

compost of plants. Wood ashes which always contain a considerable portion of potash, are esteemed highly as a manure.

2d. *Soda*.—This is well known as the carbonate of soda, and by boiling it with quick lime, the carbonic acid is easily separated. The nitrates of potash and soda are very powerful manures.

3d. *Lime*.—This substance is found in the ashes of all plants. It exists in nature, combined with carbonic acid, in all limestone, which is hence denominated a *carbonate of lime*. The carbonic acid is expelled in a gaseous state by the action of heat, in the process of burning lime.

4th. *Magnesia*.—There is a limestone which yields this substance in different proportions. When burnt into lime, it has been found by experience to be very detrimental to certain soils, particularly when the lime contained a large dose of magnesia.

5th. *Silica*.—This is a substance which forms the basis of sand, flint or quartz. A small portion enters the plant in a fluid state, which serves to give strength and smoothness to the stem. This earth occurs in large quantities in all high, porous soils.

6th. *Alumina*, enters largely into all the varieties of clays, and renders the soil sufficiently adhesive to support firmly the roots of plants.

7th. *Oxide of Iron*.—The rust of iron is a familiar sample of this substance. It is iron combined with oxygen. When it exists in soils in large quantity, it is very prejudicial to vegetation.

8th. *Oxide of Manganese* is seldom found in plants in soils, but in small quantities.

9th. *Sulphur* is found more or less in most animal and vegetable substances. By uniting with a definite portion of oxygen, it forms the well known substance called *sulphuric acid*. This latter substance, by uniting with other bodies is of great importance in agriculture, as well as in the arts.

10th. *Phosphorus* is a singular substance, having a strong tendency to ignite when exposed to the common temperature of the air. It has a strong affinity for oxygen, forming *phosphoric acid*, which is found in small quantities in the ash of plants. It likewise unites with potash, soda, lime, &c., and forms a large class of *phosphates*, which perform an important part in the formation of productive soils, and in the economy of vegetation.

11th. *Chlorine* is a very suffocating gas, or air, of a greenish colour. It is a powerful agent in the process of bleaching, and is very valuable for disinfecting purposes. It combines with the metallic bases of potash, soda, lime, &c., forming the *chlorides* of those substances. It is a remarkable fact that this suffocating and most disagreeable gas, when combined with sodium, (a singular metallic substance, having so strong an affinity for oxygen as to ignite upon water,) forms that most necessary, mild, and agreeable condiment *common salt*, or chloride of sodium.

We have now taken a general view of the various substances that enter into the composition, both of the organic and inorganic parts of animals and plants. The important question of the analysis of the ashes of the cultivated plants, is undergoing the most vigorous investigation by several of the most eminent chemists in Britain and on the continent of Europe. The Royal Agricultural Society of England, offered some time since a liberal assistance to these investigations; and we are informed that Professor Way has already made public some interesting and important results. We feel assured, that the researches which are now being made in this direction, will, ere long, throw much light on what are now confessedly dark and unsatisfactory points in practical agriculture. And, induce what may we not hope in reference to the advancement of our ancient and important art, from the auspicious union of science with practice?

*Cold Bedrooms*.—A person accustomed to undress in a room without a fire, and to seek repose in a cold bed, will not experience the least inconvenience, even in the severest weather. The natural heat of his body will very speedily render him even more comfortably warm than the individual who sleeps in a heated apartment, and in a bed thus artificially warmed, and who will be extremely liable to a sensation of chilliness as soon as the artificial heat is dissipated. But this is not all the constitution of the former will be rendered more robust, and far less susceptible to the influence of atmospherical vicissitudes than that of the latter.—*Journal of Health*.

*A Fine Polish for Marble*.—Common wheat-straw, when burnt to ashes, is found to contain a portion of stony earth in the form of a most exquisite powder, and may be used to advantage in giving the last polish to marble.