

as is the case with the horse radish and Jerusalem antichoke.

Here, however, it must be remarked, that tubers are not roots in the botanical sense of the word, they are true underground stems, which, instead of terminating in fruit and seed, terminate in nodes full of eyes or leaf buds, and supplied with a quantity of farinaceous matter for the support of the young buds, till they have struck their roots in the soil sufficient to elaborate their own sustenance.

Let any one unearth a potato plant with care, and he will at once perceive the difference between the true roots spreading out into minute fibres, and the underground stems terminating in tubers. The former are tough and fibrous, diverging into minute radicles, each tipped with its little sucking point or spongiolate; the latter are soft and succulent, undivided, and ending in a mass of farinaceous matter studded with young buds. Each of these buds, if detached with a portion of the tuber, and placed in proper soil, will spring up into a perfect plant—the farinaceous fragment supplying it with food, until roots and leaves are formed.

The manner in which plants reproduce themselves viviparously differs according to the constitutional character of the individual. Some, as the elm and poplar, have their roots furnished with buds, which sooner or later sprout forth into offsets and suckers, as they are called, and these annually increase in bulk and height—ultimately becoming, under proper conditions, perfect trees. Others, as the greater number of bulbs and tubers, multiply themselves by sending out runners, each of which produce several young plants; and herbaceous perennials extend themselves in the same way, either by runners under ground, as the couch grass, or above ground, as the strawberry. Most people must have observed the continual efforts of the latter plant to extend itself in this way; and so it is with many others—the propensity being most powerful where there is the least opportunity of bringing forth seed.

It is often highly interesting to watch the progress of these runners. Where the soil is soft and favorable throughout, the young shoots are developed at about equal distances; but where the soil is hard, or covered with stones, the runner pushes its way over these obstructions, refusing to put forth a single bud until the proper conditions for its maintenance be reached.

We have often seen a gravel walk thus crossed by a strawberry runner, the runner being as budless as a piece of copper wire, until it had arrived at the soil on the other side, where it immediately put forth its young progeny in abundance.

Instances of this kind are often ascribed to vegetable instinct; and were it not for the essential differences which evidently exist between vegetables and animals, one would be almost tempted to assign to it a higher designation.

Some plants produce living seeds in the vessels where the ordinary seed is matured, as may be seen in certain species of the onion family—known as tree and apple onions; and others, like some of the lilies, yield little perfect bulbs in the axils of the stem leaves.

Another manner in which trees multiply themselves is by their branches bending downwards till they touch the ground with the growing points, which then take root and spring up into independent stems. This frequently happens among trailing shrubs, as the bramble and honey suckle, and may also be witnessed among our garden roses and gooseberries. A somewhat similar mode of extension is presented by the banyan, which becomes enlarged without the assistance of either seeds or suckers. Roots are produced by the under side of the lower branches: these hang dangling in the air for months before they reach the ground; this at last they penetrate, and become stems to a head of branches. An old tree of this kind presents a most magnificent object, forming concentric corridors over a great extent of surface.

Acting upon the principles here pointed out by nature, gardeners propagate many of their favorites by layers; that is, by bending a branch or shoot till a portion of it be buried in the soil, where it throws out roots, and establishes itself as an independent plant. This being done, it is removed from the parent stock and placed in another situation.

Trees are also propagated by slips; that is, by detached young shoots being thrust into the soil, where they usually throw out roots and grow up into healthy individuals. All plants of course cannot be slipped with the same facility; but, generally speaking, where there are well developed leaf buds in the axils of the perfect leaves, and where there is a true wood formed, the slip will be found to take root and grow.

Budding is another artificial mode of propagation: it is, in fact, merely slipping at an earlier stage of growth. In the one case there are many leaf buds on a common stem, in the other there is only a single bud. The operation is performed by taking the leaf bud from one tree, and neatly inserting it under the cuticle of another, where, fed by the necessary juices, it extends into a new bough or arm.

Perhaps the most curious mode of natural reproduction is that by the leaf. It is well known that many leaves, as those of the echeveria, malaxis, gloxinia, orange, and others, when fallen to the ground in a young and growing state, put forth roots and become perfect plants.

