

skull in which one or both parietals had been divided by an antero-posterior suture into an upper and a lower part. In Winslow's and von Sömmerring's cases the crania were adults, in von Doeveren's the skull was that of a child. Wenzel Gruber described<sup>1</sup> the skull of a male foetus in which, along with other malformations, the left parietal was divided into an upper and a lower portion; also the cranium of an adult in which the posterior and lower part of the left parietal was a separate piece: in 1870 he described and figured<sup>2</sup> a right parietal in a youth as divided into two parts by a suture extending diagonally from the anterior end of the sagittal suture to about the middle of the lambdoidal: in 1876 he described and figured<sup>3</sup> an adult male skull, in which the postero-inferior angle of the parietal, with the part of the bone for some distance above it, was separated from the rest by a suture extending from the squamous to the lambdoidal suture: in 1879 he described<sup>4</sup> three other adult crania; in one the posterior and lower part of the left parietal was separate from the rest of the bone by a suture extending from the squamous to near the apex of the lambdoidal suture, in a second each parietal was divided by a suture extending forwards from the lambdoidal through the lower part of the bone, in the third the right parietal was divided by a suture passing from the lower end of the coronal to about the middle of the lambdoidal suture. Lucæ<sup>5</sup> and Welcker<sup>6</sup> have each described a skull with the parietal divided by an antero-posterior fissure into an upper and a lower part. Hyrtl has also figured<sup>7</sup> the skull of an adult and those of three foetuses in which a similar division of the bone was met with.<sup>8</sup>

In all the specimens the os planum of the ethmoid was small, and wherever it was uninjured, so that its shape could be determined, it was quadrilateral in form, although in Z its anterior border was elongated forwards and not vertical. In D, F, H, and L, remains of the maxillo-premaxillary suture were visible on the surface of the hard palate. Only in C had the hard palate any great depth, being 16 mm. in that skull opposite the second molar tooth. In five crania a suture extended from the infraorbital foramen through the lower border of the orbit into the floor of the orbit and the infraorbital canal.

In E the nasal bones had apparently not been developed. The nasal spine of the frontal bone appeared on the surface of the osseous bridge of the nose, immediately below the glabella, and descended between the ascending processes of the superior maxillæ. Below the free end of this spine the ascending processes of the superior maxillæ articulated with each other mesially for about  $\frac{2}{10}$ ths of an inch. In the same skull a distinct

<sup>1</sup> Abhandl. a. d. mensch. u. vergl. Anatomie, 1852; also *Mém. de l'Acad. Imp. de St. Petersbourg*, ser. 7, t. ii., 1859.

<sup>2</sup> *Virchow's Archiv*, Bd. 1., p. 113, 1870.

<sup>3</sup> *Virchow's Archiv*, Bd. lxvi., p. 468, 1876.

<sup>4</sup> Beobachtungen aus der menschlichen und vergleichenden Anatomie, Heft ii. p. 12, e.s. pl. iii., Berlin 1879.

<sup>5</sup> Zur Architectur d. Menschenschädels, 1857.

<sup>6</sup> Untersuch. ü. Wachsthum u. Bau des mensch. Schädels, 1862.

<sup>7</sup> Die doppelten Schläfelinien der Menschen-schädel, *Denkschr. d. k. Akad. d. Wiss. Wien*. 1871.

<sup>8</sup> At the meeting of the Anatomical Section of the International Medical Congress, at which I exhibited and described the Admiralty Island crania, I understood Prof. von Kölliker to say that a similar skull was in the Museum of the University of Würzburg.