

they were accustomed to correct their longitude by it. Smaller beds lie off the Bahamas, and others are met with in the waters of the southern hemisphere.

Marine vegetation resembles in some respects that of mosses and the inferior plants on land; which are not propagated by the formation of fruit and seed, but by the throwing off of spores. Although some of the alga have root, stem, and leaves, their functions are found, on examination, to differ from those of land plants.

Alga constitute by far the largest proportion of sea weeds, those which are not alga being very few, and their wide diffusion is doubtless intended to furnish food for the animal life which swarms in every part of the ocean; turtles are greedy devourers of alga. Vegetation so abundant serves to bring the constituents of sea-water into a condition to support the life of organized beings. These weeds, too, fix carbon in their structure: cell after cell grows, oxygen is given off, and the great world of waters is thereby purified.

The process, as described by Dr. Harvey, is an interesting illustration of one of nature's important workings. He says: "Wherever an extensive surface of shallow water, whether fresh or salt, is exposed to the air, confervæ and allied alga multiply quickly. Every pool, every stagnant ditch, is soon filled with their green silken threads. These threads cannot grow without emitting oxygen. If you examine such a pool on a sunny day, you may trace the beads of oxygen on the submerged threads, or see the gas collect in bubbles where the threads present a dense mass. It is continually passing off into the air while the conferva vegetate, and this vegetation usually continues vigorous—one species succeeding another as it dies out, as long as the pool remains. And when on the drying up of the land, the conferva die, their bodies, which are scarcely more than membranous skins filled with fluid, shrivel up, and are either carried away by the wind, or form a papery film over the exposed surface of the ground. In neither case do they breed noxious airs by their decomposition.

All their life long, they have conferred a positive benefit on the atmosphere; and at their death they at least do no injury. The amount of benefit derived from each individual is indeed minute, but the aggregate is vast when we take into account the many extensive surfaces of water dispersed over the world, which are thus kept pure, and made subservient to a healthy state of the atmosphere."

In the temperate zones there is a difference in the color of the alga in summer and winter, which does not take place where a steady climate prevails. Naturalists have classed them as Chlorosperms, Melanosperms, and Rhodospersms—green, olive, and red. As a rule, the grass green are found in the shallowest water. The olive colored are mostly met with on shores, where they are exposed to the sun and air in the intervals of ebb and flow of the tide.

They generally form dense forest like belts at the low water line, and some few straggle beyond that line; but the red are most abundant in the deeper parts of the sea, being most intense in the deepest water, and become pale, from carmine to straw color, if exposed to full light in shallow pools. Some are dark purple; and they not only lose their color, but lose the power of secreting the dark substance with which they are dyed when brought to the light.

Most of the alga reflect the prismatic colors, and it is to their presence in the water that the metallic lustre of the waves is often due. The dark purple leaves of one species are tipped with other colors, and may be seen far down in the depths glittering like sapphires or emeralds.

The forms of the fronds (long palm-shaped leaves) too, are not less beautiful than their colors; the diversity is astonishing. Some which grow in the Gulf of Mexico, and on the coast of Australia, resemble lace of exquisite pattern and texture, the effect being produced by myriads of minute leaflets growing one into the other.

In the polar regions, alga are minute and microscopic; but as soon as the margin of the ice is passed, the focus begins to appear wherever there are rocks which favor its growth. It does not grow on sand, and, in consequence, the sea furnishes a parallel to the land, for beneath its waters there are vast deserts as bare and lifeless as the dreary solitudes of Sahara. Their extent makes them an effectual barrier to distribution, and species are found on one side of those sandy wastes which never appear on the other.

One species of the alga have stems as large as those of trees, which on the shores of the Falkland Islands are often mistaken for driftwood. This species belongs properly to the polar latitudes, but the cold Pacific current carries many specimens to the shores of Chili and Peru, where they grow not far from the equator. It includes the tangle, sea-collander, oar weed, and devil's apron. Mr. Harvey states, that on the north-west of America the *Nereocystis* grows with a "stem measuring 300 feet in length, which bears at its summit a huge air-vessel, 6 or 7 feet long, shaped like a great cask, and ending in a tuft of upwards of fifty forked leaves, each of which is from 30 to 40 feet in length." The use of this terminal appendage is to buoy up the gigantic frond, so that it may be well surrounded with water, and receive a due provision of air. In the masses of this plant, the sea otter finds a favorite and profitable lurking place: The stems, singularly enough, are not larger than whip-cord, yet of such strength that the natives of the coast use them for fishing lines.

