

that the character on which von Meyer established *Chelocrinus* is one of no systematic value whatever. One of the two species on which he founded the genus was the *Encrinus pentactinus* of Bronn.¹ This name was proposed for a single specimen which presented a very remarkable combination of characters. The cup appears to be that of a typical *Encrinus* with some twenty biserial arms. The stem has a rounded pentagonal outline, and consists of about twenty-five joints, some of which bear verticils of five cirri. Beyrich appears to consider these characters as of altogether subordinate value, for he says²—“die etwas abweichende Form des fünfseitigen Stengels mit deutlich eingesenkten Seiten kann eben so wenig für ein unterscheidendes Artmerkmal gelten, wie die von Bronn beobachteten kurzen Cirren, welche anscheinend individuell hier und da bei verschiedenen *Encrinus*-arten vorkommen können.” There is a considerable difference, however, between a regular verticillate arrangement of cirri and their occasional presence here and there upon the stem, about which Beyrich does not speak very confidently, so far as *Encrinus* is concerned. I cannot make out, indeed, that any stem of an *Encrinus* has ever been described as bearing isolated cirri in the manner referred to by Beyrich; while, on the other hand, the verticillate arrangement has been discovered by Picard³ in an imperfectly preserved fragment from the Muschelkalk which he has described as *Encrinus beyrichi*—“Der Stengel ist von seinem untersten Theile an mit Ranken versehen. Dieselben treten von unten herauf erst spärlicher und in grösseren Abständen auf; am oberen Theile ist je das achte Säulenglied ein Cirrenträger und erscheint horizontal etwas verdickt. Die Anhaftestelle für die Cirre befindet sich regelmässig auf der concaven Fläche zwischen je zwei der fünf Kanten, so dass ein Wirtel von 5 Cirren den Stiel umgiebt.” He continues—“Als *Pentacrinus* wage ich meinen Fund nicht auszusprechen. Denn obwohl die Fülle an Cirren und der ganze Habitus der Säule sehr zu dieser Auffassung drängt, hat mich doch die Zusammensetzung der Krone, soweit sie klar ist, bestimmt, bei der Gattung *Encrinus* zu bleiben.” There would seem therefore to be no doubt as to the occurrence of cirrus-verticils on the stems of other Neocrinoids besides the Pentacrinidæ; while there are certain Palæocrinoids both in this country and in America which present the same character. Although, however, this fact diminishes the value of that peculiarity of the Pentacrinidæ which is most evident at first sight, it does not follow that the verticillate arrangement of the cirri in these other types is also associated with the presence of syzygies at the nodes and the mode of union of the internodal joints, which are such especial features of all the Pentacrinidæ. The *Pentacrinus dubius* of Goldfuss and Quenstedt shows these points very well, the five petals being visible on the faces of many joints found in the Muschelkalk at different localities; while the stem of von Schlotheim's specimen (6 inches long)

¹ Ueber die Krinoideen-Reste im Muschelkalk, *Neues Jahrb. f. Mineralogie*, Jahrg. 1837, p. 32, Taf. ii.

² Crinoideen des Muschelkalks, *loc. cit.*, p. 36.

³ *Zeitschr. d. deutsch. geol. Gesellsch.*, Jahrg. 1883, p. 201.