Economy of Candles.—If you are without a rushlight, and would burn a candle all night, unless you use the following precaution, it is ten to one that an ordinary candle will gutter away in an hour or two sometimes to the endangering of the house.—This may be avoided by placing as much common salt, finely powdered as will reach from the tallow to the bottom of the black part of the wick of a partly burnt candle, when, if the same be lit, it will burn very slowly, yielding a sufficient light for a bed-chamber; the salt will gradually sink as the tallow is consumed, the melted tallow being drawn through the salt and consumed in the wick."—[The Economist

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An Appeal to Self-interest.—"Rightly understood it is the interest of every man, woman, and child, of every rank and station, to secure good sanatory regulations in large towns. It is the interest of the rich, who are constantly falling victims to diseases bred in the filthy and neglected habitations of the poor, it is the interest of the rate payer who is vainly taxed by unwholesome dwellings and workshops, it is the interest of the charitable, who feel that all they can give is miserably inadequate even to the palliation of evils which might have been prevented, it is the interest of the landlord whose rent is always better paid by a healthy than by an unhealthy tenantry, and whose property is raised in value by every structural arrangement which conduces to health; it is the interest, above all, of the labouring poor, to whom health is but a synonyme for wealth; and sickness and premature death, for poverty, embarrassment, and destitution."—*Address on the necessity of a sound and comprehensive measure of Sanatory Reform.*

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Domestic Exploring Expedition.—The St. Louis Union of the 21st says:—

Drs Owen and Norwood, with several gentlemen attached to the expedition, are now here, on their way to the unexplored district near Lake Superior and the sources of the Mississippi. They are to make the necessary geological and other scientific explorations of the Government lands there, prior to bringing them into market. The region is said to abound in copper and other minerals. They will be absent about five months on this scientific tour and we shall look with interest to the result of their researches and observations in that valuable district. The previous reports of Dr Owen have commanded profound attention among learned men, and been of great practical benefit to the Government. Dr Norwood, who is associated with him in this scientific tour, is a gentleman well qualified for the task. A party of surveyors will be sent to run the principal meridian from the Illinois boundary to Lake Superior, also the township and subdivision lines in a part of that district.

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Expedient to Neutralize the Force of the Wind.—The canoe was carried down the stream by the force of the current; but in the afternoon, and during the greater part of the night, the sea breeze blew so strong as to impede our progress. The boatmen, however, adopted a plan to overcome this which I have never seen elsewhere, nor even heard of, and I will therefore explain it in a few words. Landing at a place where trees grew in abundance, the men set to work and cut off a considerable quantity of branches, which were tied tightly together with cords. One end of a long rope was made fast round its middle, while the other end was secured to the canoe. They then steered for a part of the river where the current was strong and threw the bundle overboard, which being heavy, from its green state, floated just below the surface of the water; and in this manner, being entirely out of the influence of the wind, it received the whole force of the current; by which means the canoe was dragged down at a rate little inferior to that by which we descend during the calm of the day.—[Gardner's Travels in Brazil.

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RAISING POTATOES FROM SEED.

In April the seed should be sown on a light hot-bed, on the surface, well raked in and patted with a spade, giving occasional light waterings. When the plants appear, admit plenty of air, and in order to promote their growth in the early part of the summer (for the size of the tubers will greatly depend on this) in May or June they should be transplanted on a warm border, in rows, 18 inches apart, and 9 inches in the rows, and watered frequently in dry weather, and when growing not to be moulded. But in the event of extreme drought, all those efforts may prove fruitless; therefore we recommend our general or natural mode of culture, viz.—Let a warm situation be chosen, not too dry, and sow the seed in very shallow drills, 18 inches apart. When the plants have attained proper strength they should be thinned and transplanted as before directed, leaving the rest to their fate (these probably will do the best, but will not produce the largest tubers). Under this mode of treatment, plants may not be expected to appear, unless through artificial waterings, till a dripping time, though it should be the end of the summer, when the seed will vegetate, and grow, as it were, spontaneously, without any trouble whatever.—[Hardy and Son, seed-growers, Maldon, Essex.

Scientific.

CATECHISM OF AGRICULTURAL CHEMISTRY AND GEOLOGY.

We shall continue our extracts on Agricultural Chemistry under our scientific head. We omit a few questions which in Mr. Johnson's "Catechism" follow those given in our last number, as they are nearly a repetition of what had been answered before. He states that *all* the substances mentioned are found in the morgame (that part which does not burn away—the ash—see last No.) part of plants, in some, more than in others, thus in 100 lbs. of hay, there may be 9 or 10 lbs. ash, while in 100 lbs. of wheat there will be but 2 lbs. of ash. The ash of different plants contains these substances in different proportions.

