

Scientific.

Beauties of the Heavens.

The Chaldeans and Egyptians were probably the first discoverers of the science of astronomy; but at what precise period the heavens were arranged into constellations, is not exactly known. La Place fixes the time fourteen hundred years before the Christian era; but Sir Isaac Newton published an opinion, based, as he believed, on reliable data, that the constellations were signs or figures used to commemorate the achievements and memory of the Argonautic expedition. It should be remembered, however, that some of the constellations refer to a period and circumstances higher or of more remote antiquity than that event. The most probable origin of them is, that they were Chaldean and Egyptian hieroglyphics, intended to perpetuate, by imperishable records, the memory of the times in which their discoverers lived, their religion, manners and achievements in the arts and history. There is a grandeur in the idea of thus enrolling their history among the stars, those bright-eyed sentinels of heaven, which must survive and stand as living, blazing characters, to the end of time.

The benefits arising from the study of astronomy have not been sufficiently appreciated, except by the navigator, and to him it is an unerring guide, which enables him to pursue his way through the trackless seas, and to ascertain his exact position, the distance he has travelled, and the rocks and shoals which lie in his path. It is only by astronomy (for on it the science of navigation is based) that these things are fully and particularly known. In this light alone it has become of vast importance to trade and commerce, by promoting intercourse between the most distant nation. If science has explored almost every region; if politics and philosophy have opened communications with the remotest kingdoms of the earth, if alliances have been formed with the most distant races of mankind; if traffic has exchanged her multifarious productions with every continent, island and ocean, it is, in a great degree, in consequence of the aid derived from the never-varying stars, which go before the mariner "like a pillar of fire," to guide him on his way. The science of astronomy lies at the foundation of our geographical knowledge; it is subservient to the purposes of universal commerce; it determines the seasons and directs the operations of the husbandman; it supplies us with an equable standard of time, and settles the events of history it lends its aid to the propagation of religion, and undermines the foundation of superstition and astrology. Above all, it illustrates the glory of the perfections of the Deity; displays the extent and grandeur of his universal empire; efforts subjects of divine contemplation; enlarges the conception and invigorates the mental powers; counteracts the influence of pride; promotes the exercise of humanity; prepares the soul for the employments of the future world, and demonstrates that the Creator has it in his power to open up endless, diversified sources of happiness to every order of his intelligent offspring, throughout all the revolutions of eternity.

Before astronomical calculations were made with any degree of accuracy, the Greeks marked the rising of Arcturus, the Pleiades and Orion, to determine the season for agricultural labor; and should the knowledge we now possess of astronomy be obliterated by any moral or physical convulsion, mankind would again be necessitated to return to this mode of determining the season. The rising of Sirius with sun announced to the Egyptians the period when they might expect the overflowing of the Nile, and the time to sow their grain, make their canals and reservoirs, and prepare for their coming harvests.

We cannot contemplate the innumerable worlds which exist throughout the immensity of space, the countless intelligences that people them, and the peculiar displays of Divine benignity enjoyed in every world, without being overpowered in our conceptions; and we are ready to exclaim, "What is man, that Thou art mindful of him?" In the vast field of astronomy, the most luxuriant mind or imagination may revel at will; and in its boldest flights, it can scarcely soar beyond the reality of the magnificent objects which exist within the range of creative intelligence.—*Arthur's Home Gazette.*

Claudet's Stereoscopic Daguerreotype. In 1838 Prof. Wheatstone illustrated, at one of the meetings of the Royal Society, by means

of a small optical instrument which he termed a "stereoscope," his very curious and interesting discovery with respect to effects of binocular vision that when the axes of vision are coincident with any two figures and form but one picture to the eye, such picture possesses all the properties of both, and presents the appearance of standing out in relief. This is also the case in representation of natural and other objects, especially those produced by the camera obscura upon photographic tables, which are identical in point of correctness and minuteness with those produced on the retina themselves.