The *Macrocystis*, another variety, grows to a length of 700 feet—some accounts say 1,500—which we may certainly regard as the tallest of the vegetable kingdom; another resembles the palm in the form and appearance of its fronds; and the large trumpet-weed of the Cape of Good Hope has a stem 20 feet long, the upper part of which is hollow, and is frequently used as a

siphon, and by the herdsmen of the coast as a trumpet for the recall of their cattle.

The alga have many uses important in commerce and medicine, and although no longer used for the manufacture of soda, it is from them our supplies of iodine must be derived, as chemists have not yet succeeded in extracting this constituent from sea-water.

Some years ago, when the kelp manufacture was in its prime, certain Scottish proprietors made \$50,000 a year by the sea weed thrown upon their shores. In north of Scotland, and in Norway and Sweden, alga are still chopped up and mixed with the winter food of cattle.

In the former country, and in Ireland, the central rib of *Alaria esculenta* is eaten by the inhabitants of the coasts, and *Rhodymenia palmata*, the well known dulse or dillisk, is largely consumed as an article of diet. At one time it was the sole relish which the poor Irish could get with their potatoes. The stem of *Laminaria digitata* has been used to make knife-handles: when dry and shrunken, it resembles buck's horn. Such are some of the vegetable curiosities of the great deep.

Austrian Army.

The New York Tribune closes a long editorial upon the position, resources and army organization, with the following description of the army itself. It includes a great number of men:

The heavy cavalry counts six active squadrons and one depot squadron to each regiment—the squadron numbering 194 men. The light cavalry counts eight active and one depot squadron to each regiment, with 227 men to each squadron. The entire active cavalry force is 62,500, without depots, and 67,000 men, including depots.

The artillery consists of 12 field regiments, one coast regiment and one rocket regiment. The Austrians have no horse-artillery. In what they call cavalry-artillery, the men serving the guns are transported on the carriages. Every field regiment has four cavalry-batteries (six-pounders,) and seven foot-batteries (four six-pounders and three twelve-pounders), beside reserve companies. Every battery has eight guns. The coast regiment has no permanent batteries, but is only divided into battalions and companies, and employed for garrisoning the coast defences. The rocket-regiment has eighteen batteries of eight tubes each. The total of Austrian artillery is thus seen to be 1,056 guns and 144 rocket tubes. The artillery has besides, eight battalions of garrison artillery, of about 10,400 men, with technical detachments consisting of 4,500 men. The engineering troops number about 16,700 men.

Besides these active, reserve and garrison troops, Austria possesses separate corps organized for special service, who, although not available as active combatants, prevent a reduction of the active force by those drafts of men which very often reduce battalions to companies, and regiments of cavalry to squadrons. There are three sanitary battalions, train-troops, and with every army-corps a detachment of cavalry to do duty as orderlies. The latter institution has just been introduced into the English army, by the formation of the Mounted Staff Corps. The whole Austrian army counts altogether something like 476,000 men and 1,140 guns of active troops; including depots, technical troops, staff, garrison and police troops (gens d'armes), they count about 620,000.

The Austrian soldier serves eight years, remaining for two years more in the reserve. By this arrangement a reserve is kept available, which, in the case of war, can be called out to the strength of about 120,000 men. In the military frontier every Grenzer has to serve from his twentieth to his fiftieth year. Thus the active force of 55,000 frontier infantry can be increased up to 150,000 or 200,000 men. During the year of 1849 there were at least 150,000 of them under arms. But at that time the military frontier was so deserted that the women had to do all the work of husbandry.

The sum total of these details, for the correctness of which we can vouch, shows that the military organization of Austria allows her to take the field, at once, with a force of 600,000 men, of whom 300,000, at the utmost, may be made available on any given point; and, at the same time, a reserve of about 200,000 veteran soldiers may be called out, without the necessity of any extra recruiting, or extra strain upon the productive forces of the country.

The Russian army is organized upon a footing which allows of far greater numbers being admitted into its frame-work. The population of Russia is 60,000,000 to Austria's 40,000,000; yet, we have seen that Austria, by merely calling in the reserves, can increase her army beyond 800,000; while Russia, in order to attain the same number, has been obliged not only to call in the reserves, but also to recruit fresh troops at a ratio equal to four years' regular conscription.

War and the Results.

