finity" of the related forms is based on descent from a common parent form, it seems very probable that the same holds good of the families and orders of the chemical elements. We may, therefore, conclude that the "empirical elements" we now know are not really simple, ultimate, and unchangeable forms of matter, but compounds of homogeneous, simple, primitive atoms, variously distributed as to number and grouping. The recent speculations of Gustav Wendt, Wilhelm Preyer, Sir W. Crookes, and others, have pointed out how we may conceive the evolution of the elements from a simple primitive material, the *prothyl*.

The modern atomistic theory, which is regarded as an indispensable instrument in chemistry to-day, must be carefully distinguished from the old philosophic atomism which was taught more than two thousand years ago by a group of distinguished thinkers of antiquity—Leucippus, Democritus, and Epicurus: it was considerably developed and modified later on by Descartes, Hobbes, Leibnitz, and other famous philosophers. But it was not until 1808 that modern atomism assumed a definite and acceptable form, and was furnished with an empirical basis by Dalton, who formulated the "law of simple and multiple proportions" in the formation of chemical combinations. He first determined the atomic weight of the different elements, and thus created the solid and exact foundation on which more recent chemical theories are based; these are all *atomistic*, in the sense that they assume the elements to be made up of homogeneous, infinitesimal, distinct particles, which are incapable of further analysis. That does not touch the question of the real nature of the atoms—their form, size, psychology, etc. These atomic qualities are merely hypothetical; while