II.—*Of the Organic Food of Plants.*

Q. Do plants require food as animals do?

A. Yes, all plants require constant supplies of food in order that they may live and grow.

Q. Where do plants obtain their food?

A. They obtain it partly from the air and partly from the soil.

Q. How do they take in their food?

A. They take it in by their leaves from the air, and by their roots from the soil.

Q. Do plants require two distinct kinds of food?

A. Yes, they require organic food to support their organic part, and morganic food to support their morganic part.

Q. Whence do they obtain their organic food?

A. They obtain their organic food partly from the air and partly from the soil.

Q. Whence do they obtain their morganic food?

A. They obtain their morganic food wholly from the soil in which they grow.

Q. In what form do plants take in organic food from the air?

A. In the form chiefly of carbonic acid gas.

Q. What is carbonic acid gas?

A. It is a kind of air which has no colour, but has a peculiar smell. Burning bodies are extinguished in it, and animals die, and it is heavier than common air. It causes the boiling up of soda water, and the frothing of beer, and forms nearly half the weight of all limestone rocks.

[You may prepare carbonic acid gas, by pouring dilute muriatic acid, (spirit of salt,) upon bits of limestone, or of the common soda of the shops, in a tall covered glass.]

Q. Does carbonic acid gas form a large part of the atmospheric air?

A. No, the atmospheric air consists almost entirely of a mixture of oxygen and nitrogen gasses. Five gallons of air contain about four of nitrogen and one of oxygen, but in 5000 gallons there are only 2 gallons of carbonic acid gas.

Q. Do plants drink in much carbonic acid from the air?

A. Yes, they drink in a very large quantity.

Q. How can plants drink in so large a quantity of this gas from the air, which contains so little?

A. They spread out their broad thin leaves in great numbers through the air, and thus are able to suck in the carbonic acid from a large quantity of air at the same time.

Q. How do they suck it in?

A. By means of a great number of very small openings or mouths which are spread every where, especially over the under surface of the leaf.

Q. Do the leaves suck in this carbonic acid at all times?

A. No only during the day time. During the night they give off a quantity of carbonic acid.

Q. What does carbonic acid consist of?

A. Carbonic acid consists of carbon, or charcoal, and oxygen.

6 lbs. of carbon and 16 lbs. of oxygen form 22 lbs. of carbonic acid.

Q. How do you prove this?

A. By burning charcoal in oxygen gas, when cabonic acid gas will be formed.

[This experiment may be shown by introducing a piece of red hot charcoal into a bottle of oxygen gas until the charcoal is extinguished, when, upon putting a lighted taper into the bottle, you will find carbonic acid has been formed, for the taper will be extinguished.]

Q. Does the plant retain both the carbon and the oxygen contained in the carbonic acid that is absorbed by its leaves?

A. No, it retains only the carbon, giving off the oxygen again into the air.

Q. How do you show that the leaves give off this oxygen gas?

A. By putting a few green leaves under a tumbler or gas-receiver full of water, and setting them out in the sunshine, when small bubbles of oxygen gas will be seen to rise from the leaves, and to collect in the upper part of the tumbler.

Q. Do the leaves of plants drink in any thing else from the atmosphere?

A. Yes, they drink in watery vapour.

Q. What purpose does this vapour serve?

A. It serves in part to moisten the leaves and stems, and partly to form the substance of the plant itself.

Q. In what form do plants take in carbon from the soil?

A. In the form of carbonic acid, humic acid, and some other substances which exist in the black vegetable matter of the soil.

[To form *humic acid* you have only to dissolve a little common soda in water, boil the solution upon finely powdered peat or rich dark soil, pour off the solution when it has stood to settle, and add weak spirit of salt to it. Brown flocks will fall, which are humic acid. This humic acid consists of carbon and water only.]

Q. In what forms do plants derive nitrogen from the soil?

A. In the forms of ammonia and nitric acid.

For the Ladies.

THE LAST TEAR.

BY O. CARMICHAEL.

She had done weeping—but her eye-lash yet
Lay silken heavy on her lilied cheek;
And on its fringe, a tear, like a lone star
Shining upon the rich and hyacinth skirts
Of the western cloud that veils an April even.
The veil rose up and with it rose the star,
Glittering above the gleam of tender blue,
That widen'd as the showers clears off from heav'n.
Her beauty woke—a sudden beam of soul
Flash'd from her eye, and lit the vestal's cheek
Into one bright crimson, and exhaled the tear.

Brooklyn, L. I.

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THE ATTENTIVE GALLANT.

The *Baltimore Western Continent* tells the following good one, combining gallantry and greenness:—

Some two weeks since a young gentleman from one of the Southern States came to Washington, to endeavour to obtain an appointment in one of the new regiments about being raised for Mexico. It was his first trip to the North, and having travelled straight through from Atalanta to Washington, without stopping on the road, he had better opportunity of *feeling* than *seeing* the effect produced by the change of climate. On the day after his arrival he was introduced by the member of this district to several young ladies, with one of whom it fell to his lot to walk from Gadsby's to the capitol.

The lady was provided with a ponderous muff, now so fashionable an article of dress at the north. Our hero was in a dilemma—what to call it or for what purpose it was used, he did not know. But one thing he did know, and that was that it was anything but polite for a gentleman to allow a lady to bear such a burthen. He scrutinized it with much uneasiness for some time—he could not divine what it contained but he was perfectly familiar with the "kiver," and unable longer to restrain his gallantry, he extended his hands, saying,—

"Miss Juha, low me to toat your bar-skin for you?"

