

It will be shown hereafter, that all plants and vegetable structures, undergo two processes of decomposition after death; one of these is named *fermentation*—the other, *putrefaction* or *decay*.

It will also be shown, that decay is a slow process of combustion—a process, therefore, in which the combustible parts of a plant unite with the oxygen of the atmosphere.

The decay of woody fibre (the principal constituent of all plants) is accompanied by a phenomenon of a peculiar kind. This substance, in contact with air or oxygen, converts the latter into an equal volume of carbonic acid, and its decay ceases upon the disappearance of the oxygen. If the carbonic acid is removed, and oxygen replaced, its decay recommences, that is, it again converts oxygen into carbonic acid. Woody fibre consists of carbon and the elements of water; and if we judge only from the products formed during its decomposition, and from those formed by pure charcoal, burned at a high temperature, we might conclude that the causes were the same in both; the decay of woody fibre proceeds therefore, as if no hydrogen or oxygen entered into its composition. A very long time is required for the completion of this process of combustion, and the presence of water is necessary for its maintenance; alkalis promote it, but acids retard it. Woody fibre in a state of decay is the substance called *humus*. The property of woody fibre to convert surrounding oxygen into carbonic acid, diminishes as its decay advances, and at last a brown coal looking substance remains, in which this property is entirely wanting, which is called *common mould*: it is the product of the complete decay of woody fibre, and constitutes the principal part of all the strata of brown coal and peat.

Humus acts in the same manner in a soil permeable to air, as in air itself; it is a continued source of carbonic acid, which it emits very slowly. An atmosphere of carbonic acid, formed at the expense of the oxygen of the air, surrounds every particle of decaying humus. The cultivation of land, by tilling and loosening the soil, causes a free and unobstructed access of air. An atmosphere of carbonic acid is therefore contained in every fertile soil, and is the first and most important food for the young plants which grow in it.

In spring, when those organs of plants are absent, which nature has appointed for the abstraction of nourishment from the atmosphere, the component substance of seeds is employed in the formation of the roots. Each new radical fibril which a plant acquires, may be regarded as constituting at the same time a mouth, a lung, and a stomach. The roots perform the functions of the leaves from the first moment of their formation; they extract from the soil their proper nutriment—namely, the carbonic acid generated by the humus.

By loosening the soil which surrounds young plants, we favor the access of air, and the formation of carbonic acid; and on the other hand, the quantity of their food is diminished by every difficulty which opposes the renewal of air. A plant itself effects this change of air at a certain period of its growth. The carbonic acid, which protects the undecayed humus from further change, is absorbed and taken up by the fine fibres of the roots, this is replaced by air, by which process the decay is renewed, and a fresh portion of carbonic acid formed. A plant at this time receives its food both by the roots and by the organs above ground, and advances rapidly to maturity.

When a plant is quite matured, and when

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the organs by which it obtains food from the atmosphere are formed, the carbonic acid of the soil is no further required.

Deficiency of moisture in the soil, or its complete dryness, does not now check the growth of a plant, provided it receives from the dew and atmosphere as much as is requisite for the process of assimilation. During the heat of summer it derives its carbon almost exclusively from the atmosphere.

The size of a plant is proportional to the surface of the organs which are destined to convey food to it. The power which roots possess of taking up nourishment does not cease as long as nutriment is present. When the food of a plant is in greater quantity than its organs require for their own perfect development, the superfluous nutriment is not returned to the soil, but is employed in the formation of new organs; at the side of a cell already formed, another cell arises; at the side of a twig and leaf, a new twig and leaf are developed: these new parts could not have been formed, had there not been an excess of nourishment.

Leaves, twigs and branches, when completely matured, as they do not become larger, do not need food for their own support; for their existence as organs, they require only the means necessary for the performance of the special functions to which they are destined by nature; they do not exist on their own account; but they serve for the formation of woody fibre, and all the solid matters of similar composition; and when the woody substance has advanced to a certain extent, the expenditure of the nutriment (the supply of which still remains the same) takes a new direction, and blossoms are produced. The functions of the leaves of most plants cease upon the ripening of their fruit, because the products of their action are no longer needed. They now yield to the chemical influence of the oxygen of the air, generally suffer a change in color, and fall off.

