

prisoned, leapt into flame. Then you spread out your hands and cried, "Oh, how nice and warm!" and little thought that you were warming yourself with the sunbeams of ages and ages ago.

This is no fancy tale; it is literally true, as we shall see in Lecture VIII., that the warmth of a coal fire could not exist if the plants of long ago had not used the sunbeams to make their leaves, holding them ready to give up their warmth again whenever those crushed leaves are consumed.

Now, do you believe in, and care for, my fairy-land? Can you see in your imagination fairy *Cohesion* ever ready to lock atoms together when they draw very near to each other: or fairy *Gravitation* dragging rain-drops down to the earth: or the fairy of *Crystallization* building up the snow-flakes in the clouds? Can you picture tiny sunbeam-waves of light and heat travelling from the sun to the earth? Do you care to know how another strange fairy, '*Electricity*,' flings the lightning across the sky and causes the rumbling thunder? Would you like to learn how the sun makes pictures of the world on which he shines, so that we can carry about with us photographs or sun-pictures of all the beautiful scenery of the earth? And have you any curiosity about '*Chemical action*,' which works such wonders in air, and land, and sea? If you have any wish to know and make friends of these invisible forces, the next question is.

How are you to enter the fairy-land of science?

There is but one way. Like the knight or peasant in the fairy tales, you must open your eyes. There is