

ously shaped but for the most part rounded, organic bodies, which differ more or less in colour from the thallus over which they are besprinkled, or to which they are attached, or in which, more rarely, they continue normally immersed; and generate the *spores*. The essential parts of the apothecium are 1, the *proper exciple*, which contains all the other organs, but is itself reduced, in a very large proportion of the *Parmeliacei*, to a layer of cells (*hypothecium*) wholly concealed by the thalline receptacle characteristic in this tribe; and 2, the *hymenium*, consisting of *theke*s (thecæ; the spore bearing organs) intermingled with slender, erect filaments (*paraphyses*), which latter are sometimes undistinguishable or obsolete. The evolution of the paraphyses and thekes will be noticed when we consider the *spermogones*.

Spores are cells capable of germinating, and are developed in the theke, which constitute, with the paraphyses, the hymenium. The spore-differences are numerous, and various; and their systematic value, in plants offering so many difficulties of arrangement as the Lichens, is unquestioned: but this value was at first overestimated, and too much made of certain particulars; as, on the other hand, in the reaction against the method of Massalongo, too little stress was sometimes laid on certain others. Less weight, in this view, should be given to spore-differences of a merely gradal character, or such as depend only on dimensions, or number; and more to such as seem to have claims to be regarded as typical. Analysis appears to indicate two well-defined kinds of lichen-spores, complemented (may we say?) in the highest tribe only, by a well-defined intermediate one. In one of these (typically colourless) the originally simple spore, passing through a series of modifications, always in one direction, and the spore tending constantly to elongation (as *e. g.* in the genus *Lecanora*), affords at length the needle-shaped (*acicular*) or now thread-shaped type. To this is opposed (most frequently but not exclusively in the lower tribes, and even possibly anticipated by the polar-bilocular sub-