

Potassium are respectively the bases of the Soda and Potash of commerce. Their symbols Na and Ka are from the German Natrium and Kalium, the names by which they are known in that language. So great is their affinity for Oxygen that when thrown on water they decompose it, seizing the oxygen and causing the Hydrogen (*ὕδρ* water, *γεννᾶν* to generate), the other element of water, to burst into flame; thus affording a beautiful experiment if performed in the dark. In the fourth Class are arranged those substances usually called pure metals, the most important of which are iron, gold, silver, copper, tin, platinum and mercury. The most prevalent of the elementary substances—those entering largely into the rocky masses of our globe are oxygen, carbon, sulphur, alumina, silicon, potassium, sodium, calcium, magnesium, and iron. Very few of these simple bodies are used by animals directly. The vegetable kingdom is the great laboratory of Nature, wherein these substances are prepared for animal use. Almost all of them, if taken in their uncombined state, would be rank poison; but in union with others equally destructive to animal life, they are not only innocuous but highly conducive to health and comfort. Common salt itself, chloride of sodium, is a compound of the gas chlorine and the base sodium, either of which taken separately would put an end to our existence. Masses of the same material are held together by homogeneous, and those formed of two or more ingredients by elective attractions.

"The proportionate volume and gravity of elementary molecules furnish another evidence of design in the beginning of the creation. Suppose there had been no fixed proportion regulating the union of oxygen and nitrogen, but that they would mix with each other in any and in all proportions; then there could have been no adjustment of the lungs of animated beings to the atmosphere. Proportion in the one was necessary, in order that there could be adaptation and adjustment in the other. So of other compounds which affect other parts and processes of the animal economy. If there had been no definite proportions, in which alone the elementary substances would compound themselves, there could have been no adjustment of the organs of motion and life to the conditions of nature." Design is the impress of Creation.

## VEGETABLE KINGDOM.

The department of Natural History denominated the Vegetable