

wards, the lobster can only swim backwards; and it is assisted in this action by five pairs of false feet, which are attached to the under side of the body, behind the true feet, and which terminate in a fin-shaped expansion, acting like an oar. The extremity of the tail is still more expressly formed for giving effect to the stroke, being terminated by a number of flat scales, which, when expanded, present a broad surface to the water.

The calcareous coverings of these crustacea are analogous to shell both in structure and composition. They contain, however, some phosphate of lime, in addition to the carbonate. The calcareous particles are deposited on a membrane of considerable firmness; and they together compose a dense, but thin and fragile structure, which, in order to distinguish it from the shells of the mollusca, has been denominated a crust. A solid structure of this kind, as we have already seen, does not admit of increase by the extension of its own parts: so that, in order to allow of the growth of the parts which it encloses, it is necessary that it be cast off, and exchanged for a new shell of larger dimensions.

The process by which this periodical casting and renewal of the shell are effected, has been very satisfactorily investigated by Reaumur. The tendency in the body and in the limbs to expand during growth is restrained by the limited dimensions of the shell, which resists the efforts to enlarge its diameter. But this force of expansion goes on increasing, till at length it is productive of much uneasiness to the animal, which is, in consequence, prompted to make a violent effort to relieve itself; by this means it generally succeeds in bursting the shell; and then, by dint of repeated struggles, extricates its body and its limbs. The lobster first withdraws its claws, and then its feet, as if it were pulling them out of a pair of boots: the head next throws off its case, together with its antennæ; and the two eyes are disengaged from their horny pedicles. In this operation, not only the complex apparatus of the jaws, but even the horny cuticle and teeth of the stomach, are all cast off along with the shell: and, last of all, the tail is extricated. But the whole process