

why a child enjoys one thing and dislikes another, and that it is not your business to aid him in forming a worthy character.

10. Let your deportment toward parents and officers be such as will cause a loss of their respect and confidence.

One or more of these rules carefully executed will secure the end in view.—From "*Shaw & Donnell's School Devices*," last edition.

#### Lessons on Common Fungi.

The teacher instructs the class to get specimens of mushrooms, toadstools, or any thing like them, and bring them to school in the afternoon or next morning. In country places, the scholars coming from a distance of one or two miles, sometimes through patches of woodland or forest, will have a grand opportunity of picking up specimens on the way, and bring them in quite fresh. The specimens are all arranged on the teacher's desk, or other convenient place.

#### AGARICS (Latin, *Agaricus*).

First, those having caps, with a great number of thin, soft plates on the under side, running out like rays from the top of the stem, are selected. They will include the mushroom and what are called toadstools. There are a great many different kinds of them, but they may be all called *agarics*, or mushroom fungi. Several kinds are good food when properly cooked, but the greatest numbers are good for nothing, or poisonous. The word toadstool may be used for indelible species of mushrooms, but it has no definite meaning. Notice the following points:

1. The stems rise from earth matted together with fine white mold threads. This is called the *mycelium*, or spawn, and is really the body of the fungus. Towards autumn it sent a stem with a cap, which really corresponds to the blossoming and fruiting of flowering plants.

2. The stem may be solid or hollow, and may have the remains of a ring around it, this *ring* being in the early stage a thin *veil* connecting the edge of the cap with the stem.

3. The under part of the cap has hanging from it a great number of ray-like plates or *gills*, called *lamellæ*. The gills are lined with a thin membrane called the *hymenium*, which produce on their surface millions of minute bodies, so small as to be invisible singly—so small that in the most of species it would require four or five thousand to make a row one inch long. These are called *spores*. They are finer than ordinary dust, and millions of them can float in the air without our seeing them. They are the seed.

4. To see the spores without a microscope, in which they appear as very beautiful objects, each different fungus having its own particular size and form, just as definitely as the different kinds of apples and pears.

This plan may be adopted: Cut off the stems close to the caps, and let them rest until next day on white paper. When the caps are lifted off, it will be seen that millions of spores ripened during the night and fell down from the *hymenium* and rested on the white paper in radiating lines. Minute ridges of spores were formed under each gill.

5. It will be noticed that the spores from some species are *white*; from others, *rosy* or *salmon* color; from others, *brown* or *reddish brown*; from others, *purple* or *dark brown*; and from some, *black*. In classifying these fungi, we find that they are conveniently divided, first, into these five groups, distinguished by the color of their spores.

6. The spores are carried away by the wind sometimes to great distances. Very few of them grow to be fungi. If they all did, the world would long ago have been covered with one solid mass of them. But the spores which find a vacant, suitable place, with proper moisture and protection, grow, first producing the mycelium, afterwards the spore-bearing caps or *hymenophore*. (The teacher should never use a strange technical word with the pupil when an English equivalent can be used. Occasionally we use *very common* technical words for the benefit of the teacher who may wish to read up.)

7. Notice that the gills is an arrangement to make the surface bearing the spore-producing membrane (*hymenium*) as extensive as possible.

#### BOLETUS (Greek for Mushroom).

1. These are soft and perishable, like the *agarics*, but instead of having gills, the under side of the cap is one mass of minute, vertical tubes. Cut the cap in various ways to prove this.

2. Place the cap on paper for a day, as in the former case, and it will be seen that these tubes are lined with a *hymenium*, which produces spores as abundantly as in the *agarics*. A few of these are edible; some very poisonous.

#### POLYPORUS.

This word means having many pores. The spores are produced on a *hymenium* lining minute, vertical tubes, as in *boletus*, but the substance is not soft and perishable. They are hard and corky. Very few grow umbrella-shaped. The short stalk is at one side, and they grow generally fan-shaped or horse-hoof shaped. They grow on decaying trees and logs commonly. One common species in woods has a surface