

health of people would immensely improve. It is well known that those persons who live out of doors generally keep well and strong, and that, too, in the case of anything but delicate personal habits.

What refreshment there is in absolute cleanliness! What a stimulant it is to body and mind, whether it be experienced or observed! The sight of a perfectly clean, fresh, and ruddy human being is an esthetic treat to the eye, even if the person is homely. It is almost as impressive as beauty itself, for perfect physical cleanliness includes health, and the two together are irresistible.

Those who have taken the Russian baths sometimes say that for a time afterwards they seem like new creatures. The lungs act with surprising freedom, the limbs are light, the feet seem to walk upon air, and the mind is free and elastic in its movements. All heaviness and oppression are taken from them, and they feel on what a low plane of sensation and feeling they ordinarily live. They get a fresh conception of what it is to be clean, that changes their ideal ever after.

When one considers the benefits of perfect cleanliness, the moral impressiveness of it, the physical and intellectual refreshment that lie in it, not to speak of its vital connection with health, one doesn't wonder that a certain very old Book once declared it "next to godliness."

Something about Plants.

BY LIZZIE P. LEWIS.

THERE is no spot on the habitable globe, from the dead poles to the glowing equator, where the nurslings of Flora are not sometimes to be found. When the first faint glimmer of awakening day chases away the dying night of the arctic zone, the snow yields to its gentle influence, and the barren plains are clad, though but for a short season, with tender green and gray blossoms. Melville Island, with its long and dreary night and its winter of from nine to ten months, has an abundance of mosses, lichens, saxifrage, and poppies, and a late explorer found a ranunculus in full flower in a sheltered spot, the second week in June, while in Dr. Kane's expedition plants belonging to such genera as *Lychnis* and *Hesperis* were found beyond 80°.

In both arctic zones mosses and lichens form one of the chief botanical features, and extend in isolated tufts as far as travelers have penetrated. Scurvy grass and sorrel flourish under almost perpetual snow, and during the brief summer, saxifrage, primrose, anemones, and yellow poppies dot the country with beauty.

Wherever volcanic power lifts a jagged rock high above the green bosom of the land, or a coral reef rears its crest above the salt waves, there we are sure to find vegetable life in some form hastening to clothe it with color and beauty. Let there be but the finest crumb of soil and some of the countless hosts of microscopic mosses press into nook and crevice, the harbingers of a higher type of vegetation, for by their own death and decomposition they prepare the way for more varied and fruitful life.

In Holland and some parts of England, the sand sedges and grasses, with their wide-spreading thousand-armed roots, bind together the sandbanks, which otherwise, driven inland by the autumnal and winter winds, would devastate large tracts of now fertile soil.

But though plant life is everywhere found, yet there is great diversity in it. Some plants lead an underground existence, condemned like the trog-

lodytes of the animal kingdom to dwell away from the light of day, which they could not enjoy with their undeveloped eyes. Such are the truffles, so delicious to an epicure's palate, which grow several feet beneath the surface of the soil. The sides, too, of underground pits are frequently covered with cryptogamic plants, of which the curious *Rhizomorpha subterranea* is perhaps the most deserving of notice. Humboldt found vegetable life, pale and distorted, in the dark caverns of Guachara, which, he said, recalled to his memory the plants he had seen growing in complete darkness in the mines of Freiburg, though he reported some of those to be green as well as blanched.

Neither is vegetable life solely dependent upon what we consider its natural food and element. There are plants which live upon each other. A species of fungus grows upon the potato, urging its slender thread-like roots through the stalks until the tubers are reached, which are then speedily reduced to a state of putrefaction. There is a similar parasitic growth upon the grapevine, and another on the rice plant, by whose agency promising harvests are too often destroyed. From the oak we gather our symbolic mistletoe, and upon the dying bark of the noble forest trees we may count whole colonies of moss, lichens, liverwort, and fungi.

Another parasitic plant is never found except in the bodies of dead spiders, and still another thrives only on the necks of caterpillars. This one grows of enormous size when compared with the insect upon which it fastens. The *Cordiceps robertii* is another of these singular growths which is peculiar to the larvæ of the New Zealand swift moth, sometimes rooting the insect firmly to the ground.

The *Aspergilli*, which form glairy films in the fluids we drink, and the *Ascophoi* or mold fungi which invade our bread, possess only invisible stalks. In the dense thickets of a tropical forest we find plants whose only nutriment is that they draw from the atmosphere by their peculiar roots. To this class belongs the great family of *Orchids*, with their strange and superb beauty, and who flourish and blossom for years upon a broken twig.