This fact is at present exciting much attention; and since all parts of a plant are but special developments of this single organ, it is argued that there is nothing to prevent the propagation of any species of vegetation by this simple means. Considering the truth and universality of the doctrines of morphology, we

cannot see why there should; and feel justified in the hope, that, once gardeners have arrived at a knowledge of the proper times and modes, they shall be enabled to rear any form of vegetation from this universal organ.

What a curious view of vegetable life do the principles of reproduction unfold! namely, that all parts of a plant—whether root, tuber, bulb, stem, branch, leaf, or seed—will, under certain conditions, grow up into a perfect individual, similar to the parent from which it has sprung. All modes do not take place at one and the same time, for nature is never prodigally wasteful of her resources; but where climate or other conditions interrupt production by one source, another is developed more exuberantly than usual to supply its place. If we have not conditions to mature fruit and seed, there will be tubers, or suckers, or runners instead; and just as the chances of failure are great, so are the modes of reproduction proportionally increased.

There is nothing corresponding to this in the animal kingdom, unless among the very lowest forms, as the polyps and sponges, which also increase by division. Lop away a branch from a tree and its place may be supplied by another; break off the limb of a crab or insect and another limb will shortly take its place; but while the detached branch will spring up into a tree similar to its parent, all vitality has fled from the separated limb of the crustacean.

Higher animals than insects and crustaceans have no power to reproduce lost parts; but while devoid of this vegetative-like power, they have a more exalted sentient development; and if denied the power to reproduce a lost limb, they are endowed with faculties which can better protect them.

THE DESERET NEWS.

TRUTH & LIBERTY.



ALBERT CARRINGTON, EDITOR.

GREAT SALT LAKE CITY, WEDNESDAY, DEC. 3.

A Mighty Man has gone to Rest.

President Jedediah M. Grant, second Counselor in the First Presidency, died in this city at 20 minutes past 10 p.m. of December 1st, 1856, after a short but severe illness.

The funeral will take place in the Tabernacle, at 10 a.m. of the 4th inst., when Prest. Brigham Young will address the assembly, if his health and the state of his feelings will permit.

The demise of Prest. Grant has cast a deep gloom over our city; stores are closed and the ordinary avocations of business suspended.

An obituary notice will appear in the next 'News,' time not permitting the collection of facts in season for this number.

MEMBERS OF ASSEMBLY.—Several of the Members of the Legislative Assembly, from this county and the counties north, left this city for Fillmore on the 2nd and 3d inst. The session commences on Monday the 8th.

ARRIVAL.—Cap. Edward Martin and Company, it being the last hand-cart company of this season, arrived on the 30th of November. As was to be expected, they have suffered considerably from storms and inclement weather, and several have had their feet and hands more or less frosted, but are now comfortably housed and cared for.

Notwithstanding some deaths and the suffering and frost bites since leaving the North Fork of the Platte, we can plainly recognize the kind hand of an overruling Providence in opening a way of escape for so many, in dictating wise and timely counsels to the living Oracles and in moving upon the minds of such numbers to operate promptly and liberally, even to manifest their faith by their works. For never have we witnessed a greater general alacrity in answering to the calls of the First Presidency, and in turning out at such a time of the year with animals, provisions and clothing in abundance, to rescue brethren and sisters that the most who went forth had never seen.

Let the world oppose the gathering of Israel, let the wicked scoff, rage and imagine vanity, so long as the Saints give diligent heed to the counsels of those placed to direct, the gathering will progress as shall please the Most High until, through selecting "two of a family and one of a city," the honest in heart shall have been assembled and the tares left in the field.

CAPS, HODGETTS AND HUNT'S COMPANIES.—A few have been brought in from the only companies still back, but the remainder are unable to come in without assistance. For this reason some 60 horse and mule teams, mostly with two spans to a wagon, left this city on the 2nd inst. with a supply of provisions and forage expected to be amply sufficient for all wants, as the out-going wagons will load

back with persons, and will probably be able to bring in all who can endure the journey, or are not needed to help take care of animals that may have to be left at Forts Bridger and Supply until spring.

