restrial plant is compared with one of aquatic habit, it is found that their external and internal morphology differ markedly. On the other hand, plants that inhabit very moist environments exhibit an intermediate stage.

From the foregoing remarks it must not be imagined that our aquatic flowering plants are the representatives of the ancestral stock from which the terrestrial types have arisen. It is rather the opposite, for there are good reasons for considering the existing aquatic phanerogams to have taken their origin from terrestrial types; not because they were first driven off the land by more robust competitors, as is sometimes stated, but, more probably, because certain mutable forms have exhibited a tendency, as some do even now, to take on the aquatic habit, that mode of living being more agreeable to their requirements. Many plants have both aquatic and terrestrial forms: when submerged, their structure will exhibit the points of typical aquatic types; when growing out of the water, they tend towards the morphological structure of terrestrial plants: such plants are amphibious. What then is the difference between these two opposite forms of plants?

The normal terrestrial plant takes in the greater part of its water and nutrient salts from the hygroscopic water of the soil by means of the osmotic action of delicate hairs and tissue situated near the extremity of the rootlets. This sap, beyond providing for the maintenance of turgidity, is of little use to the plant until it has been conducted into the leaves. There, with the carbon derived from the atmosphere, it is converted into various substances for the present and future requirements of the plant and its offspring. Hence the necessity to such plants for the means of rapidly transporting this ascending sap from the root-tips to the leaves. The stem being aerial, there is no necessity for the storage of a very large amount of air. In accordance with the œcological conditions that exist where they grow, terrestrial plants have to provide themselves with a more or less thickened cuticle in order to prevent the untimely evaporation of the sap.

The physical properties of water induce in aquatic plants conditions of structure quite different. Water and the nutrient salts in solution are absorbed by the whole of the submerged plant-body. Instead of being under the obligation to search for food-salts, fresh supplies are constantly being brought by the currents, which, owing to physical and mechanical causes, are of never-ceasing occurrence. Being therefore semi-independent of the root system, the latter has usually but feeble development and is often not produced at all. In order that this general absorption may take place, and the sap being in no danger of undue evaporation, no thick cuticle is developed on