in the lip (hare-lip). On examining a cleft palate in which the alveolus is not implicated, the cleft will generally appear to be in the median line, but occasionally is unilateral and in some cases bilateral. To understand this it must be borne in mind that three processes are concerned in the formation of the palate—the palatine processes of the two maxillæ, which grow in horizontally and unite in the middle line, and the ethmovomerine process, which grows downward from the base of the skull and frontonasal process to unite with the palatine processes in the middle line. In those cases where the palatine processes fail to unite with each other and with the medial process, the cleft of the palate is median; where one palatine process unites with the medial septum, the other failing to do so, the cleft in the palate is unilateral. In some cases where the palatine processes fail to meet in the middle, the ethmovomerine process grows downward between them and thus produces a bilateral cleft. Occasionally there may be a hole in the middle line of the hard palate, the anterior part of the hard and the soft palate being perfect; this is rare, because, as a rule, the union of the various processes progresses from before backward, and therefore the posterior part of the palate is more frequently defective than the anterior.

THE EXTREMITIES.

The bones by which the upper and lower limbs are attached to the trunk constitute respectively the shoulder and pelvic girdles. The **shoulder girdle** or **girdle of the superior extremity** is formed by the scapulæ and clavicles, and is imperfect in front and behind. In front, however, it is completed by the upper end of the sternum, with which the medial ends of the clavicles articulate. Behind, it is widely imperfect, the scapulæ being connected to the trunk by muscles only. The **pelvic girdle** or **girdle of the inferior extremity** is formed by the hip bones, which articulate with each other in front, at the symphysis pubis. It is imperfect behind, but the gap is filled in by the upper part of the sacrum. The pelvic girdle, with the sacrum, is a complete ring, massive and comparatively rigid, in marked contrast to the lightness and mobility of the shoulder girdle.

THE BONES OF THE UPPER EXTREMITY (OSSA EXTREMITATIS SUPERIORIS).

The Clavicle (Clavicula; Collar Bone).

The **clavicle** (Figs. 200, 201) forms the anterior portion of the shoulder girdle. It is a long bone, curved somewhat like the italic letter *f*, and placed nearly horizontally at the upper and anterior part of the thorax, immediately above the first rib. It articulates medially with the manubrium sterni, and laterally with the acromion of the scapula.[1] It presents a double curvature, the convexity being directed forward at the sternal end, and the concavity at the scapular end. Its lateral third is flattened from above downward, while its medial two-thirds is of a rounded or prismatic form.

Lateral Third.—The lateral third has two surfaces, an upper and a lower; and two borders, an anterior and a posterior.

Surface.—The **upper surface** is flat, rough, and marked by impressions for the attachments of the Deltoideus in front, and the Trapezius behind; between these impressions a small portion of the bone is subcutaneous. The **under surface** is flat. At its posterior border, near the point where the prismatic joins with the flattened portion, is a rough eminence, the **coracoid tuberosity** (*conoid tubercle*); this, in the natural position of the bone, surmounts the coracoid process of the scapula, and gives attachment to the conoid ligament. From this tuberosity an oblique ridge, the **oblique** or **trapezoid ridge**, runs forward and lateralward, and afford attachment to the trapezoid ligament.

[1] The clavicle acts especially as a fulcrum to enable the muscles to give lateral motion to the arm. It is accordingly absent in those animals whose fore-limbs are used only for progression, but is present for the most part in animals whose anterior extremities are clawed and used for prehension, though in some of them—as, for instance, in a large number of the carnivora—it is merely a rudimentary bone suspended among the muscles, and not articulating with either the scapula or sternum.