No person abroad can realize the immense self-denial and drawback upon plans for comfort, comprised in sending out so many fine teams and active men to encounter the inclemency of mountain cold and storms at this season of the year. Well may sinners be astonished and dismayed at the love of the Saints, seeing they are ready, at the word, to cheerfully endure privation and hardship for the truth's sake and the salvation of man.

CEDAR CITY.—Br. George K. Bowering, clerk of the Cedar branch, writes, under date of Nov. 6, that the reformation is progressing in Cedar, and that upwards of 300 persons have been re-baptized. Some 10 or 12 horse and mule teams had been forwarded to this city for their quota of this year's immigration, with 1400lbs of flour, 16 bushels of wheat, oats, corn, butter, &c., donated to assist the destitute to that place.

Robert Keys and William Bateman (of the 39th Quorum of Seventies) and William Nish have been cut off from the Church of Jesus Christ of Latter Day Saints, for unchristian like conduct.

AT FORT LIMBI, so late as Nov. 10, all was well; the winter wheat sown and but little snow.

Election.

G. S. L. City, Council House, }
Nov. 24, 1856. }

At a meeting of the members of the Deseret Agricultural and Manufacturing Society, called for the purpose of electing a president and board of directors for the ensuing year, Edward Hunter was elected president, and Wilford Woodruff, Charles H. Oliphant, William C. Staines, Seth M. Blair, John R. Winder and Lorenzo D. Young were elected members of said board. ROBT. L. CAMPBELL, Sec.

Different Climates.

An erroneous idea generally prevails respecting climate, as affecting personal comfort. The dwellers in the sunny South pity the New Englanders because doomed to shiver in so cold a climate. They, in turn, bless their stars that they are not wading in the snows of Newfoundland.

I have been led, by observation and experience, to doubt whether the people of any one country have much, if any, advantage, in the matter of climate, over others.

Our ideas of pleasure and pain are intimately connected with, if not based upon, the principle of contrast. In our idea of temperature we have less regard to the actual than to the comparative degree of warmth.

In the report of one of the exploring expeditions in the northern seas, it is said that on a certain occasion the crews were greatly elated with the signs of a thaw, the mercury having risen to within 40 degrees below zero. Having been subject to a much intenser degree of cold, they felt as did the boy whose father had administered to him a severe flagellation, 'greatly refreshed.'

It may be doubted whether the people of Maine suffer more from cold than do those of Virginia.

Touching the weather, it is much as it is with the tariff—all that the people want is to have the line of government policy settled, to know what can be depended upon. So of the weather. The down easter, knowing that from the middle of November to the middle of April, the ground is to be covered with snow, and uninterrupted cold weather is to prevail, he wraps his fur coat about him, inflates his lungs, braces up his nerves, and thinks no more of the cold than the 'rugged Russian bear.'

The dwellers in the Old Dominion, on the other hand, regarding warm weather as the rule, and cold as the exception, make no provision for the latter. But when the northern blasts come, as they will come, he wraps his fig leaf coat about him, and seeks shelter within the inclosure of his airy mansion, so constructed as to exclude heat rather than cold.

Then there is another consideration which greatly favors dwellers in cold latitudes. While the earth is covered with snow, there is but little evaporation. The atmosphere is consequently dry, and storms are unfrequent. Where there is no snow it is far otherwise. The whole surface being covered with water, evaporation is rapid, and the atmosphere is surcharged with vapor, and the peculiar chillings which characterize a March wind in New England, prevail during the winter months.

Agriculturally, the snowy region has many advantages. It is better for the soil to be covered during the winter months. That there is any virtue in the remark, 'snow is the poor man's manure,' I don't believe. But certain it is that grasses and grains are benefited by being thus protected.

Snow is an imperfect conductor of caloric, consequently the surface being protected from the cold of mid-winter, the heat from within dissolves the frost, and when the snow disappears in the spring the frost is gone from the soil.

It is not uncommon to find the grass growing before the snow is off. Fields are ready for plowing soon after they are bare, so that stock

will live and seed may be gotten into the ground nearly as soon in Vermont as in Connecticut. Then, for doing business, the snowy regions have greatly the advantage. Lumbering is with great difficulty carried on where there is no snow. The lumber lands in Maryland and Virginia would be worth twice as much as they now are with northern winters for the removal of the lumber.—[R. B. H., in Plough, Loom and Anvil.