The London correspondent of the Tribune, Feb. 2d, writes:

"The losses of the Russians in the campaign of 1854 are now officially published. They amount in the active army, exclusively of Cossacks and of the army in Transcaucasia, to 111,132 men, of whom 29,204 are reported as killed in Turkey and in the Crimea; 16,156 died in the hospitals; 55,304 wounded; while 6,460 are put down as deserters, prisoners and missing. Adding to these numbers the 2,000 prisoners of Bormarsund, and the killed and wounded at Kola and Petropavlovsk, we get the enormous total of one hundred and eleven thousand and odd men sacrificed in one year. The total of the Turkish and Anglo-French victims cannot be smaller, if we remember that the English alone have lost above 30,000 men, mostly by disease, and adding to these figures the victims of Oltenitz and Sinope in 1853, and the losses of Shamyl and of the Russians in Asia, we may safely say that the

present war has so far destroyed the life or the health of at least 250,000 able bodied men, in the prime of life. And what is the result of these awful sacrifices? Has the freedom of Europe been established, or has even the integrity and independence of Turkey, the acknowledged object of the struggle, been benefited by it? We see just the contrary. Austria has been strengthened—the opposition of Sardinia against her has been allayed—the yearnings of Italy for independence have been kept down—and Turkey put in the most miserable dependency upon the English, French and Austrian Ambassadors at Constantinople, who have now succeeded at disgusting the only good Turkish General, Omer Pasha, so far that, as the telegraph reports, he has tendered his resignation to the Sultan; while the correspondent of *The London Times* openly speaks of the intention of the Allies first to convulse the Turkish Empire by so-called reforms, and then to establish a new Eastern Empire."

The Cold Term.

The present cold term commenced on the 29th day of January ult., between 4 and 5 p.m. of that day, the temperature fell from 34 degrees to 31 degrees, and has since continued below the freezing point of Fahrenheit; and should it hold on till 5 p.m. of Tuesday 13th, will have traversed the whole circumference of the great circle of three hundred and sixty hours, or fifteen of our days.

The minimum temperature was reached between 7 and 10 p.m. of Tuesday, 6th, at 6 degrees below zero north and 4 degrees below zero south, in which the cold rested in equilibria ten consecutive hours, both north and south.

There was a perturbation on the 2d, during which the temperature, for a few minutes, rose to 34 deg. south and 33 deg. north, connected with an earthquake in Virginia. Another rise of temperature occurred on the 8th connected with the earthquake in Nova Scotia and the State of Maine, immediately after which the temperature rested in equilibria at 24 degrees for eight consecutive hours, and was followed by aurora borealis the evening of the 9th.

This cold term is denominated by many the coldest for very many years. My memoranda says otherwise:—

1810.—January 19	- - -	At zero.
1817.—February 14	- - -	4 deg. below zero.
" " 15	- - -	6 deg. " "
1821.—January 24	- - -	5 deg. " "
" " 25	- - -	7 deg. " "
" " 26	- - -	2 deg. " "
1835. " 4	- - -	1 deg. " "
1836.—February 5	- - -	1 deg. " "

None of these temperatures were observed in such early morning hours as these we have recorded the present month, and, therefore, must not be considered as the lowest temperatures of the days mentioned.

The 19th of January, 1810, was the cold Friday, and although the temperature in New York only reached the zero line, yet it was at the locality where I was in camp, in a northern wilderness, with six feet of snow on the ground, the coldest weather I ever experienced. Thursday, the 18th, the day previous, some rain fell in many places, after which the temperature changed suddenly before night, and during the entire night the wilderness was vocal with the cracking of the trees by the frost, making reports like volleys of musketry, and to such an extent that it was impossible to sleep.

During the present cold term, the saline cisterns connected with our meteoric wire appendages deposited a large crystalline mass on the lower surface. This saline fluid is the same kind that we sent to the Arctic zone, by Dr. Kane, to test its crystalline powers by the lowest temperature he may meet with in the Arctic circle.—[N. Y. Herald.]

West Coast of Africa.

PARTICULARS OF THE BOMBARDMENT OF CHRISTIANSBORG BY THE BRITISH.

A correspondent of the London News, writing from Christiansborg on Dec. 29th, says:—Heretofore all disputes occurring amongst the natives of that part of her majesty's settlements (the Gold Coast) were arranged by the commandant, Captain Bird, at the Castle; but of late they became opposed to the usual mode of proceeding, and refused to submit to the British flag, at the same time preventing provisions being sent to the castle.

At last, the commandant reported to his excellency Lieut. Colonel S. J. Hill, governor and commander-in-chief of her majesty's settlements on the Gold Coast, who, after the greatest forbearance, caused a proclamation to be issued and posted through the town, to the effect "that if they did not refrain from their rebellious practices, the town would be burned." The proclamation was treated with the utmost contempt, and Lieut. Brownell, who, with an escort, was returning from Jamestown with provisions for the fort, was severely wounded with stones, and with difficulty reached the castle. The castle was completely blockaded, and all supplies cut off; consequently, in self defence, the following measures were had recourse to:

On the 13th September, at 8 o'clock a.m., firing commenced on the town from the batteries of the fort. A steady fire was kept up and returned unflinchingly by the enemy. During the day, Capt. Bird (who was ever present directing the men) received a slight wound from a ball in the arm, but happily without any bad consequences. One corporal and three privates were shot dead, and twenty-four privates dangerously wounded. The firing was kept up for several days at intervals; finally, the rebels completely vacated the town, which is now a perfect ruin, every house having been destroyed by fire.

