

steps in preparation for a more important change. A time comes when the whole of the coverings of the body are at once cast off, and the insect assumes the form of a *pupa* or *chrysalis*; being wrapt as in a shroud, presenting no appearance of external members, and retaining but feeble indications of life. In this condition it remains for a certain period: its internal system continuing in secret the farther consolidation of the organs; until the period arrives when it is qualified to emerge into the world, by bursting asunder the fetters which had confined it, and to commence a new career of existence. The worm, which so lately crawled with a slow and tedious pace along the surface of the ground, now ranks among the sportive inhabitants of air; and expanding its newly acquired wings, launches forward into the element on which its powers can be freely exerted, and which is to waft it to the objects of its gratification, and to new scenes of pleasure and delight.

Thus do the earlier stages of the development of insects exhibit a recurrence of those structures which are found in the lowest department of this series of animals. The larva, or infantile stage of the life of an insect, is, in all its mechanical relations, a mere worm. The *imago*, or perfect state, on the other hand, exhibits strong analogies with the crustaceous tribes, not only in the general form of the body, but also in the consolidated texture of its organs, (especially of those which compose its skeleton) and in the possession of rigid levers, shaped into articulated limbs, and furnished with large and powerful muscles, from all which circumstances great freedom and extent of motion are derived. To this elaborate frame, nature has added wings, those refined instruments of a higher order of movements, subservient to a more expanded range of existence, and entitling the beings on which they have been conferred to the most elevated rank among the lesser inhabitants of the globe.

The mechanical functions of insects scarcely admit of being reduced to general principles, in consequence of the great diversity of forms, of habits, and of actions, that is met