

at a distance, the latter put into the place of the forces of nature the conception of Energy. In the same degree as these modern ideas have been introduced into the scientific view of nature, the older astronomical and atomic views have been somewhat discredited or thrust into the background.¹

It then dawned upon some of the leaders of scientific thought that science when it deals with natural phenomena is not tied to one rigid system of conceptions, that its aim is not to explain but simply to describe the things and processes around us in the simplest and most convenient manner; that different methods exist by which this can be done, but that none of these methods or systems give an insight into the nature of things, but only afford to the thinking mind the means of connecting the processes and phenomena of nature with each other. This logical connection leads from the

¹ As already shown in the first section of this History, however (chapter vii., p. 198), the atomic or corpuscular view has latterly been strengthened by recent research in electrical science, which favours a corpuscular theory of electricity, and to this we may add the importance which Mendelian theories attach to definite units of character in living organisms: these are assumed to persist and to be transmitted through heredity, frequently after having been apparently lost or become useless "survivals." It seems, indeed, impossible for an ultimate explanation to conceive of a plenum or continuum in space without assuming at the same time that such a plenum contains discontinuities which admit of portions of this plenum being defined, and preserving their identity: this introduces

again the atomic view, the conception of discrete particles. The vortex-atom theory of Lord Kelvin, "the discovery of the types of permanent motion, which could combine and interact with each other without losing their individuality," seems so far the only image which we possess of discontinuities in a plenum depending entirely on different modes of motion of the same all-pervading substance termed the universal fluid or Ether. It is, however, also interesting to note how the celebrated author of the vortex-atom theory latterly abandoned his own hypothesis — "the idea that a mere configuration of motion suffices" — as not likely to be "helpful in respect to crystalline configurations, or electrical, chemical, or gravitational forces." See *ante*, vol. ii. p. 182, note 2.