

capable of being elevated and depressed, and not only serve the purpose of defence, but, in many species, give support and protection to the soft rays of the fin; forming, as it were, a moveable mast, by which the sail can be spread out or lowered at pleasure.

The fossil rays occur in all the sedimentary deposits, peculiar forms appearing in the several formations; and each geological epoch, according to M. Agassiz, is characterised by particular species.

In illustration of this subject, I would first direct the attention of the reader to the beautiful fossil, figured *Lign.* 127, fig. 1, which was discovered in the Chalk near Lewes, and is figured, of the natural size, *Foss. South D.* Tab. XXXIX. This ray, or spine, belongs to some of the cartilaginous fishes (*Ptychodus*), whose teeth are so abundant in the Chalk, and will presently be described. It is composed of fourteen thick, flat, osseous rods, or strands, intimately united together, with longitudinal furrows or sutures on the surface. The anterior margin is embossed, and the projections form on the sides wide, rounded ribs, and transverse depressions. Towards the base of the posterior part, there are large, osseous fibres, inserted vertically and obliquely, which appear to have been processes of attachment. The rods, or plates, are parallel with the posterior margin, and each terminates in a rounded extremity, or boss, on the front edge of