In the time which is allotted to me I should like to explain, if my audience will allow, the scope of the work in which, with my son and others, I have been recently engaged. I must first beg to remind you of certain facts. The elements of construction of the universe are the atoms, of ninety-two different kinds. The first constructive step is the assembling of the atoms into molecules. A molecule is a company of atoms in an association, which has some permanence great or small. The number of kinds of molecules is enormous. The water molecules consist of two atoms of hydrogen and one of oxygen. The molecule of ordinary salt contains one atom of chlorine and one of sodium; the molecule of an organic substance is generally more complicated, as, for example, that of naphthalene, which contains ten atoms of carbon and eight of hydrogen. If the atoms are likened to the letters of the alphabet, the molecules must be compared to words.

The next step in nature's architecture is the linking of molecules to form solid substances, such as the subjects which we see around us and ourselves. The properties of all substances depend upon the way the molecules are put together, just as a house, or its interior, has a character and a usefulness, which depend upon its design, or just as the meaning of a sentence depends on the words it contains and on the way they are arranged.

This second step is not always made: the hindrance to its accomplishment is heat. Heat is a mode of motion. When, for example, the molecules of water are set in very rapid motion by imparting sufficient heat to them, the forces that would make them combine are overcome; the molecules exist as independent individuals and we have water vapor or steam. With less heat and less motion the molecules are always in part-