

united to the sternum (s) by means of sternal appendices, which are ossified, and appear as the continuations of the ribs, or as if the ribs were jointed in the middle.

The sternum is of enormous size, extending over a considerable part of the abdomen, and having a large perpendicular crest descending, like the keel of a ship, from its lower surface. The object of this great development is to furnish extensive attachment to the large pectoral muscles employed to move the wings, and which, taken together, are generally heavier than the rest of the body. Considered with reference to all the other muscles, and to the weight of the body itself, these pectoral muscles are of enormous strength. The flap of a swan's wing is capable of breaking a man's leg; and a similar blow from an eagle has been known to be instantly fatal. The bat is the only instance, among the mammalia, where the sternum presents this peculiar *carinated*, or keel-like shape; and the purpose is evidently the same as in the bird.\*

The scapula is generally a small and slender bone. The coracoid bone ( $\kappa$ ) is largely developed, and assumes much of the appearance of a clavicle.† But the real clavicles (c) are united below, where they join the forepart of the sternum, appearing as one bone, which, from its forked shape, has been denominated the *furcular bone*. In the fowl it is commonly known by the name of the *merry-thought*. This bone, placed at the origin of the wings, and stretching from one to the other, is of great importance as constituting a firm basis for their support, and for securing their steadiness of action; and being, at the same time, very elastic, it tends to

\* Notwithstanding the great modification which the sternum has received in the bird, when compared with its form in the tortoise and the quadruped, we may still trace the same nine elements entering into its composition, though developed in very different proportions.

† Many have considered this bone as being the clavicle, and have regarded the furcular bone as a new bone, or supplementary clavicle; but all the analogies of position and of development are in favour of the views stated in the text.