M. Claudet has now practically applied this curious optical discovery to the art of photography. Hitherto photographic pictures, notwithstanding their astonishing, and too often unwelcome, accuracy and minuteness of detail, and despite the adventitious aid of color subsequently applied by the artist, but in the appearance of the objects represented, which nothing could disguise or conceal. Astonishing as were the results thus produced by the effects of light in thus accurately producing the most vivid representations and pictures, still more astonishing is it to find that under a particular mode of treatment, the same agent may be made to perform the work, not of the artist alone, but of the sculptor—to produce not merely pictures, but models, not merely portraits but statues, standing out in relief, and possessing all the appearance of the most exquisite and wondrously minute productions of the sculptor's art. The stereoscopic representations, which we have seen at M. Claudet's establishment, of the interior of the late Great Exhibition, the views of the transept and nave, are of the most remarkable character. They possess all the appearance of solid models. There is a proper distance between all the objects, each of which appears to stand out in bold and clear relief, while the most accurate notions may be formed, from looking at these productions, of the varied dimensions of the wondrous structure. Complete sets of these views are now being formed from the originals for her Majesty—who has expressed her warmest approval of them—for the Emperor of Russia, the Sultan, and various other continental sovereigns. But probably, by far the most successful application of stereoscopic photography will be found in the production of portraits, of which a very large number have already been taken by M. Claudet. In viewing through the stereoscope the portrait of any person, the illusion of reality is perfectly astonishing. It need scarcely be said that, accurate as are the portraits taken in the ordinary manner with one camera, the representations obtained by the use of two, placed at different angles with the sitter, when viewed through the stereoscope, are far more complete, inasmuch as the features both upon the right and left side are portrayed, and unite to form one complete picture. A large collection of portraits as well as pictures, taken upon this principle, may be inspected at M. Claudet's establishment in Regent street. We may add that the stereoscope is, in form and size, something similar to that of an opera-glass, and may be constructed so as to be perfectly portable, and is not likely, with ordinary treatment, to get out of order.—[London Morning Chronicle.]

A few days since, Mr. Francis Choate, of Lynn, Mass., died at the Massachusetts Hospital in Boston, of Mortification of the bones of the jaw. The business of the deceased was the manufacture of friction matches, and it is supposed that the poisonous exhalation thus imbibed was the cause of the disease which resulted in his death.

The Scientific American says that this is not a singular case; "the disease is well known, and peculiar to all those engaged in making phosphorated matches. The phosphorus used is the cause of it. A remedy for the evil has been discovered, as those who are subscribers to the Scientific American have been informed some time since. The discovery is the making of phosphorus amorphous."

AN APT COMPARISON.—The Hon. Horace Mann, in alluding to ill-ventilated school-houses, remarks as follows: "To put children on a short allowance of fresh air, is as foolish as it would have been for Noah, during the deluge, to have put his family on short allowance of water. Since God has poured out an atmosphere fifty miles deep, it is enough to make a miser weep to see our children stunted in breath."

THE SKIN.—No part of the human body is neglected so much as the skin. We keep trying to reach the inside parts with physic, at a considerable expense, and upon the outside, the skin, we are not willing to expend so much as a bowl of water. If you want to be well and lively, wash every part of your skin, and give it a good rubbing, once every day.

A NEW METHOD OF AMPUTATING LIMBS.—Some operations have been performed lately at Vienna, by means of platina wire heated red-hot, which has been found to sever the flesh with as much ease and celerity as a knife. One great advantage offered by this method, is the very slight effusion of blood caused by the wire as a dividing instrument.

JONAH IN THE WHALE'S BELLY.—In the cavity of the whale, a safe and practicable asylum is afforded—not indeed in the stomach, but in another cavity of the whale: the throat is large, and is provided with a bay or intestines, so considerable in size, that whales frequently take into it two of their young ones when weak, especially during the tempest. In this vessel are two vents, which serve for inspiration and respiration; and here, in all probability, Jonah was preserved, not indeed without a miracle, but with that economy of miracle so frequently exemplified in Scripture.—*Plymouth Memorial.*

The Farm.

General farm Management.

After reading a report of the discussion of the Winchester Farmers' Club, we write the following from memory as a synopsis of the more important facts elicited. The requisites for success were admitted to be good drainage, removal of useless enclosures, and consequent loss of room from useless hedges, deepening of the soil, extended employment of water as in irrigations, the enlarged introduction of root crops, the increase of live stock with suitable accommodations, and consequent large returns of grain crops; the selection of better seed and employment of better proportions; the improved and extended employment of manures and their more liberal application, and the introduction of more effectual machinery and implements.

Before a farmer commences operations he should study well these requirements. Are the out-houses proportionate to the extent of farm? has he the necessary amount of capital to conduct so large a farm? has he sufficient knowledge of the science of agriculture to use his capital with precise economy? are the facilities for obtaining water adequate? and are the supplies of manure sufficiently near to compensate for the materials to be removed by the sales of crops and cattle? Unless all these questions can be answered satisfactorily, let the aspirant for agricultural fame either abandon his project, or cultivate only so much of his land as will enable him to meet all these requirements at an early date; for if he has one acre more than his means and facilities will enable him to cultivate, in the best manner and at full profit, the loss on every other acre will be as great as the profit on the one, while the time for his farm to arrive at the state of perfection and high profit, will be put off beyond the ordinary length of life of man.

