S. Are all toadstools with a volva poisonous!

T. No. There are two or three or more species which are edible, but there are several at least which are deadly poisonous and which may be responsible for the death of from twenty to thirty people each year in Canada and the United States. So we had better leave all those with the volva at the base, and the scales or the suspicion of them on the cap, than run a risk, especially as there are plenty other species good to eat.

S. How many other kinds are there good to eat?

T. Over a hundred they say. Some have eaten as many as three hundred different kinds and found them safe. But there are twenty or thirty which are abundant enough and give variety enough without our running any risk, if we take the proper care.

S. Why have you the long name under the drawing?

T. Well, *Agaricus* was the Latin name of the mushroom, and the botanists decided to call all gill-caps, very closely resembling the mushroom, by some name that French, Germans and others as well as the English could adopt, and as all the learned people of olden times learned Latin, "Agaricus" was selected as the name of the *genus* or little family. Now, there may be over one thousand different species of gill-caps in America, but of these there may be over four hundred which belong to the genus *Agaricus*, they are so much like the ordinary mushrooms in their manner of growth and their structure. The genus is, as it were, the surname of the plant, and the Christian name is the specific name which comes last. Do we say the surname first when speaking of each other?

S. No, but when the list of those who have to pay taxes is posted up, they put the surname first and the Christian name last. It is easier to find a name among a great number that way.

T. That is just the reason. Well, the botanists called the Deadly Amanita, *Agaricus vernus*, the specific name "vernus" meaning in Latin "belonging to Spring," because it appears earlier than other species. And the Fly-Poison Amanita they named *Agaricus muscarius*, L., "muscarius" meaning "belonging to a fly"—"musca" a fly. And the botanist who first described the plant and gave it the name has his initials put after the name, when writers are very careful. Thus the "L" in the last case means that the great botanist Linnæus described the fungus under the name given.

S. But why is "Amanita" put in brackets between the generic and the specific name?

T. Well, you see there are, say, over four hundred species of *Agaricus* in America, and botanists held that they were so near each other that they should be all in the same genus. But as there were groups having characters more closely resembling each other than the rest, sub-genera were formed. And, say, fifteen white spored gill-caps with a very conspicuous volva were found among these 400, and they were placed by some botanists as belonging to the sub-genus "Amanita," really a Greek word for a poisonous fungus. The accent is on the "i" which is generally pronounced like an "ee." Some botanists would make these sub-genera regular genera, and perhaps it would be just as well. We would then call our two fungi "*Amanita vernus*" and "*Amanita muscarius*," respectively.

S. Does it take long for a mushroom to pass through all the stages from the small button to the full grown fungus?

T. There would be only a few hours between the several stages in our drawing When the fine, invisible (to the naked eye) spores germinate in the proper soil, (and only one in a million finds these proper conditions probably) a fine, white thread-like plant grows and multiplies for a long time until a large spot of the earth is matted with the delicate, fine fibres which are called *mycelium*. The plant proper is this fine, white felt or mycelium. When the plant is mature enough, a small button begins to grow, as shown at 1, and it very rapidly progresses so that in less than twenty-four hours it may be a full grown mushroom. That is why they appear to grow in a night. It is very strange to find that all those minute fibres could be able to supply nourishment for so large a growth as some of them make in even a few hours. And then you see the gills are all formed in their rudiments when the cap is still in the button form.

S. Is the poison of the Amanitas different from that of the other poisonous fungi?

T. It is, and it is known as *amanitine*. Nearly all the other poisonous fungi are either so acrid to the taste and to the stomach, or so violently interfere with the digestion that one feels the effect quite promptly. Emetics will always relieve such cases. But in the case of *amanitine* poisoning, the effects are not felt until from six to twelve hours, and then any ordinary medicine appears to be useless. The injection of another deadly poison in very small quantities into the blood, the one hundredth part of a grain of atropine every six or eight hours under otherwise skilful medical treatment, appears to have saved some lives. The symptoms are very painful and distressing, but we need not describe them here.

Now, it is very curious that this peculiar poison has been found only in the amanita group; but it is equally strange that at least three species of that group are quite harmless. But the "Spring Amanita" especially,