

they may be employed. The sailing of the eagle, the bounding of the antelope, the swimming of the shark, are not equalled by any movements of insects. This superiority is due to the internal skeleton, which, while it admits a great display of force, gives to the motions, at the same time, a great degree of precision.

### 1. *Plan of the Organs of Locomotion.*

170. The organs of progression in vertebrated animals never exceed four in number, and to them the term *limbs* is more particularly applied. The study of these organs, as characteristic of the different groups of vertebrate animals, is most interesting, especially when prosecuted with a view to trace them all back to one fundamental plan, and to observe the modifications, oftentimes very slight, by which a very simple organ is adapted to every variety of movement. No part of the animal structure more fully illustrates the unity of design, or the skill of the Intellect which has so adapted a single organ to such multiplied ends. On this account, we shall illustrate this subject somewhat in detail.

171. It is easy to see that the wing which is to sustain the bird in the air must be different from the leg of the stag, which is to serve for running, or the fins of the fish that swims. But, notwithstanding their dissimilarity, the wing of the bird, the leg of the stag, and the shoulder fin of the fish, may still be traced to the same plan of structure; and if we examine their skeletons, we find the same fundamental parts. In order to show this, it is necessary to give a short description of the composition of the arm or anterior extremity.

172. The anterior member, in the vertebrates, is invariably composed of the following bones: 1. The *shoulder-blade*, or *scapula*, (*a*,) a broad and flat bone, applied upon one bone of the trunk. 2. The *arm*, (*b*,) formed of a single