impossible.

### CRANIOLOGY.

Skulls vary in size and shape, and the term craniology is applied to the study of these variations. The capacity of the cranial cavity constitutes a good index of the size of the brain which it contained, and is most conveniently arrived at by filling the cavity with shot and measuring the contents in a graduated vessel. Skulls may be classified according to their capacities as follows:

1. *Microcephalic*, with a capacity of less than 1350 c.cm.—*e. g.*, those of native Australians and Andaman Islanders.
2. *Mesocephalic*, with a capacity of from 1350 c.cm. to 1450 c.cm.—*e. g.*, those of African negroes and Chinese.
3. *Megacephalic*, with a capacity of over 1450 c.cm.—*e. g.*, those of Europeans, Japanese, and Eskimos.