

given off. It will thus be seen, as tersely put by Mr. L. H. Bailey, Jr.—
"If the leaves are the lungs of the plant because they breathe, they are more emphatically the stomachs of the plant because they assimilate and digest."

It is now in order for the student to learn something of classification, as it is by this means he is enabled to analyze and recognize by name the plants with which he meets, thus to avail himself of all that has been recorded concerning them by botanists before him.

To the ordinary observer plants differ so much from one another that he can see no points of resemblance which could connect them naturally. For example, what likeness is there between the common strawberry and the mountain ash? Yet both belong to the rose family. Notwithstanding this great external dissimilarity, the botanist can readily point out in both, characters which at once stamp them as closely akin. The points which determine the relationship of plants are not confined to any one part of them; they may exist in the roots, leaves, flowers or fruits, but the natural system now in use aims to bring together those which most closely resemble each other in all these particulars, laying especial stress on the flowers and fruit. In this respect it differs from the Linnæan and all other artificial systems, which took up a certain set of organs and based kindredship on those alone.

The means by which a plant reproduces itself and is prevented from becoming extinct is evidently its most important and essential part, and it is upon this the fruit, that the vegetable kingdom is primarily divided, viz, into flowerless plants, such as ferns, mosses and fungi, and flowering plants, such as herbs, shrubs and trees. The former reproduce themselves by spores, which are commonly simple, minute cells and contain no embryo; the latter by seeds, which are embryo plantlets enclosed in an integument. Among flowering plants; increase in the diameter of the stem forms the first basis of division. There are two general methods in which this increase takes place. In the one case the woody tissue is scattered as separate threads throughout the whole stem, and the increase in diameter is by the interposition of new woody threads which stretch its surface; while in the other case,