same way most gaseous bodies, by a proper decrease of temperature, can first be converted into a liquid state, and further, into a solid state of density.

In opposition to these three states of density of anorgana, the living body of all organisms—animals as well as plants—is in an altogether peculiar fourth state of aggregation It is neither solid like stone, nor liquid like water, but presents rather a medium between these two states, which may therefore be designated as the firm-fluid or swollen state of aggregation (viscid). In all living bodies, without exception, there is a certain quantity of water combined in a peculiar way with solid matter, and owing to this characteristic combination of water with solid matter we have that soft state of aggregation, neither solid nor liquid, which is of great importance in the mechanical explanation of the phenomena of life. Its cause lies essentially in the physical and chemical properties of a simple, indivisible, elementary substance, namely, *carbon*.

Of all elements, carbon is to us by far the most important and interesting, because this simple substance plays the largest part in all animal and vegetable bodies known to us. It is that element which, by its peculiar tendency to form complicated combinations with the other elements, produces the greatest variety of chemical compounds, and among them the forms and living substance of animal and vegetable bodies. Carbon is especially distinguished by the fact that it can unite with the other elements in infinitely manifold relations of number and weight. By the combination of carbon with three other elements, with oxygen, hydrogen, and nitrogen (to which generally sulphur, and frequently, also, phosphorus is added), there arise those