

propel the contained food. We find, accordingly, that all animals of a highly developed structure are provided with jaws.

Among the animals which are ranked in the class of Zoophytes, the highest degrees of development are exhibited by the Echinodermata, and in them we find a remarkable perfection in the organs of mastication. The mouth of the *Echinus* is surrounded by a frame-work of shell, consisting of five converging pieces, each armed with a long tooth; and for the movement of each part there are provided separate muscles, of which the anatomy has been minutely described by Cuvier. In the shells of the echini which are cast on the shore, this calcareous frame is usually found entire in the inside of the outer case; and Aristotle having noticed its resemblance to a lantern, it has often gone by the whimsical name of the *lantern of Aristotle*.

In all articulated animals which subsist on solid aliment, the apparatus for the prehension and mastication of the food, situated in the mouth, is exceedingly complicated, and admits of great diversity in the different tribes; and, indeed, the number and variety of the parts of which it consists is so great, as hardly to admit of being comprehended in any general description. In most insects, also, their minuteness is an additional obstacle to the accurate observation of their anatomy, and of the mechanism of their action. The researches, however, of Savigny,* and other modern entomologists, have gone far to prove, that, amidst the infinite variations observable in the form and arrangement of the several parts of these organs, there is still preserved, in the general plan of their construction, a degree of uniformity quite as great as that which has been remarked in the fabric of the vertebrated classes. Not only may we recognise, in every instance, the same elements of structure, but we may also trace regular chains of gradation, connecting forms ap-

* See his "Théorie des Organes de la bouche des Animaux invertébrés et articulés," which forms the first part of the "Mémoires sur les Animaux sans vertèbres." Paris, 1816.