do not mix with each other in an inextricable manner. In the same way the beautiful plumes of the Sabellidæ and *Phoronis* have a certain amount of rigidity from their internal skeleton, while their graceful motions and their branchial functions are in no way interfered with.

No special muscular apparatus can be made out in the pinnules, the covering of the central axis consisting of hypodermic cells and granules. Nor would such be necessary in regard to the physiology of the organs, the elasticity of the skeletal axis and its connection with that of the main stem being sufficient to keep the parts in a position suitable for their functions without any effort on the part of the animal. The main stem has a series of longitudinal fibres, but their muscularity is doubtful. In any case the motions of the disk would influence that of the entire lophophoral apparatus, especially as its great fan-like muscles arise from the skeleton of the basal apparatus of the arms.

The bases of the arms are hollow and in communication with the two great cavities (one on each side) of the region (Pl. VII. fig. 3, *cv*) which Mr. Harmer, on good grounds, identifies with the collar-spaces of *Balanoglossus*. In section the basal spaces are generally filled with fibres detached from the walls, but in some views definite corpuscles in groups are visible. The latter consist of minute rounded bodies with a central nucleus. From the structure of the parts it will thus be apparent that though probably pervious none of the arms show a clear median channel except at base and apex. The paired cavities connected with the lophophoral apparatus communicate with the exterior by a well-marked and comparatively large pore on each side in front of the gill-slits. These pores present a radiate arrangement of the hypodermic wall in transverse section and thus are readily recognised; while in certain longitudinal sections a more or less urceolate aspect is produced.

The tentacles of *Loxosoma* are stated by Professor Vogt and others to be devoid of a central chamber, and the central axis of the same organs in *Pedicellina*[1] is only cellular (and translucent). Even in *Rhabdopleura* careful examination under most favourable circumstances by Professor Lankester gave no indication of a median canal, even in the main stems. He was unable to detect any definite cell-structure in the skeletal tissue, but observed that it had a refringency indicating a certain density, and presented small twisted filaments and particles within its substance at intervals. The relation of the twisted filaments to the fibres described in the main stem of each plume in *Cephalodiscus* is a subject that requires further investigation, and the same may be said of the "particles" which occurred at intervals—in relation to the nuclei already described. Whether *Rhabdopleura* shows any indication of the lacunæ at the base of the lophophore is a question also requiring determination, though if such had existed it could hardly have escaped, in the living animal, two observers of such experience as Sars and Lankester.

[1] *Vide* Nitsche, *Zeitschr. f. wiss. Zool.*, Bd. xx. p. 22, Taf. iii. figs. 1, 2.