

the greater part of the bulk of the body.\* And here we see the correspondence between the strength of this muscle and the rate of flying of the swallow, which is a mile in a minute, for ten hours every day, or six hundred miles a day.† If it be true that birds, when migrating, require a wind that blows against them,‡ it implies an extraordinary power, as well as continuance of muscular exertion.

We thus see how nature completes her work when the intention is that the animal shall rise buoyant and powerful in the air:—the whole texture of the frame is altered and made light, in a manner consistent with strength. We see also how the mechanism of the anterior extremity is changed, and the muscles of the trunk differently directed. But we are tempted to examine those means, which we would almost say are more awkwardly suited for their purpose, where the system of bones and muscles,

\* Borelli makes the pectoral muscles of a bird exceed in weight all the other muscles taken together; whilst he calculates that the pectoral muscles of man are but a seventieth part of the whole mass of the muscles.

† Mr. White says truly, that the swift lives on the wing; it eats, drinks, and collects materials for its nest while flying, and never rests but during darkness.

‡ It is possible that the wind blowing near the ground in one direction may be attended with the motion of a higher stratum of the atmosphere in a contrary direction, and that, the idea of migrating birds flying against the wind may have arisen from this mistake.