The singular species of cactus familiarly known as Giant Candle may be mentioned here. It pushes its straight, fleshy stem out of cracks in the rocks where there is apparently no soil, sometimes attaining a height of twenty to thirty feet. The aerial roots of the *Clusia rosea*, are fatal in their effects upon the tree to which they attach themselves. The plant lets its rootlets drop from the top of the tree, and at first delicate, and seemingly harmless, they twine around the stem, a picture of grace and beauty. But after a time, they become welded together, and upon reaching the ground they form a close sheath, which finally chokes their protector.

Nor is the ocean bare of vegetable life as was once supposed. The great Linnaeus said it was not possible for plants to grow on the sea-bed, as they required more light and warmth than could reach them there. But we know that as splendid vegetation clothes the submarine mountains as covers the sunny slopes of the upper world. The ocean has its meadows and gardens, its primeval forests with climbing vines and dense underbrush. When we see the forest trees rock and swing upon the elastic waves of the air or hear them sigh and moan when wrestling with the storm-king's fury, we may also fancy how the branches of the long-reaching *fucus* rock and swing upon the gentle billows or struggle and fight with the roaring, foam-crested waves, and as the surface of freshwater ponds are covered with the tender green of *Lemna*, so upon the salt ocean floats in silent majesty the immense Sargasso meadows. Go where we will, we find an endless variety of red, green, and purple algae, and in the deepest cav-

erns of ocean the vine-leaved *fucus* produces enormous fronds, with hue as green as grass.

But plant life is not quite the same in development in the different quarters of the earth. Under the equator, where the soil is always warm from the reflection of an ever blue sky, vegetable life is of course most varied and prolific, and the nearer we approach the poles, the more simple is the vegetation and the more scanty the number of species. In Europe, for instance, while France has more than 7,200 varieties of flowering plants, Germany can boast of but 7,000, Lapland 1,090, and Spitzbergen but 200. The crimson blossoms of the coral tree appear in our temperate zones only on a shrub, but they adorn lofty trees in tropical forests. The same holds good in ocean groves. Under the equator a singular variety of the *Laminaria* tribe, known by the common name of the Sea Trumpet, grows to a gigantic size, while the thin, gelatinous leaf of the Crisp Ulva was the last specimen of marine flora gathered at Coekburn's Island, 64° south latitude.

There is great diversity, too, in the density of plants. The *Tremelle*, which in some countries bestrew the ground after a wet night with the form and appearance of tremulous masses of jelly, are reduced to water by the slightest pressure. The writer well remembers her disappointment at finding the beautiful shape suddenly vanish at a touch, when she first attempted to pick one. Long years ago they were supposed to be supernatural by alchemists because of the sudden manner of their appearance, while other savants concluded they were emanations from the stars. French peasants even now refer their origin to the stars, calling them, not very daintily, *moon-spittle*.

Then again, there are other plants which show a surprising degree of firmness. Some *Algae*, scattered over the shores of Asia, such as the *Fucus tendo*, is as tough as whipcord, and is used by the Chinese for tying up bales of goods. The trunk of the *Bombax ceiba*, or cheese plant, is as soft as the food from which it takes its name, while the stalks of some Indian bamboos will almost turn a file, and are so indurated with silica, that sparks can be drawn from them with steel.

Many are the curious freaks of nature, as we are disposed to call them, when we consider the strange properties of some plants. In an old history of the Canary Islands, we are told of a laurel tree, at Ferro, which furnished the natives with drinking water. The fluid, which distilled drop by drop, was preserved in cisterns. During the day, this wonderful vegetable fountain was enveloped in a cloud from which it drew its supply of water. This tradition is almost, if not quite, credible, when the writer remembers an arborescent *fuchsia*, in one of the greenhouses of the botanical garden at Rouen, which distilled so much water upon the plants near it, that it was found necessary to remove them. In the South American forests, the *Sarawacia purpurea* has benefited many grateful travelers by its pure, delicious waters. Its leaves unite at the edge, and are so transformed into elegant amphore, whose narrow openings are surmounted by ample green auricles decorated with red veins.

The cedars of Lebanon, whose name alone calls up a throng of holy and historic memories, we all know, with upward-arching branches, grows, which the Arabs regard as answering to instinct in animals and reason in man; and they assert that the upward tendency of the branches is greater just previous to a fall of snow, as if the tree was preparing to receive the coming burden.

