

by the action of which the properties of the atom were continually undergoing change. On account of placing the power of motion in the material atoms, the members of this sect, the most prominent of whom were Thales, Anaximenes, Diogenes and Heraclitus, were called Dynamicists, from *δύναμις*, which signifies force or power. The other sect, of whom Anaxagoras was the most perfect type, distinguished between the moved matter of the universe and the moving power; that is, between God and the creation. It was maintained by this sect that each atom of matter had been impressed, at its original creation, with a certain form, certain size, and certain combining properties; and was not capable of acting in any other way, or of assuming any other form, than what was peculiar to it at its original inception. As the atoms were thus supposed to perform mechanical functions, in obedience to a power impressed on them from without, the members of this other sect were known under the appellation of Mechanicists.

About the same time, the atomic theory was inculcated by another school of Grecian philosophers, called Sophists, at Abdera, in Thrace. The most prominent of this school was Democritus; and the chief peculiarity of its doctrine, was the existence of a vacuum, surrounding every atom of matter.

Coming down to the beginning of the last century, Boscovitch, an Italian mathematician, advanced the hypothesis, that the primary atoms are mathematical points, without extension, but possessed of the properties of attraction and repulsion. This singular doctrine found an advocate, no later than 1844, in the person of Dr. Faraday.

The atomic theory has, however, received its most complete development from the English chemist and mathematician Dalton; whose views, may be said, to be generally predominant among European and American scholars, at the present day. Dalton assumed, that each atom is surrounded by a space or atmosphere; and that, in a composite body, which is an aggregation of atoms and their surrounding spaces, contraction and expansion are simply a diminution and increase of the intervening spaces:—for example, that in the freezing of water, the spaces become smaller; and when water evaporates, the spaces become larger; at the same time, that the atoms of hydrogen and oxygen, of which water is composed, retain their original sizes, being themselves incapable of increase or diminution.

Now, in tracing the identity of the elements of the food, as they appear consecutively in the fluids, solids and secretions of an organ-