Science.

☞ Having for some years been well acquainted with the Head of a large silk manufactory in England, and interested in the propagation of the SILK WORM, we have much pleasure in laying before our readers the substance of a letter received from our friend.—EDS.

Application of a Curious Physiological Discovery.

It has long been known to physiologists, that certain colouring matters if administered to animals along with their food, possessed the property of entering the system and tinging the bones. In this way the bones of swine have been tinged purple by madder, and instances are on record of other animals being similarly affected. No attempt, however, was made to turn this beautiful discovery to account until lately, when M. Roulin speculated on what might have been the consequences of administering coloured articles of food to silkworms just before spinning their cocoons. His first experiments were conducted with indigo, which he mixed in certain proportions with the mulberry leaves serving the worms for food. The result of this treatment was successful—he obtained blue cocoons. Prosecuting still further his experiments, he sought a red colouring matter, capable of being eaten by the silkworms without injury resulting. He had some difficulty to find such a colouring matter at first, but eventually alighted on the *Bignonia chica*. Small portions of this plant having been added to the mulberry leaves, the silkworms consumed the mixture, and produced red-colored silk. In this manner the experimenter, who is still prosecuting his researches, hopes to obtain silk as secreted by the worm of many other colours.

Destruction of Modern Rome.

Many authors have asserted, as their interpretation of some parts of the Apocalypse, that Rome will be destroyed by fire from heaven, or swallowed up by earthquakes, or overwhelmed with destruction by volcanoes, as the visible punishment of the Almighty for its popery and its crimes. I am unwilling, having read so many books on the interpretation of the prophecy, to deduce any arguments of this kind from the prophecies which are unfulfilled; but I beheld everywhere—in Rome, near Rome, and through the whole region from Rome to Naples—the most astounding proofs, not merely of the possibility, but the probability, that the whole region of Central Italy will one day be destroyed by such a catastrophe. The soil of Rome is *tufa*, with a volcanic subterranean action still going on. At Naples the boiling sulphur is to be seen budding near the surface of the earth. When I drew a stick along the ground the sulphurous smoke followed the indentation, and it would never surprise me to hear of the utter destruction of the southern peninsular of Italy. The entire country and district is volcanic. It is saturated with beds of sulphur and the substrata of destruction.—It seems as certainly prepared for the flames as the wood and coal on the earth are prepared for the taper which shall kindle the fire to consume them. I again read the remarks of Dr. Cumming: Rome, he believes, is to be overthrown by judgement, not to be converted by the agency of the gospel, nor to be exhausted by political assaults. It is literally to be consumed by fire. Whether he is correct in regarding such an event as the fulfillment of the prophecies, and the demonstration of the anger of the Creator against the incorrigible assumption of an erring and influential church, I know not; but the Divine hand alone seems to me to hold the element fire in check, by a miracle as great as that which protected the cities of the plain, till the righteous Lot had made his escape to the mountains.

GLASS.

The discovery of glass is one of the great triumphs of the useful arts; for what can be more admirable than the application of heat to certain widely different materials, all more or less different to each other, should produce a clear, transparent substance, capable of being moulded, under the continued application of heat, into every variety of form, and permaneutly retaining that form when the heat is withdrawn. This discovery was made long before science could have existed; yet it has been of as great importance to mankind as any other discovery ever made. The glass in our windows, instead of the bourer-boards of our ancestors, has introduced comfort into the meanest dwelling, which did not before belong to the richest palace. History ascribes the honor of this great discovery to the Phœnicians. It is stated by some writer, (we do not remember who,) that some mariners, who had a cargo of soda on board, having landed on the river Belus, in Palestine, and finding no stones to rest their pots upon, placed under them some masses of soda, which being fused by the heat with the sand on the banks of the river, produced a liquid transparent stream of glass—From that time we can trace it to the Jews, Greeks, and Romans, up to the present day, through a space of time not less than 3500 years.

The Diseases of Nations.

Rev. Thomas Starr King, in his lecture on "Show and Substance," holds a *post mortem* examination over the remains of ancient nations, and finds they did not perish by the might of foreign conquerors, but by their own innate corruption.—Such would be the verdict: "Babylon died of delirium tremens; Ninevah, apoplexy: Persia, weakness of the spine; Greece, quick consumption; Rome, paralysis." The present charcteristics of nations were hit off happily thus: Ireland was hungry and dirty; France was troubled with Neuralgia and St Vitus's dance; Spain had the scurvey; Austria was bad off with colics and cramps, that required the utmost nursing skill of the Russian Czar; Germany was subject to the gout and headache; England had a plethora: while even in our youthful nation, signs of a cancer might be seen on our limb.—*American Paper.*

The Farm.

