

**Vegetable Instinct.**

Of all the plants, the confervæ alone possess the power of locomotion, properly so called; and perhaps of all plants they alone consist of solitary individuals. Other plants are composed of communities, the buds being the inhabitants, the stems consisting of store rooms and galleries, the little spongy bodies at the extremities of the roots being the true locomotive organs—the honey bees of the hive, collecting and elaborating the sustenance of the body politic; and if you expect trees to dance hornpipes for your diversion, you must get some city or bee-hive to set them the example. But if trees, as a whole, do not walk upon the surface of the earth, they in other respects exhibit abundant instances of spontaneous motion. For example, the tendency of plants to incline their stems and turn the upper surface of their leaves to the light; the direction which the extreme fibres of the roots will often take to escape from light, or to reach the best nourishment; the folding up of the flower on the approach of rain; the rising and falling of the water lily, and the peculiar and invariable direction assumed by the twining stem in ascending its prop.

If a pan of water be placed within six inches on either side of the stem of a young pumpkin or vegetable marrow, it will in the course of the night approach it, and will be found in the morning with one of its leaves floating on the water. This experiment may be continued nightly until the plant begins to fruit.

If a prop be placed within six inches of a young convolvulus, or scarlet runner, it will find it, although the prop may be shifted daily. If after it has twined some distance up the prop, it be unwound and twined in an opposite direction, it will return to its original position, or die in the attempt; yet notwithstanding, if two of these plants grow near each other, and have no stake around which they can entwine, one of them will alter the direction of its spiral, and they will twine round each other. Duhamel placed some kidney beans in a cylinder of moist earth; after a short time they commenced to germinate, of course sending the plume upwards to the light, and the root down into the soil. After a few days the cylinder was turned one fourth round, and again and again this was repeated, until an entire revolution of the cylinder had been completed. The beans were then taken out of the earth, and it was found that both the plume and the radicle had bent to accommodate themselves to every revolution, and the one in its effort to ascend perpendicularly, and the other to descend, they had formed a perfect spiral. But, although the natural tendency of the roots is downwards, if the soil beneath be dry, and any damp substance be placed above, the roots will ascend to reach it.

A tree growing from an old wall, or cleft of a rock, will, as soon as it has exhausted the surrounding soil, send a stem down to the land beneath; and Stephens, in his search among ruins in Central America, found, he tells us, magnificent trees of a great height and size, upon the top of some of the high walls of the deserted edifices of a lost race, which having sent stems down to the soil on each side formed by this means a firm support, and being thus, as it were, strapped together with living cables they remain to this day in their original form.

The plants in a hothouse do not direct their leaves to the stove in quest of heat, or the open door in quest of air, but to the sun in quest of light.

Plants in a cellar or dark room struggle towards the light; plants in an area turn the upper surface of their leaves towards it; on the contrary, their roots sedulously avoid it.

The tendril of a vine, or the stem of a creeping plant, never makes any turn until it comes in contact with some object around which it can entwine; after which, it produces in a spiral direction around the object held in its embrace.

The strawberry plant will thrust its runners completely across a garden walk on to a bed of soil on the opposite side; where it will for the first time, as it were perceiving its object to be gained, push out roots, and form a new plant. Trees have been found which have taken root on one side of a deep ravine, and having exhausted the sterile soil on that side,

have pushed their roots across the abyss, and having gained the opposite side, have there struck deep root into the fertile soil.

An eminent modern writer narrates that among the collection of palm trees, was one furnished with hooks near the extremity of each frond, evidently designed for attaching it to the branches of trees for support, when growing in its native forest. The ends of the fronds were all pendant but one, which, being nearer to the rafters of the conservatory, lifted its end several feet to fasten to the rafter; none of the other fronds altered their position, as they could not have reached the rafter had they attempted so to do. What a striking recognition in the tree of an evident fortuitous circumstance!

The Pandanus, a native of the Isle of France sends out roots from the stem for support. If a tree leans to one side, endangering its safety, it puts additional roots at some distance above the rest at the inclining side, which reach the earth, and form supports to the trunk perfectly analogous to the shores and timber work used by architect to prop a building in danger of falling.

**Model Potato Garden.**

The following account of a model potato garden, described by the London Gardner's Chronicle, will be found to be very interesting, and instructive, and will, no doubt, be attentively read by all our subscribers.

