

Sometimes, these actions are performed by abrupt strokes, giving rise to an irregular zig-zag course: this is the case with the larva of the gnat, and with many others which have no feet. In the structure of the larva of the *Libellula*, or dragon-fly, a singular artifice has been resorted to for giving an impulse to the body, without the help of external members. It is that of the alternate absorption of water into a cavity in the hinder part of the body, and its sudden ejection from that cavity, so that the animal is impelled in a contrary direction, upon the same principle that a rocket rises in the air by the reaction of that fluid. It has, at various times, been proposed to apply the power of steam to the production of an effect exactly similar to that of which Nature here presents us with so perfect an example, for the purpose of propelling ships, instead of the ordinary mode of steam navigation.

Some larvæ, such as that of the *Stratiomys*, collect a bubble of air, which they retain within a tuft of hair at the extremity of the tail, evidently with a view of diminishing the specific gravity of the body, and thus giving greater efficacy to the muscular actions which they employ in their progression through the water. Another use is also made of these tufts of hair; for, by repelling the water, they allow of the insect's suspending itself from the surface of the fluid, in the manner already noticed, in giving the history of the evolutions of the hydra.\*

The impulse given by the lateral inflections of the body are in many cases assisted by short legs; but the larvæ of the *Ephemera*, though furnished with legs, do not use them for this purpose, and swim simply by the action of the tail. Those of the *Dytiscus* are furnished with a pair of very long members, projecting to a considerable distance from the sides, and flattened at the ends, to serve as oars. The larvæ of the *Hydrophilus* are also admirably formed for swimming; and they not only dart forwards with surprising velocity, but also turn in all directions with the utmost facility.

\* Page 133.