We are apt to consider water as the principal food of plants, but they are also nourished by various other substances they draw from the earth. Grasses demand a certain amount of silica. Zinc has been found in the violet, and aluminium in certain varieties of the *Lycopodiaceæ* and *Selaginella*;

so, too, there are certain leguminous plants which thrive best on the rocky soil of Cornwall, which contains fifty per cent. of arsenical sulphuret, and the remainder of which is silicea and sulphuret of zinc. In one of the deserts of Upper Egypt, between the Nile and the Red Sea, the eye perceives only an unbroken sheet of burning sand. Yet a French botanist tells us of having found on its borders, braving the heat of the sun, and unrefreshed by any drop of water, numerous tufts of an *Asclepiade*, whose large, moist, velvety leaves glistened with freshness.

The incessant reproduction of vegetable life, is insured to us by the great number of seeds of certain plants. On one poppy stalk we find 32,000 seeds, and on one stem of tobacco 40,000. The fecundity of some fungi is extraordinary. Fries counted more than 10,000,000 reproductive bodies in one individual of the *Reticularia maxima*, and the microscopic grains of the *Lycopodium* can be counted by thousands of millions, every one of which, though invisible to the eye, may give birth to a *fungus*, which, in one night, can attain the size of a gourd.

These seeds are spread abroad in many ways. Some are furnished with membranous wings and plumes, as if created for the express purpose of floating on the air. Certain lichens from the mountains of Asia, traveling on the wings of the wind, suck up watery vapors from the air, and actually grow during their wanderings. Torn from their native soil, when scarce larger than a pin's head, they have attained the size of a small nut by the time they reach the ground.

The manna upon which the Hebrews fed in their long wanderings through the wilderness, was probably showers of these edible lichens, as they have a most agreeable flavor. A French chemist reported to the Academy of Sciences, having met with them in Asia, that the natives had insisted they had dropped from heaven, calling them in their own language, "bread from heaven," and that he had several times seen the ground covered with them to the depth of six inches.

Sea currents are great aids in the transmission of plants.

The hard fruit of the cocoa palm and the immense husks of the climbing mimosa, torn away by waves, and rocked by storms, are frequently stranded on the shores of Scandinavia, where the want of heat prevents their development. So, too, important migrations in the vegetable kingdom, are due to the movements of rivers and streams. By these means seeds often travel a long way to find a new home. Streams springing from the glaciers of the Upper Alps deposit in the plains of Munich some of the species which grow near their lofty summits. In like manner an Alpine moss, *Bryum Alpinum*, torn away in the Thuringian forest, is carried to the porphyry rocks near Halle.

Masses of ice are called on to assist in the dispersion of plants, as we now find in the north of Germany lichens, mosses, and a few woody plants, which have evidently been borne from the Scandinavian mountains to the plains of ancient Germany, by the immense icebergs which ages since bore down the granite boulders now found there.

Yet each country has its own special blossom, the blue gentian, flourishing amid Alpine snows, and the sandworts growing along the sandy sea-coast, refusing to live if transplanted to richer soil. Laplanders pride themselves on a flower called Charles's Sceptre, never found outside the limits of that inhospitable land, and dreary Siberia can boast her beautiful *Cypripedium*. St. Helena, that rocky, sea-girt isle, has sixty-one native species, of which only two or three have been found elsewhere.

As change of elevation has the same effect upon

climate as change of latitude, plants characteristic of different latitudes appear in succession upon mountain slopes. The palm may delight our eyes in the valley, on the slopes above figs and pomegranates blush in the sunshine; a few hundred feet higher cypress and myrtle wave in the evening breeze; still higher up, we leave the shade of the elm and chestnut to breathe the aromatic fragrance of pine forests, until these are superseded by mosses and lichens of northern zones, "Who live in modest ways and ceaseless praise."

"Fern-Rooms."

ANYBODY with taste, a little money—and some knowledge of gardening—of the kind of gardening, that is to say, which is now called window-gardening—can have a "fern-room."

A fern-room is made by setting up a square, five feet high, of glass set in a frame work of wood or iron, and of which the shape best sets off the ferns which, kept slightly moist by the water in a small tank of tin around which they rise or fall, according to the variety to which they belong, has these plants for its sole purpose and ornament.

