

are developed, this intimate relation between the muscles and the vertebræ diminishes. The muscles are unequally distributed and are concentrated about the limbs, where the greatest amount of muscular force is required. For this reason, the largest masses of flesh in the higher vertebrates are found about the shoulders and hips; while in fishes they are concentrated about the base of the tail, which is the part principally employed in locomotion.

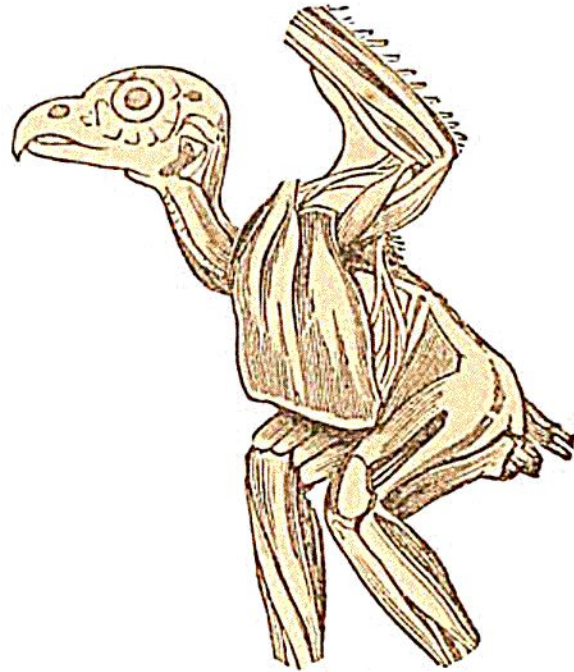


Fig. 30.

## SECTION II.

### OF LOCOMOTION.

163. One of the most curious and important applications of this apparatus of bones and muscles is for **Locomotion**. By this is understood the movement which an animal makes in passing from place to place, in the pursuit of pleasure, sustenance, or safety, in distinction from those motions which are performed equally well while stationary, such as the acts of respiration, mastication, &c.

164. The means which nature has brought into action to effect locomotion under all the various circumstances in which animals are placed, are very diversified; and the study of their adaptation to the necessities of animals is highly interesting in a mechanical, as well as in a zoölogical point of view. Two general plans may be noticed, under which these varieties may be arranged. Either the whole body is