



GEORGE Q. CANNON,
EDITOR AND PUBLISHER.

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—all exhibiting the handy work—the wisdom and glory of the great Architect of nature who erected this superb and magnificent system!

URANUS.

The planet Uranus revolves around the sun at the mean distance of 1,822,000,000 of miles; the circumference of its orbit being 11,448,000,000 of miles. A steam carriage, moving at the rate of 20 miles an hour without intermission, would require 65,298 years to complete the circuit. The planet moves in this orbit at the rate of about 15,000 miles every hour, accomplishing the journey in 30,687 mean solar days, or in about 84 years.

The diameter of this planet is 34,500 miles; its circumference is over 108,000 miles. Whether it has a rotation upon an axis, has not been ascertained by observation; but it is extremely probable, from theoretical considerations, that it has a rotation from west to east, like the other planets; it is also probable that the period of its rotation is about 9 hours and 30 minutes, or nearly the same as that of Jupiter and Saturn. This planet is too far from us to discover any marks upon the surface under the present power of the telescope; and therefore, observation has not been able to detect a rotation.

The bulk of Uranus is over 81 times greater than the earth, but it is only about 153 heavier than the earth. Therefore its density is about the same as that of water. Bodies will weigh a little less on the surface of Uranus than on the surface of the earth; that is, a body weighing one pound here, would, if transported to that planet, weigh only 131 ounces.

The inclination of the orbit to the plane of the ecliptic is 46 m. 28.4 s.; its deviation from the ecliptic therefore, never much exceeds $\frac{1}{2}$ of a degree.

Uranus was discovered by Sir Wm. Herschel on the 13th of March, 1781. For more than a century previous to this period, astronomers conjectured that there must be some planetary body beyond Saturn, in consequence of the disturbances manifested in the deviations of Saturn and Jupiter in their elliptic orbits. This conjecture was accidentally confirmed by Herschel while making a minute survey of the heavens. He at first supposed it to be a comet, but astronomers soon determined that its orbit was nearly circular; and unlike a comet, no tail or nebulous appearance could be detected. Every doubt was soon removed, and this body was determined to be one of the great planets of our system.

Uranus is accompanied by six satellites. None but the most powerful telescopes are capable of perceiving these minute bodies. Two of these are more conspicuous than the others, and their periodic times and distances from the planet have been determined with considerable accuracy.

The existence of the other four rested solely on the observations of Sir Wm. Herschel until the year 1847, when Mr. Lassell and Struve, by independent observations, re-detected one more.

The former of these gentlemen continued his observations upon it from the 14th of September until the 9th of November, and the latter from the 8th of October until the 10th of December, 1847.

This was found to be interior to the two larger ones. Mr. Lassell also re-observed another, intermediate between the larger ones. The other two, if they should ever be re-discovered, will probably be found to revolve in orbits exterior to these.

The first, or the one the nearest to the planet, is supposed to have a period of about 4 days.

The second is known to have a period around the planet in 8 d. 16 h. 51.3 s.; its distance from the center of the primary is 293,000 miles.

The distance of the next is supposed to be 341,500 miles; its supposed period 10 d. 23 h.

The fourth revolves around the planet in 13 d. 11 h. 7 m. 12.6 s.; its distance is 393,300 miles.

The fifth is supposed to perform its revolution in 38 d. 2 h., at the distance of 784,900 miles.

The sixth is supposed to accomplish its revolution in 107 d. 12 h., at the distance of 1,570,000 miles.

One of the most remarkable and unexpected peculiarities is exhibited by the positions of the orbits of these satellites. Contrary to the whole analogy of all the other planetary bodies of the solar system, the planes of their orbits are nearly per-

pendicular to the ecliptic; that is, they are inclined to the ecliptic at an angle of no less than 78 deg. 58 min. And what is still more remarkable, they move in these orbits in a retrograde direction; that is, when their positions are projected upon the plane of the ecliptic, instead of advancing from west to east in the order of the signs, they move in a contrary direction, namely from east to west; which is contrary to the direction of the motions of any other planet or satellite in the whole system. The position of these orbits and the retrograde motions of these satellites are probably the results of some interference with the original positions and movements by causes which at present are unknown.

Whether the inhabitants of Uranus have a variety of seasons, cannot be determined, until the direction of its rotation is known. If its equatorial plane coincides with the plane of its orbit, there would be no changes of seasons, arising from solar heat; but if the equatorial plane, very nearly coincides with the planes of its satellites, its vicissitudes of seasons, so far as they are dependent on the sun, would be so great as to render the planet uninhabitable. The amount of solar heat received on Uranus is nearly 400 times less than what we receive.

