

a local collector "a small worn and rounded fossil, which seemed to be the cup of a Crinoid allied to *Holopus*."

Prof. Moseley tells me that he thinks it was a recent specimen in the dry state; but since it has unfortunately been lost, I am unable to say anything as to its nature.

B. ON THE SYSTEMATIC POSITION OF HOLOPUS.

For some time after the publication of d'Orbigny's original description of *Holopus* the real nature of this remarkable type was more or less misunderstood, partly, perhaps, because the original specimen was tetramerous and not pentamerous like most Crinoids. Eventually, however, Roemer¹ made the genus the type of a new family, Holopocrinidæ; though he did not characterise it more closely. This proceeding was objected to by Quenstedt² partly on account of the imperfection of our knowledge of the type, and partly because he considered it possible that *Holopus* might be merely a larval form, destined eventually to become detached and to undergo further transformations. He added "Die Kürze der Säule, die keilförmigen Armglieder mit einfachen Pinnulen sprechen an meisten für die Comatulafamilie." The latter character, however, is absolutely worthless as a generic distinction, many Comatulæ having discoidal or saucer-shaped arm-joints like those of *Pentacrinus* and *Apiocrinus*, while all the Neocrinoids have simple pinnules. The first peculiarity mentioned by Quenstedt is founded on a misapprehension, for he considered the calyx to be formed of the axillary radials only, regarding the tube-like body-chamber as a stem. It exhibits no transverse segmentation, however, and has five articular facets on its upper edge, while it encloses the viscera; and all these characters are totally foreign to the stem of a larval Crinoid, or indeed of any Crinoid whatever.

In the year 1847 a remarkable new type of fossil Crinoid was described under the name of *Cyathidium* by Steenstrup,³ who spoke of it as like *Eugeniocrinus*, but without a stem. In Theil ii. of the *Lethæa Geognostica*, Roemer made it the type of a separate family Cyathidiocrinidæ, which he placed next to the Holopocrinidæ; but in Theil v. he refers to it as belonging to the Poteriocrinidæ, together with *Eugeniocrinus* and *Taxocrinus*.

Between *Holopus* and Steenstrup's *Cyathidium* from the Faxoe Chalk there is certainly a very close analogy, though there are a few well marked differences. Apart from the bud-like peculiarities of growth presented by *Cyathidium*, it has a more open cup, with relatively thinner walls than that of *Holopus*. Its appearance varies considerably in different individuals, being sometimes low and shallow, and in other cases longer and more tapering.

The articular facets on its upper edge are much smaller than in *Holopus*, and their downward slope faces inwards instead of outwards, as in the recent form (Pl. III. fig. 1).

¹ *Lethæa Geognostica*, Theil. ii. pp. 226, 227.

² *Encriniden*, p. 186.

³ *Amt. Bericht ü. d. 24 Versamml. deutsch. Naturf. und Aerzte in Kiel*, 1846, published 1847, p. 15.