

Miscellaneous.

The Planetary System, as it is now Understood.

Sir J. Herschel has lately expressed his opinion, that it is impossible any longer to attempt the explanations of the movements of all the heavenly bodies by simple gravitation, as understood in the Newtonian theory—these comets, with their trails perversely turned from the sun, deranging sadly our systematic views. Nor are there (writes Humboldt) any constant relations between the distances of the planets from the central body round which they revolve, and their absolute magnitudes, densities, times of rotation, eccentricities, and inclinations of orbit or axis. We find Mars, though more distant from the sun than either the earth or Venus, inferior to them in magnitude; Saturn is less than Jupiter, and yet much larger than Uranus. The zone of the telescopic planets, which are so inconsiderable in point of volume, viewed in the series of distances commencing from the sun, comes next before Jupiter, the greatest in size of all the planetary bodies. Remarkable as is the small density of all the colossal planets which are farthest from the sun, yet neither in this respect can we recognize any regular succession. Uranus appears to be denser than Saturn, and (though the inner group of planets differ but little from each other in this particular) we find both Venus and Mars less dense than the earth, which is situated between them. The time of rotation increases, on the whole, with increasing solar distance, but yet it is greater in Mars than in the earth, and in Saturn than in Jupiter. After other remarks of the same character, he adds, "The planetary system, in its relation of absolute magnitude, relative position of the axis, density, time of rotation, and different degrees of eccentricity of the orbits, has, to our apprehension, nothing more of natural necessity than the relative distribution of land and water on the surface of our globe, the configuration continents, or the elevation of mountain chains. No ~~law~~ law, in these respects, is discoverable either in the regions of space or in the irregularities of the crust of the earth.

[We have endeavored to find out the place where, and when, Sir John expressed himself, as stated in the above extract, taken from an exchange, but have not been able. It is entirely opposed to the opinions of other eminent astronomers, and especially to Dr. Nichols, whose lectures in this country, are printed and cheap, and should be read by every person.

New City of Hadley Falls.

In number 8, we gave an account of the great dam at Hadley Falls, and stated that it was taken from the Springfield Republican.—Since then we have received the Weekly Times Extra from the New City, which gives us new light on the subject, and we make the following corrections.

The credit of planning the New Dam belongs to John Chase, Esq., of Cabotville, with the assistance of Mr. Anderson, who was engineer for both dams.

The Dam is built of solid timbers, twelve inches square, laid crosswise, one above another, with a pitch up stream, and all bolted and pinned together, sunk to the average depth of four feet into the solid rock in the bed of the river, and there firmly secured. The length of the dam between the abutments is 1017 feet; its width at the base is 90 feet, and its average height, 28. The slope from the top to the upper edge of the base, is on the angle of 21½ degrees. The covering is of plank, six inches thick, bolted down to the timbers. For fifteen feet upwards from the bottom, it is filled with gravel and stone. The upper part and ridge are double planked, and the ridge which is pitched down stream, is covered with thick boiler plate to protect it from the ice. The amount of timber in the dam is about 4,000,000 feet, and the pressure which the dam is required to sustain when there is but two feet of water on the ridge, is upwards of forty-four thousand tons.

The abutments and bulkhead, which together occupy about 200 feet, are constructed of

solid masonry. The gate-ways of the bulkhead, thirteen in number, through which the water is let into the main canal, are eight feet wide by fifteen feet high, with double guard gates, securely put in. A gate-house is to be erected on the bulkhead of sufficient dimensions to cover the gates.

Extraordinary Discovery in California.

The following is an extract from a letter written to his wife by a New Yorker, now working in the mines of California. The letter bears date, August 26th, 1849.

There was a gold mine discovered here (what is called Murphy's Diggings) one week to-day, it is evidently the work of ancient times—210 feet deep, situated on the summit of a very high mountain.—It has made a great excitement here, as it was several days before preparations could be made to descend the bottom. There was found in it the bones of a human being, also an altar for worship, and some other evidence of human labor. From present indications it is doubtful whether it will "pay to be worked, as it is mostly all rock, and will require a great outlay for tools and machinery to work it.

This discovery, if properly pursued by competent observers, may prove of the highest historical importance. It will establish the fact that the mineral wealth of that region had been known to preceding generations, and the relics which have survived, may enlighten us as to the nationality of the people who first pierced this mountain two hundred and ten feet, and will doubtless suggest an inquiry into the reason for abandoning the pursuit of gold in a country in which it seems to abound, and where its discoverers had found encouragement to make such extensive excavations in former times.

Alligator's Nest.