All these conditions being acquired, let him proceed and let promptness and industry supply cheerfulness and health. A good paymaster always makes good bargains and firm friends, comfort will surround him, and his work hands will render him happy by feeling themselves obliged.—*Working Farmer.*

A Good Cellar.

The following directions for making a good cellar possess merit, and we therefore give them a place in our columns. A good cellar is a most important advantage, especially to the farmer. We find the article in the *Granite Farmer*.

"A good cellar is almost a luxury, at any rate it is a very important item to every dwelling-house. Having a very poor one myself, I determined to make it better if I could. The walls were laid with cobble stone mostly and seemed to defy the mason. The bottom was upon the upper edge of the strata of a very soft rock, quite uneven and very wet most of the year. A plank floor would last but little while and was always in a state of decay, producing a very damp, unhealthy atmosphere, wholly unfit to keep anything sweet many days.

In the first place I procured a quantity of lime from the limers of a tannery. To this I

added about equal parts of sand, making a very coarse but tenacious mortar. With this I filled the interstices of the wall, making a tolerably even surface. I next covered the bottom to the depth of from 6 to 12 inches with small field stones, leveling the surface with smaller pebbles as well as I could. I then procured two or three casks of water cement, (now a common article, costing about \$1.50 per cask in Boston,) with this a simple mortar was made and spread as smoothly upon the stones as possible to the depth of 1½ inches. In a few months this floor became almost as hard as the "neither millstone," and is very easily washed and kept clean and sweet. No rat or mouse can gain admittance, and it is so dry that I may lay my apples upon it if I choose, or other vegetables, or casks, without any injury from dampness. It is now in fact a first rate cellar."

POULTRY AND EGGS.—I do a small business in raising and putting up garden seeds, and last fall, a year ago, as I was clearing out some red pepper seeds in my back yard, I threw the shucks and chaff promiscuously about. I soon observed my hens picking them up and swallowing them with great avidity. They soon commenced laying eggs, though they had laid none for a month before. I fed them regularly, two or three times a week, since then, with red pepper, and they have never yet stopped laying, summer or winter, spring, or fall, except while they were hatching their chickens; and I am confident, from more than a year's experience, that, by this method, hens may be made to lay the year round.—*Dollar Newspaper.*

JUDICIOUS CULTIVATION.—Farmers who think that nothing can be done in their business unless the soil is cultivated by the hundred acres at least, cannot appreciate the extent to which one acre or a dozen acres can be developed. Take the experience of Mr. Cherry, of Black Rock, New York, who cultivated last season but twelve acres. He publishes in the Albany Cultivator that he raised:

800 bushels of corn, in ear, sold at 25c	\$200 00
750 do potatoes at 50c	375 00
135 1-2 do. wheat at 100c	135 50
	\$710 50

HIGH MANURING.—The editor of the Michigan Farmer, in his foreign correspondence, states that Robert Craig, a very successful cultivator near Glasgow, applies manure at the rate of \$100 per acre—and finds it profitable. Although he makes much on his excellent and fertile farm, he draws large additional quantities 5 miles, after paying over a dollar a load for it. It cost him over \$2.50 per ton when applied. He gives 40 tons to each acre. This keeps the soil in fine condition for several years, or till his five years' rotation is completed.

HOW TO JUDGE CATTLE.—In all domestic animals, the skin, or hide, forms one of the best means by which to estimate their fattening properties. In the sanding of oxen, if the hide be found soft and silky to the touch, it affords a proof of tendency to take meat. A beast having a perfect touch, will have a thick, loose skin, floating, as it were, on a layer of soft fat, yielding to the slightest pressure, and springing back towards the finger like a piece of soft leather. Such a skin will be usually covered with an abundance of soft, glossy hair, feeling like a bed of moss—and hence is ever termed a mossy skin. But a thick-set, hard, short hair, always handles hard, and indicates a hard feeder.

MUSH.—It is very common to make mush by boiling only a few minutes. This is all wrong. It should be boiled one or two hours, and if longer will do no harm. It will be necessary to occasionally add some water, to keep the mass thin and prevent burning.

NUMBER ONE.—One hour lost in the morning by lying in bed, will put back all the business of the day.

One hour gained by rising early, is worth one month in a year.

One hole in the fence will cost ten times as much as it will to fix it at once.

One diseased sheep will spoil a flock.

One unruly animal will teach all others in company bad tricks; and the Bible says, "One sinner destroyeth much good."

One drunkard will keep a family poor, and make them miserable.

One wife that is always telling how fine her neighbor dresses, and how little she can get will look pleasanter if she talks about something else.

One good newspaper is one good thing in every family.

The Rural New Yorker says, "We disbelieve in farmers who will not improve—in farms that grow poorer every year—and in farmer's sons ashamed of their father's calling."