distinctive? To this I answer frankly, that as a distinctive character it has absolutely no existence; the mesogloea (which, as a term, is preferable to the certainly objectionable mesoderm) is in some very few of the Chondrospongiæ a chondrenchyme, but in the vast majority it is a collenchyma (soft mesogloea) or sarcenchyme (also a soft mesogloea), the former precisely similar to the collenchyma, and the latter probably to the granular collenchyma of the so-called Cornucospongiæ; this presumed distinction is thus of far less value than that supposed by Vosmaer, for it is not even fairly general, while the absence of spongin in the Spiculispongiæ is. Nor, I regret to say, can I agree with Lendenfeld in regarding the so-called Chondrospongiæ as generally corticate; a large number certainly are, but a goodly number as certainly are not.

The Spiculispongiæ and the Cornucospongiæ cannot be distinguished, either by the characters of the skeleton or of the soft parts; they pass insensibly into each other, as Carter alleged long ago.[1]

It would therefore appear that a single order equivalent to the Hexactinellida should be defined to receive the other members of the class, and there would certainly be great convenience in this proceeding, were it not for the existence of the Myxospongiæ, Sponges without any skeleton at all. If it were possible to accept Vosmaer's view that these are simply degraded forms which have lost a skeleton they at one time possessed, one might readily include them in a single group with the rest of the Micromastictora that are not Hexactinellids, but for this presumed degradation there appears to me to be no shred of evidence; the Halisarcidæ are characterised by great simplicity, both in the chamber-system and in the canal-system; and in the course of their embryological development they give no signs of a retrogressive metamorphosis; they may therefore with much greater probability be regarded as persistent simple forms, descended from askeletal ancestors which were the common parents of them and the spicular Sponges. If this view be taken of tbe Halisarcidæ and their associates, it appears to follow that their position amongst the Sponges is so unique that they should be separated from the rest of the Micromastictora as a distinct order, and we then arrive at the following classification :—

Class I. Megamastictora (with the single subclass Calcarea).

Class II. Micromastictora.

Subclass I. Myxospongiæ. Micromastictora which are askeletose.

Subclass II. Hexactinellida. Micromastictora in which triaxon spicules contribute to the formation of the skeleton.

Subclass III. Demospongiæ.[2] Micromastictora which possess a skeleton either of siliceous spicules or spongin, or of both combined, but the megascleres are never triaxons.

[1] Carter, *Ann. and Mag. Nat. Hist.*, ser. 14, vol. xvi. p. 58 (sep. copy), 1875.

[2] Sollas, *Sci. Proc. Roy. Dubl. Soc.*, N.S., vol. v. p. 112, 1886.