"Thank you, sir—don't trouble yourself," replied Miss Juha, blushing very red.

"Oh, 'taint no trouble in the least!" replied our hero, insisting on relieving her of her burthen.

The merry girl at last consented, rather than enter into so embarrassing an explanation; and taking the muff under one arm, our hero offered the other to his fair companion, with whom he marched boldly along the avenue to the capitol, to the no small wonderment of the passing crowd.

It is needless to add that he soon discovered his mistake, or that he has from that hour held all ladies' muffs in utter abhorrence.

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INTERESTING TO BACHELORS.

An English paper indulges in the following remarks in relation to certain members of the community. We recommend them to the serious consideration of all old bachelors.

"A man who passes through life without marrying, is like a fair mansion left by the builder unfinished. The half that is completed runs to decay from neglect, or becomes at best but a sorry tenement, wanting the addition of that which makes the whole useful. Your bachelor is only the moiety of a man; a sort of garnish for a dish; or a prologue to a play; a bow, without—*the fiddle.*"

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A young lady at school, engaged in the study of grammar, was asked if a kiss was a common or proper noun. After some hesitation, she replied, "it is both common and proper."

Scraps.

"Is smoking offensive to you?" said a landlord, as he took out a segar to a family that had just moved into his house. "Not at all, Sir," said the female part of the household. "I am glad to hear it," said he, "for all the fire places here smoke so bad, that you will be bacon before you have inhabited the premises six months."

"Those nations which have been most distinguished for their love of husbandry, whether of the garden or of the fields, have been the most prosperous."

A young lady lately observed, "When I go to the theatre, I am very careless of my dress, as the audience are too attentive to the play to observe my wardrobe, but when I go to church, I am very particular in my outward appearance, as most people go there to see how their neighbours dress and deport themselves."

Love.—Love has made me like the sandal tree, that sheds sweetness on the axe that wounds it.

Two females had a set-to in the streets of Philadelphia, a few days since, and before they could be separated one had completely bitten off the nose and ear of the other.

A Conundrum.—Why are we led to infer that David and Joshua were intemperate men? Because David when he went out to meet Goliah "on the field of honour," "*took a sling;*" and Joshua, previous to his attack on the walls of Jericho, "*took a horn,*" and gave a "*regular blow out!*"

News Department.

☞ We have received an excellent communication from a "Scotchman" on the subject of Oil cake and other articles of export. We are sorry it did not come to hand in time for this number. We shall take great pleasure in laying it before our readers next number.

Arrival of the Cambria.

The *Cambria* brings accounts of a decline in the prices of grain; but it appears that the accounts at New York were extremely contradictory, and extensive dealers were afraid to act. It is highly probable that the circumstances which have caused a depression of prices will be of temporary duration; as much will depend upon the prospect of the coming harvest, especially in the great grain growing states of the American Union, from which accounts within the last few days are anything but favourable.

We learn from a gentleman who has arrived from Iowa, that in Michigan and Illinois nearly half the crop has been winter-killed. It will also be seen by extracts in another column that the wheat crop in the Western States is suffering severely from the ravages of a fly. So that from all the circumstances of the case, it is not likely that the present depression in prices will be anything but temporary.

THE FIRST OF THE FRANCO-AMERICAN LINE OF STEAMERS.

Decline in the Prices of Produce.—Improved condition of the Money Market.—Death of O'Connell.

NEW YORK MARKETS.

New York, Thursday,
June 17, three o'clock, P.M.

On no occasion has there prevailed, on change here, more contradictory views than have been noticeable to-day. The advices of buyers differed so much, and, in fact, so directly contradictory were the impressions in anticipation of the foreign arrivals, that business seemed impossible. Sales were however made to a considerable extent, after much delay. Flour, Ohio and Michigan, brought $7 75c a $7 87½c. and finally, both rose to $8. Wheat opened in the morning at $1 62½c, subsequently brought $1 70c. Corn brought 81c a 86c, those prices, however, must not be deemed settled, or as those that may be relied on to rule even to morrow, but rather as movements in the dark, or at least uncertainty, end with an unsettled market.

The *Cambria* news is 16 days later than previous dates. Breadstuffs have fallen. Flour went down to 40s, but was 42s on the 4th. Sour Flour 37s to 38s. American wheat 10s 6d to 12s 6d per 70 lbs. Indian Corn steady at about 52s for prime yellow. Corn Meal 28s to 31s, with an upward tendency. Provisions in fair supply—demand dull—prices fair. Cotton has advanced. Upland is 5¾d to 7d per lb.; Orleans 5¾d to 8½d.; Alabama and Mobile 5¾d to 7¼d. Sea Island 12¼d to 20¼d; East India ½ to ¾ higher than by last steamer. Sales brisk. Prices of iron supported.

Financial prospects are animating. The crisis is over! The Bank discounting more freely, and bullion is increased ¾ of a million in a week. Part of the Russian loan arrived. Exchange 106¾ to 109.

DEATH OF O'CONNELL.

O'Connell died at Genoa 15th May. His heart is to be deposited at Rome—his body in Ireland.