The Model Potato Garden, at Solingen, not far from Elberfeld, in Rhenish Prussia, is one of the curiosities best worth seeing in that interesting manufacturing district. It has been established by that indefatigable struggler against the difficulties of the times, M. Peter Knecht, whose ardor in the cause of the poor was on this occasion stimulated by family recollections, as his grandfather of the same name brought the first potatoes into the district of Solingen, in 1731, from Nantes, in France. The garden is about two English acres in size, divided into beds and borders by a broad gravel walk, which runs in the figure of a square. The experiment beds are carried in parallel sections across the centre plot, running north and south; and they also occupy some of the borders. The land has not been drained, but the high position, and dry nature of the climate in summer, would seem to render that precaution here superfluous. Great care is taken in turning over the ground, and pulverizing it as much as possible. An alternation with vegetable crops is also observed. The manure, chiefly composed of house refuse, well mixed with clay and gypsum, to fix the ammonia, is turned over frequently during the winter, and when it is spread upon the land, is mixed with quick lime, which again disengages the ammonia. With this compost, ashes of wood, burnt clay, and all other substances calculated to loosen the soil, may be mixed. When bones are used, they are dissolved in sulphuric acid and water. Fresh stable-dung, and bone dust have been found by the experience of the gardeners not to be good manure for potatoes. A compost, well turned over, thoroughly decayed and mixed, ensures a sound, and full-sized root. The selection of the seed is also very essential. Not only should the soil be changed, but care should be taken to choose only the healthiest roots, which have been well wintered, and, if possible, grown in ground that was not dunged. The selection should be made in the autumn, and the seed potatoes kept on moderate-sized deal boxes, in a dry cellar. Amongst the potatoes in the garden there are some with very short haulm, that are planted in rows 1-2 feet from each other: the long-haulmed kinds are in rows 2-2 feet asunder. The average produce of the neighborhood is stated to be, in good years, 80 pounds, on the rood of 16 square feet, which is more than ten tons to the English acre. What the crop in the garden averages has not been ascertained, as the kinds grown are very numerous and very various in yield. Nearly 500 kinds of potatoes from all parts of the world have been tried in this as a nursery for the neighborhood, or is sent to those who know its value, even at a great distance. In the bad season of 1844, when there was a total failure in that part of the continent, the following sorts pro-

duced in small quantity, but preserving their quality;—A small early potato from Dartur, in Upper Egypt; the large yellow Malta; the large white Chili (from seed); a white potato from Intermedios, Central America, (from seed:) a red potato from California; a dark red from Porto Allegro, La Plata, South America; the large black sago potato from Nukahiva, New Zealand, said to be improved in New Zealand, from the Aracacha of Peru; a white potato from Nova Scotia; and a long white from Canada (partially damaged,) M. Knecht particularly renewing the stock from American seed. Chili, Peru, and Porto Allegro, between Monte Video and Buenos Ayres, he pointed out as the best sources; but praised the orange tawny potato of Java, and especially the large black, New Zealand potato, which is both mealy and highly productive.

**Discovery of Mummies at Durango in Mexico.**

The Texas Star says that a million of mummies have been discovered on the environs of Durango, in Mexico. They are in a sitting posture, but have the same wrappings, bands, and ornaments as the Egyptians. Among them was found a poignard of flint, with a sculptured head, chaplets, necklaces, &c., of alternated colored beads, fragments of bones polished like ivory, fine worked elastic tissues, (probably our modern india-rubber cloth) mocasins worked like those of our Indians, to day, bones of vipers, &c. It remains to continue these interesting researches, and America will become another Egypt to antiquaries, and her ruins will go back to the oldest period of the world, showing doubtless that the ancestors of the Montezumas lived on the Nile, and that their luxurious civilization was broken, and overthrown by the hardy hordes of Asiatic Tartars, who came down from Behring's Straits and the Rocky Mountains. The scenes of Attila and Alaric in Rome and Greece, were rehearsed at an earlier day on the shores of California, and the plains of Mexico. It is unknown of the mummies above mentioned what kind of embalmment was used, or whether it was nitrous depositions in the caves where they are found; a fact of importance is stated, that the shells and the necklaces are of a marine animal found at Zacatecas, on the Pacific, where the Columbus of their forefathers probably landed from the Malay, Hindostan or Chinese coast, or from some islands on the Indian Ocean.

