

present case of water, chemical aggregation is, in the first place, exerted between the heterogeneous molecules, hydrogen and oxygen, which uniting, form compound homogeneous molecules, (of water); while in the next place, the molecules of water uniting *chemically* in one direction, and *cohesively* in the other, form the solid crystal (of ice). Thus chemical aggregation, and cohesive aggregation, are as distinct as the polarities themselves upon which they depend; and if the one kind of aggregation existed alone without the other, no such thing as a regular crystalline solid would probably be formed in nature.

From the above views, of molecular forces, it follows as a consequence, that every molecule must possess, in one axis, powers and properties totally different from those with which the molecule (or molecular aggregate) is endowed, in the other two diameters or axes. This axis and its polarities, may, by way of distinction, be called the *chemical* axis and polarities; and may be supposed to be represented by the axis and polarities *E, e*, in the preceding figures. The other two diameters, (and indeed every other diameter that can be supposed to be drawn, through the centre, from opposite points of the superficies of the molecule), probably possess common properties, and may be called the *Cohesive* diameters and polarities. Here then the existence of two forces, is indicated,—the one