

in the appearance of our country, but in the appearance of our market; therefore the citizen as well as the farmer is interested in the establishment of it. We submit these few remarks at present, and shall take another opportunity to fill up the outline which we have sketched.



GERMINATION AND VEGETATION.

GERMINATION is the process by which a plant begins to grow from its seed. This process commences with the absorption of oxygen by the seed lobes, or cotyledons, the production of carbonic acid gas, and the formation of saccharine matter, which is the first nourishment the plant receives, as it exists in the seed. Water must be present to enable these changes to take place, and the most favourable temperature varies from 55 to 80. Light retards germination. The germ then increases, and the *radicle* descends into the earth to form the roots, whilst the *plumula* ascends to constitute the stem.

Germination cannot take place at a great depth, in consequence of the *absence of oxygen*. Chlorine by facilitating the evolution of oxygen from water, promotes germination.

VEGETATION includes all those processes, by which the growth of the plant is carried on after germination.—They are analogous to those observed in the animal economy.

By ABSORPTION from the soil the roots of plants take up a large share of nutritious matter; they also receive considerable proportion of nourishment through the medium of their leaves, and accordingly they can in many cases be supported in this manner alone. In the latter case the carbon seems to be derived principally, if not entirely, from the carbonic acid of the atmosphere.

By CIRCULATION, the juices of plants are brought to their leaves, and then by a process analogous to respiration, undergo those changes by which they are more particularly fitted to nourish the plant.

By SECRETION the different proximate principles are elaborated from the sap. Light has a very important influence, not only on the colour of plants, but also on the process of respiration, favoring very much the decomposition of carbonic acid, the absorption of carbon, and the elimination of oxygen.

Reid's Practical Chemistry.



BOTANY.

WE beg to direct the attention of those readers, who are not conversant with the science of Botany to the following extracts from the work of Sir James Edward Smith, M. D., F. R. S. and late President of the Linnæan Society—we shall devote a portion of our paper to this delightful subject, pursuing a course, which we trust will be equally interesting and instructive, and although we shall draw largely from the work already quoted, we shall at the same time add to these extracts from other works of value and celebrity—we shall accordingly endeavour to make an epitome suited to the general reader; and as Botany is an elegant and useful study, we shall commence and continue in regular progression, promising instruction to those who will give it the attention and consideration which it merits. Particles united make aggregates—and these monthly contributions will at the conclusion of a year add an interesting amount to the stock of general knowledge with those who are willing to accumulate it.

—
"Soft roll your incense Herbs, and Fruits and Flowers

"In mingled clouds to Him, whose Sun exalts
"Whose breath perfumes you, and whose pencil paints."

The productions of Nature have been divided into three great classes, called the ANIMAL, the VEGETABLE, and the MINERAL, or FOSSIL Kingdoms: Botany, which is derived from a Greek word signifying grass, and this again from another, signifying to eat, because grass is the chief food of animals most useful to man, is that branch of Natural History which relates to the Vegetable Kingdom.