

size, for instance the *ostrich*,* *emu*,† &c., that have only rudiments of wings, and which never fly, and for their locomotions depend chiefly upon their legs, to which the muscles of power are given, instead of to the wings.

Amongst the terrestrial animals that give suck to their young, there is a single Family which the Creator has gifted with organs of excursive flight, and these afford the only example of the *third* kind of those organs mentioned above. These cannot, like insects and birds, traverse the earth upon *legs*, as well as flit through the air upon *wings*; for the analogues of the legs of quadrupeds, not solely of the anterior pair, as in birds, but of both pairs, form the bony structure by which the wing is extended and moved, and to which it is attached. It will be immediately seen that I am speaking of the *bats* and *vampyres*. These animals, which form the first Family of Cuvier's Order of Carnivorous Mammalians,‡ are denominated *Cheiroptera*, or hand-winged, because in them the four fingers of the hand, the thumb being left free, are very much elongated so as to form the supports and extensors of the anterior portion of the membrane of which the wing is formed; while the hind leg and the tail, in most, perform the same office for the posterior portion of the wing: so that two wings appear to be united to form one ample organ of flight. The membrane itself, which forms the wing, is only a continuation of the skin of the flanks: as in the wings of insects, it is double, very fine, and so thin as to be semi-transparent; it is traversed by some blood-vessels, and muscular fibres—doubtless accompanied by nerves—which when the wings are folded form little cavities placed in rows, resembling the meshes of a net. As bats are not provided with air-cells, or air in their bones, like birds, and their flight is unassisted by feathers, these wants are compensated to them by wings four or five times the length of their body.

* Struthio.

† Casuarius.

‡ Les Carnassiers.