There are doubtless other contrivances for the maintenance of the requisite amount of temperature, adapted to vegetable and animal existence, on that distant member of our system. Indeed, if vegetation, in that world, is as dependent on the sun, and on seasons, as with us, its organizations must be entirely different from ours; for there, spring and summer, autumn and winter, are each 21 of our years in length. What must be the nature of a vegetable organism which would require 42 of our years between the time of planting and harvest! What peculiar adaptations must exist, if fruits require 42 years to mature from the season of blossoming! Such peculiarities can scarcely be admitted; hence, we are almost irresistibly led to the conclusion, that the distant planetary bodies have a temperature of their own, and that all things are wisely arranged, to promote life and happiness in every department of creation.

AGRICULTURAL.

The Poultry Chronicle recommends to breeders to lose no time now in placing eggs under hens which manifest a disposition to set. It says:

The early hatched chicken has many advantages over those of later birth; it should be borne in mind that it is in early chickenhood the frame is made that will hereafter place it in the rank of the large birds of its breed. And although feeding has much to do in the production of size and maturity, other things being equal, the early chicken is sure to be the best. It behooves breeders, then, who wish to excel in this respect, to produce early chickens, although at the cost of considerably more care and attention than is necessary in the raising of those at a later period in the season.

A WRITER in an eastern paper says he heard that fence posts would last longer if set switch end down. About twenty-three or four years since he had some sawed from good sized, first growth, red chesnut, and set them promiscuously, a portion of them the way they grew, and some *vice versa*, and to this day there has been no distinguishable difference in their lasting quality.

A COTSWOLD lamb was dropped at Peabody, Mass., on the 21st of February, 1870. It was killed when three months and seventeen days old, and weighed 108 pounds. It sold for \$21.60, or twenty cents a pound. If our farmers would raise sheep like this, there would not be any necessity to send to Chicago for mutton to supply our markets.

A DECISION should be reached soon, if it have not already been, by farmers as to what roots they will raise. Some root crop is almost indispensable in good farm economy, though they have never received the attention here which they deserve. For milk cows they are excellent, and for mules and horses the carrot is a splendid root. An occasional feeding of roots is healthful for all kinds of stock. Carrots require considerable labor to raise, especially if the land be given to weeds. But when raised, they are superior, pound for pound, to other roots. Mangolds and ruta bagas are easily produced, and for the labor bestowed upon them, they yield heavily. As the more general use of oxen for teaming purposes is now being urged upon our people, the cultivation of roots will be found necessary to furnish a cheap, healthful food for winter in addition to hay. If we should escape the grasshopper scourge this season, which we all hope will be the case, carrots and other roots should be raised in plentiful abundance. It is far more profitable to keep a few well-fed cows

than to have a large number half-starved and poorly-cared for, though the milk from the latter may amount, in the aggregate, to as much as that of the former.

SPEAKING of oxen for teaming purposes, it is surprising to see so few of them used in these days. Probably the old settlers drove them so long in coming to this country that they became tired of them, and had an ambition to obtain quicker animals to drive. Whatever be the cause oxen have almost fallen into disuse; and yet there is no cheaper or more serviceable team for a poor man, and even rich farmers can make them very profitable. We were glad to hear President Young call the attention of the people in a public meeting, recently held, to the value of oxen for working. His remarks were well-timed. Our boys have grown to almost despise driving oxen—they are too slow for them. They should be taught their value, and the practice of working them should become so common that it will be popular. Oxen, for teaming purposes, possess many advantages, where speed is not required, over horses or mules. Their original cost is less; they are more easily kept; are less liable to disease; will perform nearly as much, if not quite, as much work in a year as most spans of horses and mules; do not require expensive harness; do not rack and wear out a wagon as much and as quickly as horses or mules; not liable to run away and endanger life and limb; can be driven by boys with whom it would scarcely be safe to entrust horse or mule teams; and after having performed service in the team, they can be fattened and made into beef. These are solid advantages which they possess, and against all these there is but one disadvantage, which we think of, that can be urged—they are slow. This, however, depends greatly upon training. We have seen oxen which we would much rather drive and work than some mules and horses. The difficulty now in the way of working oxen in the greater portion of the Territory is, we do not raise them in sufficient number to supply the demand. With the establishment of co-operative herds, however, we hope to see this difficulty remedied.