**Subterranean Fire in England.**

The village of Lower Haugh, near Rotherham, England, presents a curious and interesting aspect. An extensive bed of coal beneath the village is on fire, and has been in that condition, burning with greater or less intensity, for at least twenty years. The coal in certain places bassets out—that is, comes up to the surface of the ground; and it was at one of these bassets that the fire originally commenced, having been ignited by a clamp (a fire for burning stones intended for road materials.) The subterranean fire has continued to advance in various directions up to the present time, its progress being manifested by the appearance, at intervals, of smoke and flame at the surface of the ground: the spread of which has generally been stopped, however, by puddling the eruptions with clay, &c. A feeling of apprehension as to the ultimate fate of the village has always continued to prevail, and some years ago the destruction of the mausoleum of the Wentworth family was threatened by the approach of the fire, but, happily, the calamity was averted by severing the bed of coal, for which purpose a shaft was specially sunk. Latterly the work of destruction appears to have been going on with unwonted rapidity, and has created a corresponding degree of alarm. The ground in several large tracts, is one huge hotbed, and where the heat is not so intense as to destroy vegetation, the villagers turn it to very good account in raising crops of vegetables. Two crops of potatoes are secured in one season. The exposed earth is quite warm, even in the depth of winter. Were this state of things confined within prescribed limits, it would be very well, and the villagers would regard it as an unmixed blessing, but this is by no

means the case. The unnatural heat engenders a disagreeable smoke, which is continually ascending and adulterating the atmosphere, doubtless to the detriment of animal health; and the houses in the worst localities are often filled with warm air, strongly charged with sulphur, rendering them, as habitations, little better than a coal pit. The cellars naturally are the worst. Of course, it is impracticable to keep food in them; not unfrequently they cannot be entered with safety. How long this extraordinary state of things is to continue, no one can tell.

**The Bank Swallow.**

The bill and claws of the Bank Swallow being extremely hard and sharp, are admirably adapted for digging. The bill is small, but its very shortness adds to its strength, as it suddenly tapers to a point like a sailor's marlin-spike, or rather like the points of a fine pair of compasses when shut. This fact our readers may verify by observing their operations early in the morning, through a small spy-glass, when they begin in the spring to form their excavations. In this way we have seen one of these swallows cling with its claws to the face of a sand bank, and peg in its bill as a miner would do his pickaxe, till it has loosened a considerable portion of the hard sand and tumbled it among the rubbish below. The holes made are nearly as circular as if planned out with a pair of compasses, though some are of an irregular form; but this seems to be caused more by the crumbling away of the sand than from any deficiency in the original workmanship. The holes or galleries produced by these birds are more or less tortuous to their termination, extending inwards to a distance of two or three feet, where a bed of loose hay, and a few of the smaller breast teathers of geese or fowls are spread for the reception of the eggs.

**Charm of Music.**

Naturalists assert that animals and birds, as well as "knotted oaks," as Congreve informs us, are sensible to the charm of music. The following may serve as an instance: "An officer was confined to the Bastille; he begged the governor to permit him the use of his lute, to soften, by the harmonies of the instrument, the rigors of his prison. At the end of a few days, this modern Orpheus, playing on his lute, was greatly astonished to see, frisking out of their holes, great numbers of mice, and descending from their woven habitations, crowds of spiders, who formed a circle around him, while he continued to breathe his soul-subduing instrument. He was almost petrified with astonishment. Having ceased to play, the assembly, who did not come to see his person, but to hear his instrument, immediately broke up. As he had a great dislike to spiders, it was two days before he again ventured to touch his instrument. At length, having overcome, for the novelty of his company, his dislike of them, he recommenced his concert, when the assembly was by far more numerous than the first; and in course of further time, he found himself surrounded by a hundred musical amateurs. Having thus succeeded in attracting this company, he treacherously contrived to get rid of them at his will. For this purpose, he begged the keeper to give him a cat, which he kept in a cage, and let loose at the very instant when the little hairy people were most entranced by the Orphean skill he displayed."

**Remarkable Powers of Ventriloquism.**

Phillippe, a favorite actor of the Theatre des Varieties, on his marriage with Mademoiselle Voluais, the actress, proceeded with her into Lorraine, to visit an estate they had purchased; when the tenants having thought proper to favor them with a magnificent reception, in the course of the day, the bridegroom, deserting his place of honor, strolled out among the revellers. When he appeared to be only conversing in a grave manner with the Mayor of the place, to the dismay of the simple villagers, strange voices were heard to issue from tuns of wine, reproaching them with their excesses, and from wheelbarrows reproving them for their idleness. The whole village fancied itself bewitched, while Phillippe enjoyed for the first time in his life, on his own account, a talent he had so often exercised for the amusement of others.