and, in as plain and simple a way as possible, to look back at its outward form, and into its very heart.

For our subject, we will go to the water pools, which abound everywhere, especially in spring. Here we find whole forests of remarkable plants, the character and habits of each one a study in itself. From the crowd let us select one, and subject it to a rigorous examination.

In the neighborhood of the city of Montreal, and in the fields which lie on the eastern slope of its beautiful mountain, there are found many holes dug out of the rock,—ancient quarries from which the stones were taken to build the older parts of the city. These holes are in mid-summer, for the most part, quite dry, but in spring they are full of water. In them we have often found, about the beginning of June or the end of May, a red substance covering the stones and blades of grass. In appearance, it was like the rust of iron. At first it attracted no particular notice; but, by and by, from its intrusion among other plants, it excited curiosity and attention.

The first question of science was accordingly put regarding it: What is it? We stripped it from the leaves and the stones on which it clustered, and depositing it in a bottle by itself, resolved to subject it to the crucial method of scientific inquiry:—1. What is it? 2. What does it? 3. What was it, and how from what it was it came to be what it is?

I. From the bottle our red, rusty-looking friend was soon transferred to the study-table; and, after proper manipulation, to the microscope. Now we are prepared to find the answer to our first question,—What is it?

To the outward appearance, it is red; to the touch, it is soft and gelatinous; to the taste, it is insipid. This is all we can know about it, without the use of the magnifying lens. Under a low power of the microscope, lo! it turns out to be a mass of tiny globules, each a perfect ball, red and rosy like a ripe cherry, and clear as the purest glass; the whole mass being imbedded or set in a common matrix of clear gelatine, of the color of ordinary mucilage.

But we want to get nearer to it, and accordingly change our object-glass for one of a higher power. Now, this round globule is seen to have two or three distinct coats, or cell-walls, of the same light buff color as the matrix. They are apparently tough, not easily ruptured, and water-proof. We now discover that the color of the plant is due, not to the coat it has on, but to the innumerable particles of red pigment which float within, like the blood globules of animals. We ask, now, what are these red specks? Are they blood? Not exactly. They are, what we believe to be particles of oil become red by oxidation. They were not always red. In young plants they are glassy white, and only in the most mature plants do they become red. They conduct themselves like oil, and we call them oil because we do not know what else they can be. This is certainly a strange place for oil to be struck; but so it is, and it forms the beautiful coloring matter of our plant, and doubtless has besides something to do with its vital functions. When, by rupture, they escape from the cell, the coats then become of a pale glaucous color.

Other particles are seen floating within the mature plant: what are they? They sparkle like gems "of purest ray serene," —glisten like pearls with a pale lustre. These are granules of starch. The young naturalist may ask,—How do you know? We answer by saying that if we put a weak solution of iodine on starch, it is immediately changed into a purple color: so when we applied iodine to these sparkling specks, they too became purple; hence we conclude that they are starch.

But still other things are seen floating in this little plant. They are globules of a very small and light green color, and we call them sporules, or the primordial seeds of new plants. They seem lively, all compact of life, and happy, like little children on a holiday. They, too, are clothed like their mother, with two or three coats, and