

this state it dissolves more limestone than it can hold in solution after the pressure is relieved. Hence many springs throw down a calcareous deposit which in the open air hardens into *tufa* and *travertine*. It often incrusts mosses and forms what is called "petrified moss." The vegetable matter perishes and disappears by degrees, but the form of the moss remains. Calcareous springs flowing into ponds cause a deposit of chalky matter on the bottom, which is called *marl*. It is generally mixed with earthy substances washed in from the surrounding slopes.

In precisely the same way certain springs deposit peroxide of iron, which is yellowish or red. Iron is also often transported to bogs and ponds, and there undergoes deposition. Thus *bog iron ore* is formed.

Now, I wish to ask Johnnie if he understands what has been said in this Talk. I hope he will think these matters over. They will help him to understand, by and by, some matters which are far more interesting. At least, I think he will find them so.

VI. INTRODUCTION TO THE ROCKS

KINDS OF MINERALS AND STONES.

It is not entirely satisfactory to roam over the fields, with bowlders lying on the right and left, but without any knowledge of their names or natures. True, we shall experience much satisfaction in feeling that we know something of their origin and their history. We may walk up to the side of one of these ancient and way-worn travelers and say: "Old Hard Head, when did you arrive in this country, and where did you emigrate from?" Old Hard Head will lie sullenly and answer never a word. But he is written all over with inscriptions which we can already begin to decipher. So we look on the rounded and weather-beaten form, and say to ourselves: "This immigrant rock came from a northern country. He