

caps" No. 2, when it is the third class we actually formed?

S. I know. It is because the spines are more like the gills. The gills hang down in sheets, and the spines hang down as if they were gills cut across into fringes or strips hanging from the umbrella or cap.

T. You have the real reason. We shall then call the "Pore-caps" No. 3. And as we can take no more up today, we shall put away to dry all the specimens we can. Some will decay before they dry, but we cannot help that. For next day we will get fresh specimens; but perhaps we have got one or two kinds today that we may not come across again. Therefore we are safer in having a large number of specimens on hand. It is easier to throw away the excess in the future, than to find a rare specimen when we want it.

S. Have they flowers and seeds, or do they just grow out of the ground or old wood?

T. That is what I am coming to. I may say that we do not know that any plant grows except from another plant, or the seed of a plant, or the simplest kind of seed which we call a "spore."

S. How is a "spore" simpler than a seed?

T. You have watched seeds growing, and you saw that they were really small plants with seed-leaves and a minute root, and a minute stem, all ready to become larger when it is kept moist and warm. A "spore" is smaller than a seed, and we can with a microscope see no such parts as we find in the seeds produced from flowers.

S. But where are the "spores" or simple seeds of these fungi? Are there any on any of these specimens?

T. Hundreds and thousands of them, if you only knew where to look for them.

S. I guess they must be as fine as dust then, or else we could see them.

T. That is just how it is. Now let us cut the caps of specimens of each of these classes you have made, and place them, gills, teeth and pores downward on pieces of white paper until tomorrow. Then lift them off and note what you see.

S. Will you tell us what we should see, so that we may prove it.

T. Well, if you are going to be critics, to test carefully what I say, I have no objections this time. But be careful any of you do not make the blunder of thinking you see what you imagined or expected, for such mistakes are being constantly made by the majority of people, although they are not smart enough to discover it.

You will find, then, under your specimens, a very fine powder next day. Under the gill-caps the powder

will be arranged in lines from the centre to the circumference, as if thousands of the minute specks fell from the sides of the gills, forming little banks running in lines under each gill. This fine powder is the spores which were growing in tens of thousands on the surface of the gills, on the surface of the spines, and on the inner surface of the pores, and which, ripening during the night, fell like apples from an over-ripe tree; only these minute apples, if we could see them as apples, would be in banks as high as the biggest snow drifts you saw covering a farm in winter. And some of these spores will be pure white, and in another kind they will be yellow, and in another kind rose colored, and in another salmon colored, in another rusty yellow, in another rusty brown, in yet another purple, and in some inky black.

S. Then we can divide the gill-caps into different classes, according to the color of their spores?

T. Yes, that is just what is done. And there are a great many kinds in each of the smaller classes—sub-classes—scientific people call the class into which you divide a class.

Now, all these three classes, and another three classes which we shall take up again, have their spores growing from a thin sheet, or skin covering the gills, the teeth and the insides of the pores. This skin, or membrane, as it is better called, is not for a covering surface, for then we might call it a skin. But it is a growing surface for the spores, and it looks under the microscope even more curious than a curtain in a room growing crops of apples on its surface; some curtains growing white ones, others yellow ones, others purple ones, etc., all of them being nearly transparent without any cores or seeds visible in them. It is for that reason called the spore-producing membrane. But the Greek word for membrane is "hymen," and this membrane is called by botanists the "hymenium." And all fungi which have a membrane like this growing on its outside in sheets, no matter whether it is spread over the surface of gills, to give it greater extent, or over the surface of spines, or over the surface of the inside of pores, or over the smooth surface of other forms, may be called the "membrane-spored fungi," or "Hymenomycetes." The last term is the one used by the botanists. So, wherever you see the syllables "hymen" in a big word you will know that the English of it is a "membrane" or peculiar kind of skin which is producing spores, altogether different in its nature and purpose from the covering skin which is on the outside of the cap and stem. And wherever you see the syllables "mycetes" you will know it is a Greek form meaning "fungi." It is easily pronounced, like the simplest English word with the