

tergreen and *Pyrola* were submitted, their low-growing habit and leathery leaves being the characters of similarity.

In like manner, members of the Grass Family were to be identified by the two-ranked leaves whose sheaths are split on the side of the stem opposite the blade. From this character, wheat and oats were recognized as grasses. The former was named as that member of the Grass Family that contributes most food for man. A question as to the staple food of the people of China and of India led the class to see that the pre-eminence belongs to rice. The leader had to tell them that rice is a grass, as none had ever seen it growing. In Nature Study our great aim is to walk by sight, not by faith; but it is often necessary and quite allowable to get information second-hand, especially when it is based on intelligent first-hand knowledge. We thus learn from the researches of others that the Grass Family stands first and Pulse Family second in the amount of food contributed to man. It was left as an undecided question as to the order of plants that has the third place, but the member of the class who was regarded as the oracle, declared that either the *Rosaceæ* or *Solanaceæ* occupy this grade.

The centre of interest of the Pulse Family was the nodules that are found on the roots of the different species. In one particular most plants resemble Coleridge's Ancient Mariner who was perishing with thirst though there was "Water, water, everywhere." Plants grow in an ocean of nitrogen, which element they require for their proper development. Though there is, in the atmosphere, nitrogen, nitrogen everywhere, the plants are unable to assimilate it in the free state. Now the tubercles on the roots of leguminous plants are the homes of minute organisms called *Rhizobia*, which are free-nitrogen-assimilating bacteria, and by whose instrumentality these plants are able to incorporate the necessary nitrogen. A pedagogical moral to be drawn from the foregoing, is that teachers of plant study should encourage their pupils to dig for their information,—to examine the root as well as the stem and the leaves.