

office of a real wing. The bat flies with perfect ease, even while carrying along with it one or two of its young: it is not, however, fitted for very long flights.

The conformation of the skeleton is adapted to this new and important function. The chest is broad and capacious to admit of free respiration while the animal is flying, and to afford ample space for the attachment of the large muscles which have become necessary. The scapulæ (s) are large, and of a singular form, and they are kept at a considerable distance asunder by the expanded chest: their coracoid processes are also large, and extend in the direction of the sternum. The clavicles (c) are of enormous size and length, being larger than either the scapula or the sternum, and remarkably curved in their shape. The sternum is much developed, extending laterally, and having a projecting crest along the middle of its lower surface. The humerus (H) is strong, but short; apparently in order to avoid the danger of its being snapped asunder by the violent actions of the pectoral muscles, had it been longer. As the leading object of the structure is to give power to the wing, there was no necessity for the rotatory motion of the bones of the fore-arm; and accordingly we find them consolidated into one (R;) or rather no part of the ulna is developed, except the process of the olecranon, or elbow, which has become soldered to the radius.

These advantages in the construction of the fore extremities are obtained at the expense of the hinder, which are too feeble to support the weight of the body in the upright position required for walking, in consequence of the centre of gravity being between the wings. On a level plane, indeed, the bat can advance only by a kind of crawling or hopping motion. The whole anterior half of the trunk is much more fully developed than the posterior half, which appears as if its growth had been arrested. The pelvis (P) is of diminutive size, compared with the rest of the skeleton: the pubic bones are lengthened backwards, and are joined merely at a small point. The whole posterior limb is short, the femur (f) com-