THE FARMER.

Of all pursuits by man invented,
The Farmer's makes the best contented;
His calling good, his profits high,
And on his labour all rely;
Mechanics all by him are fed,
Of him the merchant seeks his bread;
His hand gives meat to every thing,
Up from the Beggar to the King;
The milk and honey, corn and wheat,
Are by his labors made complete.
Our clothes from him must first arise
To deck the fop and dress the wise;
We then by vote may justly state
The Farmer's rank among the great;
More independent than they all,
That dwell upon this earthly ball.
Hail, all ye Farmers young and old,
Push on your plough with courage bold.
Your wealth arises from your clod,
Your independence from your God.
Since then the plough supports the nation,
And men of rank of every station,
Let Kings to Farmers make a bow,
And every man procure a plough.

Polishing Plows.

Farmers, remember this against the time you have new plows to polish. It is from a correspondent of the Country Gentleman:

To all those who are expecting to go through with the old operation of polishing a new plow, by scraping it, the coming spring, I would propose the following cheap and effectual remedy:

Go to any druggist shop and procure 4 oz. of sulphuric acid, or oil of vitriol, which will cost from five to ten cents according to the the conscience of the druggist. Take a stick and wind upon the end a woolen rag, and tie it on with a coarse strong twine, making a swab: set your plow where it will be exposed to the sun, if convenient; then pour the sulphuric acid into an earthen bowl, and dilute it with an equal quantity of rain or river water. Take the swab and thoroughly moisten every part of the plow that requires polishing; work fast, lest the acid eat up your swab before you have gone over the surface, and be careful not to get any on your clothes or skin, for it is very corrosive. Let the plow stand about 24 hours, then scrape off the scales which have arisen all over the surface wet with acid; hitch on the team and go ahead, and in from fifteen minutes to one hour the plow will be smooth and bright.

The rationale is this. The outer coating of the castings is composed of a mixture of sand and iron, more or less porous, thus admitting the free passage of the acid, which decomposes the iron, changing in to oxide, and as soon as the solid iron is reached, the action of the acid terminates, or is very slight, owing to a want of surface upon which to act.

Remarks on Raising Celery.

MR. EDITOR.—I saw an article on celery in the last number of the Farmer for January, which I cannot fully agree, though in most respects good and true. Your correspondent quotes from the Patent Office Report, which says: "As the plant grows, continue to earth up," &c. Now, my experience is, that it should *not be hoed up at all, until within four weeks of the time you intend to dig it*, for early celery, if late, it requires longer, as it does not blanch so fast as when the weather becomes cool. Last season I tried both ways, and the result was, that that which was earthened up at different times as the plant advanced in growth, was some of it *very rusty*, and all of it more or less so; while that which was not hoed up at all until within four weeks of the time I dug it, was entirely free from dust, blanched up twenty inches, and as white as snow. From these facts, as well as the testimony of others, and all previous experience, I must say, I think the practice of earthing up at different times is a very *bad one*; and I would advise all who have been in the habit of hoeing up as recommended by your correspondent, to try the plan I have recommended above, and I am satisfied they will never return to the other. J. F. C. H.

Newton Centre, Jan. 1, 1853.

[New England farmer.

A Bird Convention.

We witnessed a few years since, a congress or convention of birds, the character of which was inexplicable, and is unexplained in all ornithological works. We question whether Messrs. Audubon or Wilson ever saw the like, for if they had they would have been quite likely to have made a note of it. Spending some days at a friend's house, in Wyoming C., during haying time, we were among the mowers, one of whom, with his scythe, cut in twain a large spotted adder, or milk snake, the parts of which he tossed over the fence into the public highway. In a few minutes birds began to collect upon the fences on either side of the dead snake, and within an hour there was a large flock, composed of almost every variety of birds in our forest. It was truly a mixed assemblage; sitting upon the same rail were birds that we seldom if ever, see in so close proximity, twittering, fluttering, and singing, as if they were having a jubilee.

Occasionally they would leave the fences, light in the road, and form a hollow square, in the centre of which would be the body of the dead snake. The scene continued about two hours, when the birds mostly returned to their haunts in the field and forests.

It was as if a common enemy had been slain, and they were celebrating the event—for their demonstrations were joyous ones—had none of the appearance of funeral obseqeuies. The species of snake to which the dead one belonged, fascinate birds, and thus make prey of them—they break up their nests, devour the eggs and unfledged young ones—do not these facts furnish a solution of the mysterious gathering? But by what silent and unseen agency did the news go out to all the haunts of these birds in woods and meadows, bush briar, orchards and gardens, and so numerous and incongruous?—*Rochester (N. Y.) Union.*

Shelter Your Manures.

