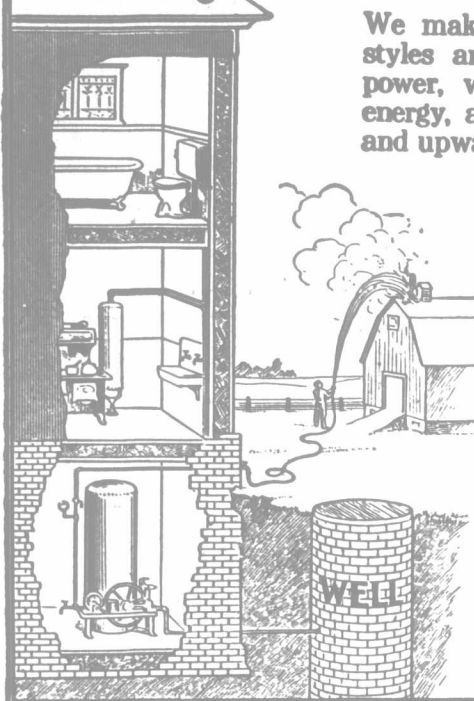


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Nature's Diary.

A. B. KLUGH, M.A.

Plants which are more noticeable at this time of the year than during the summer are the Lichens (pronounced Likens, not Litchens). Numerous species of them are familiar to everybody, though they are usually mis-called moss or gray moss.

The Lichens are extremely interesting plants and also, though one would hardly think so at the mention of them, extremely important plants.

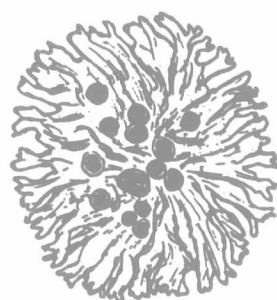


Fig. 1
A Flat Lichen

The Lichens have been classified in almost every imaginable way. They were a puzzle to the old naturalists. Some placed them with the sponges and other stationary animals, some with the algae, some with the fungi, some with the mosses. Others again declared that they were an excretory product of rocks. Not until the microscope had been invented and brought to a fair state of perfection, and modern methods of investigation had come into use, did the Lichens yield up their secret.

Now we know that they are a combination of two plants, of an alga and a fungus, living together for "mutual benefit." The alga which enter into this partnership belong to species which also grow free in water or very moist situations, and all are very small, single-celled green plants. Now, what benefits does each kind of plant derive from the partnership? The fungus gets the benefit of the food which the alga—because it possesses chlorophyll, which the fungus does not possess—is able to manufacture from the carbon dioxide of the air. The alga gets a "home," the threads of the fungus among which it grows keeping it from dying out, and enabling it to grow in situations which are impossible to algae growing free.

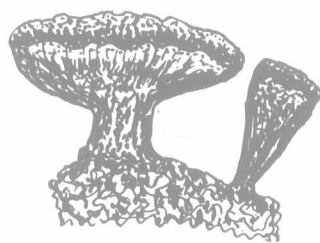


Fig. 2
A Cup Lichen

That this partnership, or symbiosis, as it is technically called, is highly successful is shown by the fact that Lichens are able to live in situations where no other plants can exist; for instance, on the bare faces of rocks and cliffs, and on the bark of trees in exposed locations. It is this very fact which renders the Lichens an important group, as they are the first plants to colonize rocks, and by their life processes to turn the surface of the rocks under them into soil.

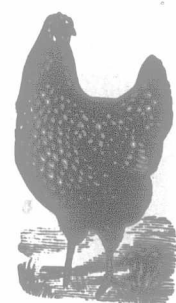
There are a large number of types of Lichens. Most of them are flat and thin (see Fig. 1). Some are decidedly moss-like—for instance, *Usnea barbata*, which hangs so abundantly from the lower branches of trees in many localities, particularly in the Maritime Provinces, and referred to in Longfellow's description of "the forest primaeva" in "Evangeline" as being "bearded in moss." Another common type is the "Reindeer Moss," which forms the conspicuous gray tufts on moors, and which is an important item of food of the Caribou. Another very common type is one in which the Lichen takes the shape of a little cup on a stem, the inside of the cup often being red in color (see Fig. 2).

(Continued on next page.)

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