BURIED FORESTS.—Extensive forests, covering valleys and hills-sides, are overturned and the uprooted trees form a gigantic barrier, which prevents the flowing off of the waters. An extensive marsh is formed, particularly well adapted for the growth of various kinds of mosses. As they perish they are succeeded by others, and so for generations, in unceasing life and labor, until, in the course of time, the bottom, under the influence of decay and the pressure from above, becomes turf. Far below lies hard coal; the upper part is light and spongy.

At various depths, but sometimes as much as twenty feet below the surface, an abundance of bogwood is found, consisting mostly of oak, hard and black as ebony, or of the rich chocolate-colored wood of the yew. Such ancient forests every now and then rise in awe-inspiring majesty from their grave.

The whole city of Hamburg, its harbor, and broad tracts of land around it, rest upon a sunken forest, which is now buried at an immense depth below the surface. It contains mostly limes and oaks, but must also have abounded with hazel woods, for thousands of hazel nuts are brought to light by every excavation, not exactly made for nuts.

The city of New Orleans, it has been recently discovered, is built upon the most magnificent foundation on which a city ever rose.

It was the boast of Venice that her marble palaces rested in the waters of Adriatic on piles of costly wood, which now serve to pay the debts of her degenerate sons; but our Venice has not less than three tiers of gigantic trees beneath it. They all stand upright one upon another, with their roots spread out as they grew, and the great Sir Charles Lyell expresses his belief that it must have taken at least eighteen hundred years to fill up the chasm, since one tier had to rot away to a level with the bottom of the swamp before the upper could grow upon it.—[De Vere's Leaves from the Book of Nature.

INVENTIONS.—A correspondent of Notes and Queries mentions a volume in the French language, published at Paris in the year 1660, which contains anticipations of several modern inventions.

Alluding to the magnet and needles touched by it, the writer anticipates the electric telegraph. He says: 'Some say that by means of a magnet, or such like stone, persons who are distant from each other may converse together.'

After giving the details of the workings of such a machine, the writer adds:

'It is a fine invention, but I do not think there is a magnet in the world that has such virtue; beside, it is inexpedient, for treasons would be too frequent and too much protected.'

The article is illustrated with a dial, inscribed with the letters of the alphabet, and furnished with a needle as an index. The volume also contains a remarkable article on 'How to enable a blind man to read.' The author thinks that a blind person may read by means of touch, and proposes 'large, well-shaped letters in relief.'

This rare book has been published a hundred and ninety-five years, and yet the copy quoted from is of the fifth edition.

IMPORTANT FACT.—The London Lancet says: 'Let a person in bed be covered with sufficient blankets to promote perspiration, and let those blankets be covered with an oil or India-rubber cloth, or other impervious fabric; in the morning the blanket will be dry, but the under surface of the India-rubber cloth will be quite wet.'

The blankets, by their dryness, show that the exhalation of the body would pass through them to the surrounding air, had it not been intercepted by the impervious outer covering. Thus it is inevitable that the habitual use of an impervious covering is injurious. Its effects must be to place the body in a constant vapor bath, in which the insensible or healthy perspiration is constantly becoming condensed into the form of humidity, and being prevented from passing off in its elastic and visible form, the perspiration thus constantly becomes checked, and skin eruptions would be the result.'

USE COPPERAS.—The papers are everywhere urging the free use of copperas as a disinfecting agent. It is a cheap article, costing only three cents per pound, and can be found at the druggists and many of the larger grocery stores. A couple of pounds may be dissolved in ten quarts of hot water, and the solution poured into sinks, gutters, cess pools, and all other filthy places, with good effect. We advise all housekeepers to purchase five, ten or fifteen pounds, and make a free use of it as above recommended. Cholera or no cholera, their dwellings and outbuildings will contain a purer atmosphere after the use of copperas.—[States paper.

HINTS IN MAKING AND USING GLUE.—The hotter the glue, the more force it will exert in keeping the two parts glued together; therefore, in all large and long joints, the glue should be applied immediately after boiling. Glue loses much of its strength by frequent re-melting; that glue, therefore, which is newly made, is much preferable to that which has been re-boiled.