"In the preparation of farm-yard dung," says Nesbitt, "there are two or three points worthy to be observed. The first is, that many of these substances are soluble. Now the common way of preparing farm-yard dung everybody is acquainted with; a large mass of straw and excrement is allowed to rot in the midst of a quantity of water, where, instead of a genial heat being produced, it is washed by the water, which saturated with soluble matter is allowed to run away, as if the cleaner the straw, the better the mauure. Now it so happens that every one of these substances carried away is the most valuable, in fact, only the insoluble and most worthless are left behind. A quantity of dung thus exposed, will lose its potash, its soda, the greater part of its ammonia and its soluble salts of lime, all of which with very little care could have been preserved, to the great advantage and profit of the farmer."—*Rural New Yorker.*

Making Cheese By Steam.

What do you think of this, farmers' wives, who have had to "change milk" to get a stock, and make cheese "out by the well," and press it in the peck measure with a rail, and with one end under the house, and the other loaded with a basket of stone?

George Hezlep's great cheese factory in Ohio, converts the milk of about 2200 cows belonging to farmers in the neighborhood, into the best cheese, by labor saving machinery. The curd is made, sacked and marked by the farmer, and sent to the factory by a wagon which daily goes the rounds. Eight teams are thus emyloyed. The curd is then passed through the double curd cooking apparatus, then through a machine which cuts it as fine as powder, and salts it while passing through. It is then pressed, sacked, and again pressed. A machine sacks 240 cheeses per hour. The factory makes 300 cheeses daily, and weighing about 5000 pounds. Nearly 400 tons are turned out yearly.—*Maine Farmer.*

From the New England Farmer.

Poultry Raising.

At a recent meeting of the Concord Farmers' Club, the question being, "Is the raising of poultry profitable?" Mr. James P. Brown said he had entertained the opinion that the raising of poultry could not be made profitable among the farmers in Middlesex county. His sons, however, having a different opinion, a year ago he proposed to sell them all his poultry, and purchase of them what eggs and chickens he wanted for the family, upon the condition that they were to keep an accurate account of expenses, and make a true return to him at the end of the year.

Before coming in to the meeting he called upon them for a return up to this time, the period including nine months, and the following is their statement:

Had on March 1, 1852, 26 fowls, valued at	$10,00	
Cost of keeping, consisting of corn meal, potatoes and meat	19,65	$29,65
Received for 32 pairs chickens sold	23.13	
For eggs up to Dec. 1	19.31	
Have 82 fowls worth 33 cents each	27,33	74 67
Expenses		29,65
Profit in nine months		$45,02

He had seen from day to day how the fowls had been taken care of, and after reading this statement, had changed his opinion, and now believes that poultry may be profitably raised in Middlesex county, by bestowing upon it the same attention that is given to other farm stock when well taken care of. These fowls were plentifully supplied with such food as is accessible to all who usually keep them—corn, oats, meal, potatoes, and occasionally fresh meat, such as the plucks of sheep, or the flesh of young calves, many of which are killed when three or four days old by those who are selling milk.

Agriculture in California.

At a recent Horticultural show in California, were exhibited a squash, weighing one hundred and eight pounds, and measuring six feet eight inches in circumference; a water melon, weighing forty-four pounds, and measuring three feet and a half in circumference; potatoes weighing four and a half pounds each, and a bushel of them averaging three pounds each; onion weighing four and a half pounds each, and measuring twenty-two inches; a beet seven and a half feet long, another weighing forty pounds, and measuring forty-two inches in circumference; a cabbage with twenty-five well formed-heads; another weighing thirty-five pounds, with thirteen heads, and the main head in the centre measuring in circumference forty-five inches; corn stalks thirty feet in length; tomatoes two pounds each, etc.

One farmer from one hundred and twenty-five cows received an annual revenue of $63,000! Another from five hundred acres, received twenty-nine thousand five hundred bushels of barley, worth about $60,000! After reading well authenticated statements like these, we think it will be no easy matter for the farmer to point out any section of this country—at least—exhibiting a prolific soil, or a climate more perfectly adapted to his wishes. Facts like the above, certainly furnish ground for the belief that the fertile valleys of California are destined to become centres of the most gorgeous developement of husbandry that perhaps ever gleamed upon the visions of man.

One county in Virginia produces, annually, a quarter of a million dollars' worth of peanuts.