

arms, however, for they bear the pinnules as their larger fellows do; and in some forms the lowest of them (tertiary arms) have a series of unequal axillaries and bear armlets on their inner faces just as the large outer arms do. In such individuals these inner tertiary arms are more equal in size to the outer pair. The two extreme types are well represented on Tab. 97 of the Encriniden, figs. 5 and 6, by Quenstedt, who partially founds upon them the distinction between the "Briariden" and the "Subangularen." In the former group the inner tertiary arms are undivided armlets like those which come off farther out on the ray; while the inner tertiary arms of the Subangularen, though smaller than the outer ones, bear armlets on their inner faces, which correspond to those on the inner faces of the outer arms that spring from the same axillaries.

Owing to the presence of these armlets on the inner tertiary arms, the Subangularen generally have the "finger-reichsten Krone" as pointed out by Quenstedt. This is not always the case, however, for in a specimen from the *Posidonia*-beds of Holzmaden, which is figured by him,¹ the inner tertiary arms are undivided, and their successors are more equal to the outer arms of the ray than in some forms of *Extracrinus briareus*.

Under the name of *Pentacrinus briareus minutus*, Quenstedt² has figured a curious little species in which the division of the arms seems to be somewhat irregular, and the distinction of arms and armlets less marked than is usually apparent in *Extracrinus*. But I do not think that this variation, even if it be established, need have much effect upon the stability of *Extracrinus* as a generic type.

The differences between the Liassic and the recent Pentacrinidæ on which the genus was founded by the Messrs. Austin were at first regarded by the late Sir Wyville Thomson as of merely subgeneric value. Believing that *Pentacrinus briareus* "seems to have a just claim to be recognised as the type of the genus *Pentacrinus*," he introduced the name *Cenocrinus* for the *Pentacrinus caput-Medusæ* of Müller, and one or two fossils which closely resemble it.³ He subsequently abandoned this name, however, and referred the type to *Pentacrinus* as all later writers have done, some recognising *Extracrinus* as a separate genus and some not. The Messrs. Austin⁴ pointed out that Miller "in his arrangement of the Crinoidea has taken the *Pentacrinus caput-Medusæ* for the typical species, while at the same time his generic plate represents the dissected skeleton of quite a different Crinoid. In the hope to remedy this intermingling of genera, we propose to retain Miller's genus *Pentacrinus*, and to continue the *Pentacrinus caput-Medusæ* as the type of the genus;" while the name *Extracrinus* was proposed for the Liassic *Pentacrinus briareus* and *Pentacrinus subangularis*. This arrangement seems decidedly preferable to that proposed by Sir Wyville, who eventually gave up *Cenocrinus* as a subgenus; though I cannot learn that he ever formally adopted *Extracrinus*.

A second subgenus of *Pentacrinus* besides *Cenocrinus* was also proposed by Sir

¹ Encriniden, Tab. 101, fig. 1.

² Sea Lilies, *The Intellectual Observer*, August 1864, p. 3.

³ *Ibid.*, Tab. 99, fig. 177.

⁴ Monograph, p. 95.