

in interradius 1 (plate III, fig. 3) is strongly suggestive of such a plate with a genital opening. We should consider also the possibility of developing, from our "secondary joint", a true Ophiuroid torus with its spines. These suggestions are made here for the purpose of calling attention to the fact that we are in need of a consistent terminology that can be applied to all classes of Echinoderms and because of the evidence which this specimen, as yet only partially "developed", has to present concerning this matter. It is suggested that we may inaugurate a better terminology by using "epineural" for "ambulacral" in the Crinoidea, and using a new term altogether for the term ambulacra as now used in the Asteroidea. Could I have used "ambulacra" in place of "adambulacra" in this paper I should have been glad to do so but the plates for which I would have used this term are not the ambulacra of Asteroidea.

LOCOMOTION.

The relatively short arms, the small number of marginal ossicles, their flat and close fitting contiguous faces, the absence of re-entrant angles for muscle fields and the marked broadening of the arm as it approaches the disc all speak of rigidity. The arm could neither be used for feeding after the manner of *Asterias* nor could its lateral bending alone have been its means of locomotion.

On the other hand if progress was by means of tube feet with suckers, those long projecting epineurals would make a very effective drag. We may easily recognize the difficulty of moving this veritable harrow over seaweeds or dead shells on a hard bottom unless the epineurals could so shift their position as to adapt themselves to motion in any direction. If they could thus give passive aid there is no reason why they might not give active aid. Tube feet with suckers would be useless on soft bottoms, such as that on which our specimen died, while its spade like epineurals might be used to shift its position over its feeding ground.

Astropecten affords us an important suggestion. "Owing to the loss of suckers it is unable to climb over rocks and stones like the ordinary species, but it runs over the surfaces of the hard sand in which it lives by means of its pointed tube feet." The long and heavy epineurals moved by powerful muscles ought at least to be as effective agents of locomotion as pointed tube feet.

That some arm movement was allowed is shown by arm I in fig. 3 of plate I. The tip is not only turned toward one side

¹ McBride, "Cambridge Natural History" Vol. I, Page 468.