THE *New York Tribune* indulges in some plain talk to hide-bound, soulless farmers for their stinginess to their children:

By concessions to the natural love of recreation in the hearts of the young, parents may win and keep the allegiance of our sons and daughters to the soil on which they were born. We have not a word of rebuke for the young farmer that is working to pay off a mortgage on his land, or a debt for stock and tools. His family will see that nothing but strict economy is justice or good sense, as long as that cloud hangs over a property. Our talk is now for the hide-bound and soulless farmers, for skin-flints and pinch-pennies, and we don't propose to fling rose-leaves at them. You live in your back kitchen; you eat your pork and potatoes on a mean, cross legged, pine table; you keep the swill pail next to the bread bowl, and sit at night by a sputtering tallow candle; and all that you may join acre to acre, and add cow to cow. You have a mortgage on two or three of your neighbors' farms, and you have some 5 20s, and notes, and bonds, but you sell every egg that comes from the barn, and use skim milk in your tea, that you may hoard and hoard, for what? Don't you know that it will make your children either hate the country, and scatter dollars as you do seed-oats, or become more sordid and tight fisted than you are? Don't you see that your example stamps the brand of meanness on industry and splashes barn-yard mud on half a dozen substantial virtues? The economy that was honesty while you owed money has changed into wrinkled and pinch-nosed parsimony, now that you are rich. You buy no books because they will not pay you ten per cent. You plant no roses—"no money in them," you say with a sneer. Take a lesson from the clods that you turn; don't they give you ten bushels of wheat for one of seed? Are your apple trees nigards? Do your cows refuse to give down when you press their udders? Can you not afford to be as generous as the mute earth and the dumb beasts that have given you all that you hold with such a clutch?

A STRANGE scene took place very recently, in a Methodist Episcopal church, at Chillicothe, Ohio. A revival had been in progress for several evenings,

and during one of the services, while the minister, Rev. Mr. Milward, was preaching, he alluded to parties being seemingly pious while in church, but irreligious and worldly when out; and said there was one such person in the congregation. The cap fit and instantly called forth a demand for an explanation from one of the church trustees, a Mr. Peter De Camp, who exclaimed in an excited manner, "Name the man; who is it?" The minister, not heeding the interruption, continued his discourse; but the irascible De Camp again interrupted, saying "Who is it? do you mean me?" The minister replied that his remarks were of a general character, but if the cap fitted Mr. De Camp he was welcome to wear it.

This aroused the ire of the combative Peter, who sprang to his feet, and heaped upon the minister a torrent of invectives, of anything but a complimentary character. He then took away the lamp with the intention seemingly to stop the preacher, but he continued his discourse. At this stage of the proceedings De Camp's daughter, seeing that her paternal progenitor was baffled in his efforts, cried out "shut off the gas father," which suggestion "father" promptly carried out, leaving minister and congregation in the dark to make their way out of church as best they could.

There was a talk of a suit being instituted against the brawler for interrupting divine service; but by the intercession of friends, the affair was settled without having recourse to such an unchristian method of arbitration.

A PRACTICE prevails in New York of printing imitations of the labels put upon tin boxes of mustard imported from England; for the purpose of selling them as the pure article. English mustard commands good prices because of its strength and purity, but the mustard sold under these forged labels is a compound, the principle ingredients of which are yellow corn meal seasoned with Cayenne pepper or some other pungent substance. Considerable mustard is imported to our Territory, which seems entirely unnecessary. A good article of mustard can be produced here and its manufacture is comparatively easy. If mustard has to be eaten, why not have it pure instead of the miserable compounds sold under that name?

NOTWITHSTANDING the protestations of several leading Republican Senators in the Senate party caucus, Senator Sumner was removed from the chairmanship of the Committee on Foreign Affairs. No arguments that could be used had any effect in causing the majority of the Senators to waver in their decision in relation to his case. The word had gone forth that it was necessary he should be sacrificed, and the most of the loyal party-men were ready to carry it into effect. The night previous to the caucus it leaked out that the special committee to revise Senate Committees had reconstructed that on Foreign Relations, and had left Mr. Sumner out in the cold. They had placed his name at the head of the new Committee on Elections and Privileges, and as soon as they mentioned him in the caucus in connection with that, he arose and said:

"Mr. Chairman, I must decline any service upon a new committee. I have spent over twenty years in the Senate, and it is now too late for me to enter upon any new line of committee work. I have served for twelve years upon the Committee on Foreign Relations, the last ten years of which I have been its chairman. I appeal to any man who has ever served with me if I have not earnestly sought to do my duty to my State and to the whole country."

Mr. S. then left the caucus. At the next meeting Senator Howe defended the committee's action in displacing Mr. Sumner on the ground that it was a matter of necessity. The relations between Mr. Sumner and the President and Secretary of State were such that they could not hold official intercourse. On this account they had put Senator Cameron there.

Senator Wilson stood up warmly in defence of his colleague. He charged directly, that the cause of Sumner's removal was his opposition to the San Domingo business. He characterized the excuse of Mr. Howe as flimsy. He dwelt upon the impolicy of the step, said that he had the confidence of his party and it would not do to disgrace him. Senators Schurz and Logan spoke in favor of retaining Sumner in his position, and denounced the attempt of the President to dictate the formation of the Senate committees. If this