Stas, who began with a belief in the hypothesis, led to the result "that the simplicity supposed by Prout's hypothesis to exist in the ratios of weights which come into play in chemical processes has experimentally not been found; it does not exist in reality."[1]

of the elementary atoms, in the structure rather than in the material difference of the elements themselves. The development of this view in the modern chemistry of "types" and "structures" will always go hand in hand with an avowed or tacit belief in the existence of an ultimate uniformity of substance, out of which by a diversity of configuration of atoms the infinite variety of compounds is produced. The accurate measurements of Stas had again about the year 1860 disproved the hypothesis of Prout. It has, however, again turned up in recent scientific literature. The theories of evolution, physical and philosophical, the discoveries of the spectroscope regarding the small number of elements contained in the photosphere of the sun, the periodic laws of Lothar Meyer and Mendeléeff and the stereometric theory of the carbon-compounds, of which I shall speak later on, all point to the conclusion that our so-called elements are composite bodies, and favour a view, similar to that of Prout, that possibly a single kind of matter may form the only substance of which atoms, molecules, elements, and compounds are made up. Professor Crookes in his address to the chemical section of the British Association in 1886 revived interest in the subject. After quoting a variety of authorities, he sums up: "From these passages, which might easily be multiplied, it plainly appears that the notion—not necessarily of the decomposibility, but at any rate of the complexibility of our supposed elements—is, so to speak, in the air of science, waiting to take a further and more definite development. It is important to keep before men's minds the idea of the genesis of the elements; this gives some form to our conceptions, and accustoms the mind to look for some physical production of atoms." Further on he coins the word "protyle" (from πρώτη and ὕλη) to denote the original kind of matter, and thus reminds us that, though speculations of this nature are not infrequent in English philosophy since Roger Bacon, the English language has no word to denote what the Germans call "Urstoff," the Romans "prima materia," the Greeks τὸ στοιχεῖον or simply ὕλη. The line of thought which again and again leads philosophers to speculate on this "prima materia" and upon a hypothesis similar to that of Prout is interesting and noteworthy, though it must be acknowledged that, so far, no real scientific benefit has been derived from it, and that it rather tends to upset the only firm foundation of modern chemistry, the fixity of the equivalent proportions as we now use and know them. Mendeléeff himself, in his excellent Faraday lecture on the periodic law ('Journal of the Chemical Society,' 1889, p. 634, &c.) distinctly refuses to recognise any connection between the periodic law and the idea of an unique matter.

[1] Stas, quoted by Ostwald, 'Lehrbuch der Allgemeinen Chemie,' vol. i. 2nd ed., Leipzig, 1891, p. 129. The revival of the hypothesis of Prout about the middle of the century was owing to the discovery by Dumas and Stas of the fact that Berzelius's figure, 12·20, for the