WILLAMETTE, May 22, 1846.

Mr. Editor—You are requested to publish the proceedings of a meeting which was held, pursuant to notice, at Mr. D. Waldo's, for the purpose of organizing a Military Company; when,

On motion, Mr. Keyser was called to the chair, and Mr. Thos. Holt appointed secretary of the meeting.

On motion, the following preamble was read and adopted, to wit:

Whereas the people of Oregon territory are situated remote from, and without the protection of, any government; we, therefore, as members of a free and enlightened community, wishing to preserve the principles and institutions of a free and republican form of government, and being well aware that the body of the people is the only power capable of sustaining such institutions, therefore, we deem it advisable to form ourselves into military bodies, for the purpose of preserving peace and order at home, and preventing aggression from abroad—having this precept before us, that

Eternal vigilance is freedom's price—
Its deadly bane is ignorance and vice.

On motion, it was resolved, that we, as citizens of said territory, in pursuance of this duty, forthwith organize ourselves into a company of Mounted Riflemen, and pledge our-

selves to abide such rules, regulations, and by-laws, as may be adopted by a majority of the company.

On motion, resolved, that this company shall be called "THE OREGON RANGERS."

On motion, the president proceeded to read a code of by-laws for the government of the troop, which was adopted.

After which, about forty-five joined the company, by subscribing their names to the by-laws.

On motion, two committees were appointed to nominate candidates for officers of said company. The result of the election was as follows, to wit:

- For Captain, Charles Bennet.
- " 1st Lieut. A. A. Robinson.
- " 2d " Isaac Hutchins.
- " 3d " Hiram English.
- Ord. Sergt. Thos. Holt.
- " 2d " Thos. Howell.
- " 3d " S. C. Morris.
- " 4th " William Herring.
- " 1st Corp'l. P. C. Keyser.
- " 2d " Robert Walker.
- " 3d " B. Frost.
- " 4th " John Rowe.

On motion, resolved, that the president and secretary sign the proceedings of this meeting, and forward a copy of them to the editor of the Oregon Spectator for publication.

On motion, the meeting adjourned.
T. D. KEYSER, Pres't.
THOS. HOLT, Sec'y.

The Philosophy of Marriage.

BY ALFRED CROWQUILL.

Marriage, under any circumstances, is a very ticklish affair.

When the contracting parties do not "hit their horses," they frequently hit each other, and then it is a most disagreeable affair.

When they do harmonize, and one is the echo—the veritable reflexion of the other's thoughts, smiles, and feelings—anticipating every whim and desire, it is a very pleasant affair.

When a "happy couple" display their affection by pats and taps, and little pinches before company—it is a very ridiculous affair.

When the husband throws out aggravating insinuations, and the excited spouse, like Xantippe of old, throws a tea-pot at her lord and master's head, it is a horrible affair.

When the lady rules the roast, and wears the inexpressible look of tyrannical command, and the gentleman tacitly yields to her usurping and unnatural sway—it is a pitiable affair.

When the husband is not content with the sweets of the flower he has culled, but flies abroad, and, like the "little busy bee," goes sipping and "gathering honey" from "every flower"—it is a lamentable affair.

When the lady, forgetful of her vows of constancy and love, "bolts" with a pair of black whiskers, and ditto military boots—it is a very naughty affair.

Taking all these reflections into consideration, it must incontestably appear that marriage is a very serious affair. And, as marriages are said to be made in heaven, we should advise every candidate not to tie the knot before he obtains a duly authenticated certificate of the original contract!

Similarity of disposition does not always constitute a happy marriage. As in a dust, they may accord beautifully, although they sing different notes. But here the simile ends, or is at fault; for the husband should invariably take the lady's part!

Disparity of age is not a necessary bar to domestic felicity. A man of forty may make a wife of twenty extremely happy. When Plutus presides at the nuptials instead of Cupid, the "match" frequently proves a "lucifer," and the least friction sometimes pre-

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The Philosophy of Marriage.

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