The rebels, about 3,000, are at present encamped in the neighborhood of Christiansborg. The town of Tessa, situate about five miles

from Christiansborg, has been levelled by her majesty's ship Scourge.—[N. Y. Herald.]

JOHN BROWN.

I've a crown I can spend,
I've a wife and a friend,
And a troop of little children at my knee, John Brown;
I've a cottage of my own,
With the ivy overgrown,
And a garden with the view of the sea, John Brown;
I can sit at my door,
By my shady sycamore,
Large of heart, though of very small estate, John Brown;
So come and drain a glass
In my arbor as you pass, [Brown]
And I'll tell you what I love, and what I hate, John

I love the song of birds, [Brown]
And the children's early words, [Brown]
And a loving woman's voice, low and sweet, John
And I hate a false pretence,
And the want of common sense, [Brown]
And arrogance, and fawning, and deceit, John Brown;
I love the meadow flowers,
And the briar in the bowers,
And I love an open face without guile, John Brown;
And I hate a selfish knave,
And a proud contented slave, [Brown]
And a lout who'd rather borrow than hard toil, John
I love a simple song
That awakes emotions strong, [Brown]
And the word of hope that raises him who faints, John
And I hate the constant whine
Of the foolish who repine,
And turn their good to evil by complaints, John Brown;
But ever when I hate, [Brown]
If I seek my garden-gate, [Brown]
And survey the world around me and above, John
The hatred flies my mind,
And I sigh for human kind, [Brown]
And excuse the faults of those I cannot love, John

So if you like my ways, [Brown]
And the comfort of my days, [Brown]
I can tell you how I live so unweary, John Brown;
I never scorn my health, [Brown]
Nor sell my soul for wealth, [Brown]
Nor destroy one day the pleasure of the next, John
One party with my pride, [Brown]
And I take the sunny side,
For I've found it worse than folly to be sad, John Brown;
I keep a conscience clear,
I've a hundred pounds a year,
And I manage to exist, and to be glad, John Brown.

How to RAISE FRUIT EVERY YEAR.—If rightly understood, few trees, unless absolutely dead or rotten, need occupy ground without yielding a plenteous crop. After a long and varied series of experiments, I gradually adopted the following mode:

As soon as the winter has sufficiently disappeared, and before the sap ascends, I examine my trees and every dead bough is lopped off. Then, after the sap has risen sufficiently to show where the blossoms will be, I cut away all the branches having none on, and also the extremity of every limb, the lower part of which bears a considerable number of buds, thus concentrating the sap of the tree upon the maturation of its fruit, and saving what would be a useless expenditure of strength. In the quince, apricot, and peach trees, this is very important, as these are apt to be very luxuriant in leaves and destitute of fruit. You may think this injures the trees, but it does not; for you will find trees laden with fruit which formerly yielded nothing. Of course, all other well-known precautions must be attended to; such as cutting out worms from the roots, placing old iron on the limbs, which acts as a tonic to the sap, &c. Try it, ye who have failed in raising fruit.—[Farmer and Mechanic.]

SAN BERNARDINO.—From R. R. Hopkins, Esq., of San Bernardino, who arrived in town from that place yesterday, we obtain a few items of news which we lay before our readers.

The weather had been and continued to be very fine, and the most flattering anticipations are entertained of a fruitful season, large additions have been made to their fields for cultivation.

Lieut. Parks of the Topographical Engineers returned a few days since from his trip to the Mohave, whither he went for the purpose of determining whether that river emptied itself into the Colorado. He followed it down until it passed through a kaanyon and spread itself into a large Soda Lake from which no outlet could be discovered. The Lake is about fifteen miles below the point where the road to Salt Lake City crosses the Mohave and some twenty miles from the Colorado between which and the Lake precipitous hills intervened.—[Southern Californian, April 23.]

ANGER OF IDLENESS.—It is no overstatement to say that, other things being equal, the man who has the greatest amount of intellectual resources, is in the least danger from inferior temptations; if for no other reason, because he has fewer idle moments. The ruin of most men dates from some vacant hour. Occupation is the armor of the soul, and the train of idleness is borne up by all the vices. I remember a satirical poem, in which the devil is represented as fishing for men, and adapting his baits to the taste and temperament of his prey; but the Idler, he said, pleased him most, because he bit at the naked hook.—George S. Hillard.

There are 254,091 milliners and dress-makers in England, as reported by the last English census.