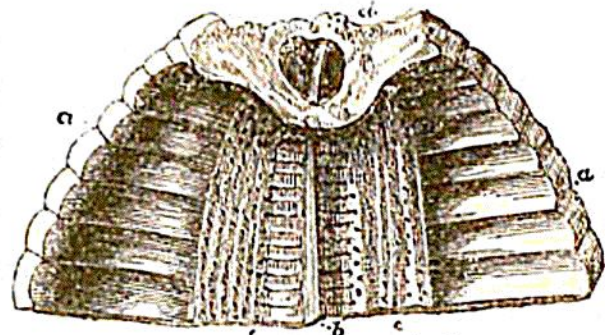


with its two alleys forms the support of one of the frames of the jaws.* These narrow groves consist of about sixty transverse pieces, and when divided of double that number: thus wonderfully is the house in which these animals reside formed by its Divine Builder. The sutures of the human skull, as anatomists observe, admit of its more easy formation into a spherical box: the shell of the sea-urchin is adapted with equal skill and wisdom, the longitudinal sutures favouring the proper flexure one way, and the transverse ones allowing a curvature in a contrary direction: and besides, by this structure, as Mr. Gray has observed and De Blanville intimates, the gradual increment of the shell, by the deposition of fresh matter in all these parts, is rendered easy.

But the spines and suckers of these animals are equally worthy of our notice and investigation; the former as instruments of defence and locomotion, and the latter as instruments of locomotion,

Fig. 17.



Inside of the same shell.

prehension, and respiration. I mentioned the protuberances, large and small, the latter usually planted round the former, shaped like a breast with a central elevation resembling the nipple, these afford a basis with which the spines articulate, being united to it by a membranous ligature or sac, so as to form a kind of ball-and-socket articulation; working upon these protuberances by means of the membrane, the spines can assume every inclination between vertical and horizontal, and may be used both as motive and defensive organs. The great zoological and

- a. a. Dentated suture.
- b. Central ridge of smaller tuberculated plates.
- c. c. Series of apertures through which the suckers are protruded.
- d. One of the frames to which the jaws are fixed.

* Fig. 17, d.