to consist in the presence of polypi, as inhabitants of the cellules of the alcyonia, and believes the sponges to possess none of these animacules, but to be simply investited with a living gelatinous flesh. Lamarck, with greater probability, supposes the sponges to have polypi like the alcyonia, differing only in the greater solidity of the fleshy parts of the latter, which permit them to be observed when removed from the water; while those of the former dry up instantly on being taken out of their natural element, and thus escape observation. It is manifestly impossible that a distinction of such a nature should be ascertainable in petrifactions preserving only the solid parts of the animal; from general character, however, many of them appear rather to belong to the sponge than alcyonium.

The substance of these bodies consists, as to its interior texture, of a mass of interwoven fibres, penetrated by larger pores, regularly or irregularly disposed.

These fibrous reticulations sometimes run confusedly together, so that their meshes present no regular or determinate figure; sometimes they are regularly disposed, so as to give to the whole mass a plicated character; we shall therefore assume this distinction as the foundation of our division.

Of that division which is irregularly reticulated, four genera at least may be traced in the chalk formation.

1. Of a ramifying form; two varieties are figured by Parkinson, vol. ii. pl. 8. fig. 6 & 12, and pl. 11. fig. 4.

2. Palmated; the larger pores disposed in a quincuncial order; rare.

3. Irregularly turbinated and funnel-shaped masses; the varieties of this form are almost infinite, arising probably from the different contractions of the mass.

4. Fig-shaped; agreeing exactly with that figured in Solander and Ellis, pl. 59, fig. 4, as a sponge, but pronounced by Lamarck to be an alcyonium; it is pediculated at the bottom, and flattened at the top, which presents a funnel-shaped cavity penetrating in the direction of its axis; its larger pores radiate from the axis. Parkinson figures varieties found in chalk or its derivative gravel, pl. 9. fig. 11, 12, 4, and pl. 11. fig. 8. The appearance of the ramifying filaments round the funnel-shaped cavity of this genus, is seen in the specimen, pl. 9. fig. 1.; fig. 7 & 5, pl. 12, also belong to this genus.

Another genus is there characterized; it occurs "forming large irregular sessile masses, upper surface tuberculated, traversed by large irregular ramifying pores."

The most remarkable of the regularly plicated division, and that perhaps of which all the seemingly different species are only accidental varieties of form, has been ably described by