

7. *Steering Organs*.*—But wings are not the only organs of flight with which the Creator has fitted those animals, to which he has assigned the air as the theatre of their most striking and interesting locomotions. They would be like a ship at sea without a *rudder*, and be altogether at the mercy of every wind of heaven, had they no means to enable them to steer their vessel through the fluctuations of the viewless element assigned to them. The eagle and the vulture would be gifted in vain with the faculty of seeing objects at a great distance, had they no other organ than their sail-broad vans to direct them in their flight. The same remark will apply as well to the insect as to the bird, which would in vain endeavour to discharge its functions, unless it could steer its course according to the direction of its will, and the information furnished by its senses. But, upon examination, we shall find that God hath not left himself without witness in this department, but hath furnished every bird and insect with such an organ of steerage as the case of each required; nay, even amongst the beasts and the reptiles we may discover similar means of directing their motions, especially when they leap, whether from the ground, or from tree to tree.

The *caudal fin*, or tail of fishes, may be regarded as belonging in some degree to this head; but as this is also their principal organ of locomotion, I thought it best to consider it with the other fins.

The *abdomen* of many insects seems to serve them as a rudder, being composed of several inosculating rings formed each of a dorsal and ventral segment; it is capable of considerable flexion in almost all directions; it can be elevated or depressed, and turned to either side, so that it seems, in a great degree, calculated to enable insects to change the course of their flight according to their will.

* Gubernacula.