

EXPLANATION OF THE PLATE.

Fig. 1. Is a sketch of the Chalk Cliffs between Deal and Folkstone. It must however, be noticed that in this sketch, the height of the cliffs is too great in proportion to their length, the dip of the strata being somewhat less than one degree. If reduced to their actual proportionate height, it would scarcely exceed one-fourth that of the sketch.

Fig. 2. Is a view of the Chalk Cliffs forming Cape Blanc Nez on the coast of France, opposite to Dover. It will be observed that the beds of Fig. 1 & 2 seem to dip in opposite directions, but if the spectator be supposed to be on the sea between the two coasts, he will look nearly north while viewing the Cliffs near Dover, but nearly south when viewing Cape Blanc Nez. The dip in both is towards the east.

Fig. 3. Represents an *Inoceramus* from the Chalk with few flints near Dover; it is described at page 44, by Mr. Parkinson, who has named it *Inoceramus Lamarckii*.

Figs. 4. & 5. Are *Inocerami* from the blue marle near Folkstone; they are described by Mr. Parkinson at page 48, as *Inoceramus concentricus*, and *Inoceramus sulcatus*.

*Descriptions of some new Fossil Encrini and Pentacrini, lately
discovered in the neighbourhood of Bristol.*

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THE fossils represented in the accompanying drawings are so beautiful in their forms, and add so much to the history of the encrini, inasmuch as the greater part of them are of new species, that I have thought the figures of them would prove interesting to the Geological Society. The principal part of them has been discovered in the limestone beds on the river Avon near to Bristol, which pass from thence in a direction a little to the south of west to the sea at Clevedon point, at which latter place remains of this class are abundant. One of the beds near Clifton, called the black rock, contains parts of stems of encrini in great quantity, and sometimes white circular rings of calcareous spar. It was, I believe, first suspected by Mr. Brackenridge and Mr. Miller, of Bristol, that these latter were the hollow heads of the same animals. On polishing several specimens cut in different directions, there appeared no reason to doubt the correctness of this supposition, although the compactness of the stone rendered it impossible to extricate them.

A polished specimen of the limestone of the Black Rock containing one of these supposed heads, is represented in plate 2, fig. 1.

After much research, Mr. Benton found in a crevice in these beds a specimen of one of these heads, which is now in Mr. Miller's collection. This discovery proved the truth of the supposition, as it was evidently the section of a similar body which caused the marks before mentioned in the limestone. In these crevices, clay was found in which were many detached plates of the upper parts of encrini, apparently of different species, as well as portions of stems or trochitæ, as they are usually called; among the latter were several of different species both cylindrical and pentagonal. Since that time, many gentlemen of this vicinity have sought with much activity for similar objects. Their activity has been rewarded with considerable success, as the accompanying drawings will shew. I will now proceed to describe these objects, noticing the spot where each specimen was found.

Plate 2, Fig. 2.

This specimen was discovered by me in the month of August, 1816, in a shelf of decomposing limestone, near Woodspring Abbey Farm, in the neighbourhood of Whorle in Somersetshire. It is to be regretted that these bodies are generally much broken and injured, and it is very rarely that one is found as perfect as the present specimen. Its plates are of a lightish colour, and the limestone that fills it is much harder than that in which it was imbedded.

Plate 2, Fig. 3.

Is another of the same species, from the same limestone at Woodspring. This species has probably some resemblance in its nature

to that in the British Museum, which has been called by Mr. Parkinson, the Nave Encrinus (see Organic Remains, vol. 2, pl. 17 fig. 3,) as in this specimen are seen the double openings for the branching arms.

Plate 2, Fig. 4.

In November, 1816, Mr. Page discovered the specimen which is here represented in a fragment of coarse reddish limestone, containing many remains of encrini, at Burrington Combe, twelve miles from Bristol. The specimen is much weather-worn, but appears to have a considerable resemblance to the nave encrinus before noticed. The drawing is of the natural size.

Plate 2, Fig. 5 and 6

Is a fragment exhibiting the interior of one of the same species as the preceding, and from the same place; it was with much difficulty cleared from the limestone in which it was imbedded. A magnified representation of the arrangement of the plates is given, fig. 6. These hexagonal marks are darker than the rest of the specimen.

Plate 2, Fig. 7

Is another head, found also by Mr. Page, at the same place. It is particularly interesting, as shewing one of the passages into the branching arms which is perfectly smooth, as well as the whole of the cavity. There is also a small passage entering the stem, which is not visible in the drawing. This specimen differs from the preceding, in wanting the dark hexagonal figures. The size of the drawing is that of the specimen.

Plate 2, Fig. 8.

Found at Burrington Combe, in 1817. This drawing is a little larger than the specimen, which is filled with white calcareous spar. The specimen first found, as mentioned page 2, was nearly allied to this, though not of the same species.

Plate 3, Fig. 1.

This fine encrinus was found by Mr. W. Morgan, in Clevedon Bay, near Walton Castle, Somersetshire, in the autumn of 1817. It is, I believe, of an entirely new species, and shews both the stem and the branching arms in connexion, the arms being nearly closed together. The lower edges of the first plates are crenated in a manner different from any I have hitherto seen.

It was discovered in one of the sandy beds that alternate with the limestone at Clevedon Bay, and when first discovered, only three or four joints of the stem were visible, the rest being concealed by the sandstone. By care and perseverance it has been cleared to the extent represented in the drawing, which is a very little larger than the specimen.

Plate 3, Fig. 2.

This remarkably large specimen was found by Mr. John Morgan, partially exposed and attached to the underside of a bed in the sandstone. Considerable difficulty occurred in obtaining it, as we were obliged to break away more than a ton weight of stone before it could be safely removed from the rock. Parts of stems of this species are common in this rock, but it is the first instance I am aware of in which the upper part has been found; it is therefore highly interesting, as adding to the history of this species.

