

respects the fossil species to which we allude certainly approach nearer to *Chitonellus* than to *Chiton*.

EXPLANATION OF PLATE XVI.

- Figs. 1a, b, c, d, e, f, g, h. *Chitonellus striatus*, Lamarck. Recent, from the coast of New Holland. The plates are detached from the mantle; fig. 1a being the anterior, and 1h the posterior. Magnified three times.
- Figs. 2, 3, 4. *Chitonellus Youngianus*, Kirkby. Intermediate plates. Magnified three times. From Craigenglen, Campsie.
- Fig. 5. *Chitonellus subquadratus*, sp. nov. Intermediate plate. Magnified three times. Craigenglen, Campsie.
- Figs. 6a, b, c. *Chiton humilis*, Kirkby. Posterior plate, magnified; b lateral view; portion of granulated surface highly magnified. Robroystone.
- Figs. 7a, b, c, 9. *Chiton* sp. Posterior plates; 7b lateral view; 7c portion of surface highly magnified. Williamwood, near Cathcart.
- Figs. 8a, b. *Chiton coloratus*, Kirkby. Anterior plate, magnified; b lateral view. Settle.
- Figs. 10, 11a, b. *Chiton* (?) *cordatus*, Kirkby. 10, anterior plate; 11a, intermediate plate; b lateral view of same. Magnified. Settle.
- Figs. 12a, b, 13. *Chitonellus subantiquus*, sp. nov. Intermediate plates; 12b, lateral view. Magnified. Settle.
- Figs. 14, 15. *Chiton Burrowianus*, Kirkby. Posterior plates, one (14) being distorted by pressure. Settle.
- Fig. 16. *Chiton*, sp. indet. Settle.
- Fig. 17. *Chiton Loftusianus*, King. Intermediate plate. Settle.

III.—KITCHEN-MIDDENS ON THE GREAT ORMESHEAD.

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I CAME accidentally upon the deposits which are the subject of this brief notice, the afternoon before I left Llandudno last April. Want of time prevented my making more than a hasty examination of them, but I think that they will repay any one who happens to be visiting Llandudno this summer, and will devote a day or two to them.

After passing the Dean of Christchurch's house, a gate leads on to the shore of Conway Bay (Pen-morfa on the Ordnance Map.) A high steep talus covered with thin turf, here separates the fine limestone cliffs of the Ormeshead from the shore, the lower part of which has been eaten away by the waves, so that a cliff has been formed, which soon rises to a height of some twenty feet; the lower tier of limestone soon emerges from the shingle and slopes upwards, still separated from the upper cliff by the drift-covered talus. The deposits of which I have to speak occur between the above-named gate and the place where the lower limestone makes its appearance. Directly after passing through the gate, we find a thin seam of *Mytilus edulis* with *Balanus balanoides* attached to the shells, and a sort of bed, or pocket, of *Mytili* $1\frac{1}{2}$ feet below it. These perhaps may not be the remains of a Midden, but of a mussel-bed corresponding with those along the same shore about a mile to the south.

The cliff rises rapidly, and about four or five yards further on to the N.W., we have a tolerably clear face with the following section:

- (1) Soil with angular fragments of limestone, $1\frac{1}{2}$ ft.
- (2) A very thin seam of shells mostly *Littorina littorea*.
- (3) Dark soil, about six inches.

- (4) Thin seam of shells, mostly *Patella vulgata*, with dark soil.
- (5) Dark soil, about eight inches.
- (6) Greyer soil, with thin seam of *Patella* near top, and of *Mytilus* near bottom, about six inches.
- (7) Gravel of angular fragments of limestone, with a few shells of *Mytilus* in lower part, three inches.
- (8) Reddish clay, with angular fragments of limestone and rolled trap pebbles, about two feet.
Red sand without pebbles, yellower in upper parts, about three feet.
- (9) Talus of clay, &c., about four feet.
- (10) Shore, sloping some two or three feet to high-water mark.

In (2) I found *Littorina littorea*, *Patella vulgata*, and *Mytilus edulis*, with some grains of a friable red earth resembling burnt clay; and a bed a few feet to the west,—probably the same—yielded not only *Patella*, but also a valve of *Cardium edule*, and some larger fragments of this burnt clay, one of which was about the size of a walnut.

From 6, besides the shells named, I collected *Littorina littorea*, *Cardium edule*, a fragment of bone, and the mid-dorsal vertebra of an ox, differing from that of the common ox in having one large perforation for arteries in the neural arch.

The face of the cliff for about ten yards further shows a somewhat similar section, but the different deposits cannot be traced with certainty for more than a few feet. From beds in a position corresponding (nearly) with (4) I collected *Littorina littorea*, *Patella vulgata*, *Mytilus edulis*, and the following bones:—Left tibia of small deer, probably roebuck; fragment of femur of bird; fragment like a bird's bone in form and medullary cavity, and as large as the tibia of a swan; teeth of lamb or young roebuck.

We then find a very interesting section exposed:—

- (1) Surface soil with angular fragments of limestone, $1\frac{1}{2}$ feet.
- (2) Shells, $1\frac{1}{4}$ feet.
- (3) Soil with limestone fragments, one foot.
- (4) Shells, chiefly *Patella vulgata*.
- (5) Sandy deposit, about $2\frac{1}{2}$ feet.
- (6) Reddish clay, with many limestone fragments, some many cubic feet in contents.

(2) Is simply a mass of shells, almost, if not wholly, *Littorina littorea* and *Patella vulgata*; it extends for some six or seven yards further to the north-west, though it runs rather thinner, and one can trace it for some fifteen yards beyond by a scanty seam of shells which rises with the ground—owing to the thickening of (6)—to a height of from twenty to twenty-five feet above the shore. With the shells I found two pieces of bone, which, according to Mr. H. Seeley, whom I have to thank for determining the bones herein mentioned, are “very young and have the proportion of the maxillary and lower jaw in the lamb, but may be the roebuck, with which I have no means of comparing it.”

(4). The shells in this bed shew more marks of age than any of the others. I found also *Littorina littorea* and “the metacarpal of a small deer, probably the roebuck.”