and more active (*Figs.* 4, *i k l m n o*, and 5). The latter differ chiefly from the larger hydræ, in having tentacles scattered upon the whole length of the stem, like Halocharis; but instead of being gradually larger from base to summit, the reverse is the case with the tentacles of the small hydræ of Millepora, the lower ones (*Fig.* 5, *g i h f*) being the larger, and those near the summit growing gradually smaller and smaller (*k l m*). The knobs of all these tentacles are chiefly made up of larger lasso-cells (*Fig.* 5ª), the largest of which have a very long thread, remarkable for the enlargement of its spiral band, at a great distance (*c*) from the bulb (*a*).

Whether the difference in the size of the hydræ is connected with their fertility or not, could not be ascertained, as no medusæ-buds were observed upon either of them. A most interesting point in the history of this genus remains, therefore, still to be traced. It can, however, hardly be doubted that the hydræ must produce medusæ of some kind or other, as all the Hydroids do.

The Corallum.—It is seldom that in dried specimens of the corallum the natural smooth surface can be studied with confidence, on account of the extreme delicacy of the spongiform mass of most recent growth. It is impossible, even with the utmost care, to handle a specimen without abrading the slender, irregular spiculæ, whose points form the horizon over which the soft walls of the animal stretch in a uniform, smooth film. It is, therefore, necessary to study perfectly fresh specimens, in order to form a correct idea of the relations of the superficial, spiculate deposits of the animal basis. Under such conditions the whole corallum will appear dotted with round apertures, usually of two sizes (Pl. XV. *Fig.* 8, *a b*), in numbers and position corresponding to the large and small hydræ, which may be found retracted within their cells. Oftentimes the aperture of the cell is completely closed over by the contracted basal walls of the hydra, and in such cases the actual number of cells is disguised.

The only proper means of removing the fleshy part of the animal, in order to study the corallum, is a potash solution, after which operation it appears, to the naked eye, like a very fine sponge; but under a considerable magnifying power it presents a very ragged aspect (Pl. XV. *Fig.* 8), especially about the tips of the branches, where the jagged spiculæ are less intimately united with each other. From a superficial point of view, the cells of both the large and small hydræ appear to have radiate semi-partitions, which, in some instances, are quite regularly disposed, and in the largest cells amount to a dozen in number; but, upon closer inspection, it may be seen that the apparent lamellæ are very irregular, laterally flattened projections (*Fig.* 8, *f–m*), which have but little depth, and stand at various levels (*Fig.* 10, *c d e f*). In some cases a longitudinal section of a cell (*Fig.* 13) discloses a complete series of false partitions from mouth (*a*) to bottom (*b*), whereas,