secondary fibres, these latter also occasionally uniting the columns with one another, the fibres themselves being thick and hard. To the diagnosis given by F. E. Schulze of his *Hippospongia* I can add the following point, allowing an easy distinction to be made between the representatives of this conjectural genus, and concerning the character of the outer surface, though admitting of no examination of the outermost ends of the canals perforating the body of the sponge, but still betraying their presence by an alternation of thick and massive portions of the sarcode with spots where only very thin membrane covering the subjacent cavities is to be found. The drawing of my *Hippospongia anomala* given on Pl. VII. will illustrate my idea. This character, however, is only of practical importance. To sum up, both in *Stelospongos* and *Hippospongia* we have to deal with porous forms, the skeletal fibres of the first genus, however, admitting of a distinction into thick primary and finer secondary ones, those of the genus *Hippospongia* being on an average all of the same size and thickness; a good distinction indeed, and further, a typical *Stelospongos* has a quite different shape from that of a typical *Hippospongia*. But as stated before, the matter is by no means so very simple. As to the typical *Hippospongiæ*, I found many of them (all belonging to the species *Hippospongia equina*) in the collection of Prof. F. E. Schulze at the Zoological Institute of Graz, and I make use of this opportunity in order to express my great thankfulness to Prof. F. E. Schulze for his liberality; as to the typical *Stelospongos*, Prof. Steenstrup of Copenhagen has been kind enough to send me three specimens of it determined as *Stelospongos* by O. Schmidt himself. But together with these three specimens, Prof. Steenstrup sent me some other horny sponges (different varieties of Hyatt's *Spongia agaricina*, subsp. *dura*) distinguished also by radial columns as described before, the fibres constituting them being, however, all of the same dimensions; and again, in the Challenger Collection I find one specimen also of the same character, but with fibres thick and rigid, while those of Prof. Steenstrup's specimens just mentioned are fine and elastic. The skeleton of a typical *Hippospongia* has a rather different appearance from that of a typical *Stelospongos*,[1] but it is obvious that if the canals perforating the body of a *Hippospongia* were to assume a more regular disposition, we should have a skeleton in the form of numerous columns standing separately, which is so very characteristic of the genus *Stelospongos*. This is, as we have seen, the case both with regard to Hyatt's *Spongia agaricina*, subsp. *dura*, and again, atl east in a certain degree, with regard to the sponge of the Challenger Collection above alluded to. The first mentioned can indeed be still regarded as *Hippospongia*, the last mentioned, however, only if we enlarge the diagnosis of the genus *Hippospongia* in order to group into it forms with thick skeletal fibres. Neither is it *Stelospongos*, since its fibres do not admit of the distinction into primary and secondary ones. I ask, to which character

[1] Comp. Schulze's paper on Spongidæ, *Zeitschr. f. wiss. Zool.*, vol. xxxii. pl. xxxv. fig. 14, and Schmidt's Spongien des atlantischen Gebietes, pl. iii. fig. 13, and also my drawing Pl. VI. fig. 2.