

termed *weight*. In our illustration of the attractive forces of matter above given, we supposed a case in which one ball was very much larger than the other: now this precisely corresponds with the case of the globe of the Earth, and of all common bodies near its surface. The Earth is more than 1,000,000,000,000,000 times the mass of any body which is observed to fall on its surface; and therefore, if even the largest body which can come under observation were to fall through a height of 500 feet, the corresponding motion of the Earth would be through a space less than the 1,000,000,000,000,000th part of 500 feet; which is less than the 100,000,000,000th part of an inch, and therefore quite inappreciable.* Now the attractive force exerted between the Earth and detached bodies, is denominated *weight*. Hence the weight of a body, at the earth's surface, is proportionate to its mass, or to the quantity of matter it may contain, whatever the form or qualities of that matter may be—a most important fact for the chemist; who, by employing the chemical properties of bodies as indications of identity or of change, is by these means enabled to apply to them the more certain measure of *weight*; and thus in some degree, to bring them under the dominion of the laws of quantity.

* Lardner's Cabinet Cyclopædia, Art. Mechanics, p. 79.