Why a construction should be called a room to which this description applies is best known to those who so designated it in the beginning. Certain it is that the past few months have seen many a "fern-room" constructed, and that the effect, setting forward as they do in the rooms they adorn, is good. Moving on rollers and capable of being transported from one room to another, it is needless to say that the small tin tank does not communicate with any pipe. The fern is a plant so beautiful that the eye never tires of it, and the various varieties grouped together thus are simply exquisite.

"Oyster-Blocks."

THE above is the name of the new ice-sets for serving raw oysters at fashionable dinners and suppers. There is, first, a tin box. Into this is set a large square slab of perfectly pure, clear ice. Around the box and concealing its edge is beautifully arranged, handsome sea-weed of the least jagged kind. When the time comes for serving the raw oysters they are laid upon the slab of ice, on which they must not remain long enough to freeze—in a room of average temperature this will not happen—and then they are taken in. "Little Neck" clams are served in the same way, and a fancy having demanded the small crabs that are frequently served with oysters, these are thus brought to table also.

An oyster, clam, or crab, never looks so appetizing as on ice. There is little difficulty in preparing this elegant and delicate addition to a dinner or supper, and a host is usually willing, even in a private establishment, to take some trouble for the sake of style.

The Women of Yesterday and To-day.

SARA COLERIDGE.

SARA COLERIDGE was the daughter of S. T. Coleridge, of famous memory, and was born at Greta Hall, near Keswick, December 22d, 1802. When but a few months old her father thus described her in a letter to a friend: "My meek lit-

tle Sara is a remarkably interesting baby, with the finest possible skin and large blue eyes. She smiles as if she were basking in a sunshine as mild as moonlight of her own quiet happiness."

In some of her recollections, she tells how nervous and ill she was during her childhood from a fall she had in the river Greta, and she says she one day sat down by her aunt, and exclaimed in a piteous tone, "*I se miser!*"

"Yes," was the compassionate reply, "and you will be miserable if your mother doesn't put a cap on you."

This energetic hint was taken, caps were put on her, which the tiny maiden wore until eight years old.

She had a morbidly keen imagination, and when left alone in the dark, would think of lions, the only form of terror her dark-engendered agitation would assume. Her next bugbear was the ghost in Hamlet, and then her uncle Southey's ballad horrors, especially the Old Woman of Berkeley. The agonies she endured between nine and twelve o'clock at night, before her mother joined her, are only to be imagined by persons of equally sensitive fancy.

What made the matter worse, too, was, that like most nervous sufferings, it could not be understood, and subjected her to censure and ridicule. Her uncle Southey (the poet) laughed at her, and her mother scolded her for creeping out of bed and slipping into the parlor when she could endure the loneliness and night fears no longer. But her father understood her better, and insisted on a lighted candle being left in the room. From that time her sufferings ceased.

Before she was twenty-five she had made herself acquainted with the leading Greek and Latin classics, and was well skilled in French, German, Italian and Spanish, mainly the results of her own independent efforts. She was also well versed in natural history, especially botany and zoölogy, and could any time turn from abstruse metaphysical speculations, of which she was fond, to inspect the domestic architecture of a spider or describe the corolla of a rose.

In 1822, she met her cousin, H. N. Coleridge, then practicing as Chancery barrister in London. A strong attachment sprang up between them, and they were married in 1829, after years of patient waiting.

In 1839, she published a romance, *Phantasmion*, a fairy tale, commenced at first for the entertainment of her little boy, whose beauty, vivacity, and early intelligence are described with maternal pride and fondness in some of her letters.

She at this time devoted great care to her children's education, deeming it no degradation of her genius and culture, to lavish their charms on Latin grammar, history, and geography. She decorated a set of wooden blocks with simple and appropriate verses, hoping in this way to sweeten the tough morsels of learning, with play and pleasure.

In 1841, her husband's health gave way, and in January, 1843, he died. He had been the literary executor of her father, and she now dedicated the whole of her intellectual energy, to the carrying out of her husband's wishes, in the doing justice to her father's name.

It was not long before she was obliged to yield her unfinished work into another's hands. She had waited seven years for the fulfillment of her happiness, she waited another seven years, filled with tender and loving memories for the great change, to which indeed she had learned to look forward to, from the eve of her wedding day.

After a lingering and painful illness of a year and a half, she died in the forty-ninth year of her age, the 3d of May, 1852, and was buried in the old churchyard of High-Gate, beside her parents, husband, and son.

L. P. L.