

another bifurcation, and seven or eight joints farther on another, and so on, but more irregularly the farther from the centre, till each of the five primary rays has divided into from twenty to thirty ultimate branches, producing a rich crown of more than a hundred arms. The upper surface of each arm-joint is deeply grooved, the lower arched; and from one side of each, alternately on either side of the arm, there springs a series of flattened ossicles. These form the ultimate branchlets, or 'pinnules,' which fringe the arms as the barbs fringe the shaft of a feather. Unfortunately, most of the examples of *Pentacrinus asteria* hitherto procured have had the soft parts destroyed and the disk more or less injured. One specimen, however, in my possession is quite perfect. The body is covered above by a membrane closely tessellated with irregularly-formed flat plates; this membrane, after covering the disk, dips into the spaces between the series of radial joints, and with the joints of the cup completes the body-wall. The mouth is a rounded opening of considerable size in the centre of the disk, and opens into a stomach passing into a short curved intestine which ends in a long excretory tube,—the so-called 'proboscis' of the fossil crinoids,—which rises from the surface of the disk near the mouth. From the mouth five deep grooves, bordered on either side by small square plates, run out to the edge of the disk, and are continuous with the grooves on the upper surface of the arms and pinnules, while in the angles between them five thickened masses of the mailing of the disk surround the mouth like valves. These were at first supposed to answer the purpose of teeth. The