APPENDIX B.

DESCRIPTION OF THE DORSAL TUBERCLE OF A LARGE SPECIES OF ASCIDIA FROM KERGUELEN ISLAND.

Amongst the Simple Ascidians from Kerguelen Island (January 20, 1874; Station 149D; lat. 49° 28′ 0″ S., long. 70° 13′ 0″ E.; depth, 28 fathoms; bottom, volcanic mud; surf. temp. 41°), I found a fragment, consisting of very little more than the test, of a very large specimen evidently belonging to the genus *Ascidia*. On account of its very imperfect condition, and of the absence of almost the whole of the body proper, it seemed useless to attempt to refer this fragment to its proper species; and as there was nothing unusual about the appearance of the test, there was no reason to describe it as a new species. Since the publication of the first part of this Report, however, on re-examining this large specimen I found some fragments of the mantle and branchial sac and other organs attached to the test in the region of the branchial siphon. Amongst these the dorsal tubercle attracted my attention as being in a most remarkable condition; so it was cut out and sectionised, with the results given below. I note the condition of the other parts so far as they could be made out, so as to aid in the future identification of the species. The specimen was probably between nine inches and a foot or so in length.

The Test is thick and cartilaginous. It is of a yellowish-grey colour.

The Mantle is strong and muscular.

The Branchial Sac is thick. The transverse vessels are closely placed, and all of the same size. The internal longitudinal bars are strong, and bear very large expanded papillæ at their intersections with the transverse vessels (Pl. XI. fig. 13). The meshes are much elongated transversely, so as to be five or six times as long as they are broad. The stigmata are numerous and rather small. They are arranged very irregularly, and there is a certain amount of minute plication in the wall of the sac (Pl. XI. fig. 13).

The Branchial Siphon is short, and there is only a very narrow zona præbranchialis.

The Tentacles are rather short and are not numerous. Their arrangement is disturbed in the middle line dorsally by the enormous development of the dorsal tubercle (Pl. XI. fig 7).

The Dorsal Tubercle has the form of a large transversely elongated sausage-like