After the four canals have run independently of one another for about 1½ mm., the first duct unites with one of the two ducts into which the second canal has divided, whereas the other half of the second duct terminates by uniting with the third. In the lowest sections of the peduncle of *Scalpellum vulgare* which I have been able to investigate, two ducts only are present. They run close to one another, and are placed within the wide canal which in the peduncle represents the cœlom. Of course higher up in the peduncle they were situated in this canal also; but at the place where they commence with a blind extremity, as a rule, they are not within this cavity. All the canals have very irregularly folded walls, and are filled up with a solid mass of a granular structure. Probably this is the cement after it has been affected by alcohol and reagents. At many places part of the chitinous (?) and irregularly folded wall is stained also by the aluminium carminate.

The way in which the cement is poured out into the canals has not been observed by me. Everywhere round the canals a dense layer of connective tissue with numerous nuclei is observed, and at the places where the wall of the ducts is open, a spongy mass of this tissue penetrates within the opening. Most probably the connective tissue is charged with the duty of conducting the cement till it comes within the canals. The communication of the microscopic canals, at the end of which the glands are placed, with the cement-ducts—or with the connective tissue surrounding these ducts—has not been observed. I think it impossible to observe this without the aid of very rich and fresh material.

The cement-glands of *Scalpellum regium* (Wyv. Thoms.), Hoek, are not numerous, but they are relatively large. They are placed in two groups in the superior part of the peduncle to the right and to the left side (Pl. V. fig. 8). As a rule, each gland is composed of three or four glandular cells (Pl. V. fig. 11). I measured a gland which appeared to me to be unicellular, and its greatest diameter was 0·5 mm.; another composed of three cells had a length of 0·7 mm. The nuclei in the glands of this species have a very characteristic fibrillar structure; it is, of course, possible that the reagents have caused this. The ducts going off from the cells are narrow (their diameter being 0·016 to 0·02 mm.); the nuclei of the cells forming their walls are very distinct. The walls of these ducts are not quite smooth; globular vesicles adhere to them as small excrescences, and so give the duct, especially when studied in transverse section, a very curious aspect (Pl. VI. fig. 3). The ducts unite together so as to form groups of nearly parallel ducts, but often many of them retain their independence. Often two groups of ducts reunite, to become isolated again after a short time. About the middle of the peduncle I counted more than twenty groups of these ducts; some were composed of three or four single ducts, others of more (Pl. V. fig. 10). In the centre of each group of ducts often a much wider duct is visible; especially wide is a duct which runs at the rostral side of the peduncle close to the innermost layer of muscular fibres (Pl. V. fig. 10; Pl. VI. fig. 3).

This wide duct may be seen to continue as far as the uppermost part of the peduncle,