

the bluish-green ones (*gonimia*, Nyl. ; glauco-gonidia, Itzigs. ; collogonidia, Tuckerm.) which are more or less distinguished also by their gelatinous envelopes, are considered to agree in their colouring-matter with the phycochrom of certain groups of Algæ. The gonimous layer, in most lichens, consists of gonidia. The *Peltigerei* differ remarkably however by a two-fold gonimous system,—one series of otherwise generically related lichens of this Family offering gonidia, and the other gonimia ;—but the inferior systematic value of this difference is perhaps sufficiently shewn by the fact that some of the species are scarcely otherwise distinguishable. The same discrepancy recurs in the next following family—*Pannarici*. And finally, in the next—the *Collemei*, in which the development of gelatine reaches an extreme so marked that these plants have been called Jelly-lichens, we have only gonimia. The gonimous cells may make their way to the surface of the thallus, and appear there, enveloped in hyphæ, as powdery, often cushion-like heaps, which are capable of developing into new thalli, and are called *soredia*.

But we are not quite at liberty to stop here. The marked contrast of hypha and gonidium was open to a hypothetical explanation, based on the apparent relations of these organs to what seemed the same in the other Classes of Thallophytes, which suggested and had its exemplification in the memorable labour of Schwendener. This was met however by lichenologists in a manner and tone often ill enough corresponding with the simply objective position of the other side ; and there was room for further investigation. Ideally, from the point of view of those who look at lichens as autonomous, the primordial cell should be referable either to hypha or gonidium ; but, in fact, as well emphasized by Minks (*Microgonid.* p. 238), it is this dualism which, from the beginning of our knowledge, and through all its extent, characterizes the lichen-structure, and determines its history. Yet this is not all. The penetrating glance of the cited vegetable anatomist has demonstrated the