They resemble, says Lyell in his Second Visit to America, haycocks, about four feet high, and five in diameter at their bases, being constructed with grass and herbage. First they deposit one layer of eggs on a floor of mortar, and having covered this with a second stratum of mud and herbage, eight inches thick; lay another set of eggs upon that, and so on to the top, there being commonly from one to two hundred eggs in a nest. With their tails they then beat down round the nest the dense grass and reeds five feet high, to prevent the approach of unseen enemies. The female watches her eggs until they are all hatched by the heat of the sun, and then takes her brood under her care, defending them and providing for their subsistence. Dr. Luzenberger, of New Orleans, told me that he once packed up one of these nests, with the eggs, in a box for the Museum of St. Petersburg, but was recommended before he closed it to see, that there was no danger of any of the eggs being hatched on the voyage. On opening one, a young alligator walked out, and was soon followed by the rest, about a hundred, which he fed in his house, where they went up and down the stairs, whining and barking like young puppies. They ate voraciously, yet their growth was slow as to confirm him in the opinion, that individuals which have attained the largest size, are of very great age, though whether they live for three centuries, as some pretend, must be decided by future observation.

Clairvoyants.

A clairvoyant in Boston and another in England, have been paying a visit to Sir John Franklin at the North Pole.

They both prophecy that Sir John will yet come home safe and snug. We have our doubts about this: we view Sir John's case on the darkest side, but it is pitiable to see people endeavoring, by humbugging, to make gain out of the misfortunes of others. If there is any virtue in flying machines, here would be a case for an effort.

Steamer Princeton.

This steamer has been demolished at the Charlestown Navy Yard. This is not very creditable to her constructors, for she is not as old by five years, as the Great Western. She was built by contract, under the direction of Com. Stockton, and afterwards purchased by Uncle Sam—good natured soul—to feather somebody's nest.

Decay of Timber.—Prevention of Decay.

Properly seasoned timber, placed in a dry situation with a free circulation of air round it, is very durable, and has been known to last for several hundred years without apparent deterioration. This is not, however, the case when exposed to moisture, which is always more or less prejudicial to its durability.

When timber is constantly under water, the action of the water dissolves a portion of its substance, which is made apparent by its becoming covered with a coat of slime. If it be exposed to alternations of dryness and moisture, as in the case of piles in tidal waters, the dissolved parts being continually removed by evaporation and the action of the water, new surfaces are exposed, and the wood rapidly decays.

Where timber is exposed to heat and moisture, the albumen or gelatinous matter in the sapwood speedily putrefies and decomposes, causing what is called rot. The rot in timber is commonly divided into two kinds, the *wet* and the *dry*, but the chief difference between them is, that where the timber is exposed to the air, the gaseous products are freely evaporated; whilst, in a confined situation, they combine in a new form, viz., the dry-rot fungus, which, deriving its nourishment from the decaying timber often grows to a length of many feet, spreading in every direction, and insinuating its delicate fibres even through the joints of brick walls.

In addition to the sources of decay above mentioned, timber placed in sea water is very liable to be completely destroyed by the perforations of the worm, unless protected by copper sheathing.

The best method of protecting wood-work from decay when exposed to the weather is to paint it thoroughly, so as to prevent its being affected by moisture. It is, however, most important not to apply paint to any wood-work which has not been thoroughly seasoned; for in this case the evaporation of the sap being prevented, it decomposes, and the wood rapidly decays.

Many plans have been proposed for the prevention of the rot. Kyan's process consists in impregnating the timber with corrosive sublimate, thus converting the albumen into an indecomposable substance. This method, although not always successful, is undoubtedly of great use, particularly where inferior or imperfectly seasoned timber has to be used. It is, however, said to render the wood brittle.

Payne's process consists in impregnating the wood with metallic oxides, alkalies, or earths, as may be required, and decomposing them in the wood, forming new and insoluble compounds. Timber thus prepared will not burn, but only smoulders.

A process invented by a Mr. Bethell, and very good in railway works, is to impregnate the timber with oil of tar: this appears to be very successful in preventing decay, but the danger of accidents from fire is much increased.

Strange Mortality in Black River, La.

The Concordia Intelligencer says that many of the planters on Black River have lost the most, while some of them lost all, of their young calves lately. The mortality cannot be accounted for. The animals are smitten as with a plague, and sink beyond all remedy on the instant. The death of the young calves is not the worst feature of this visitation. The mortality is general along both sides of the river, and the people of Black River will have it that this is the sure precursor of an epidemic visitation upon the portion of the human family dwelling there. We sincerely hope that their fears more than their judgement have associated such an alarming prospect with their present comparatively trifling loss.

Madder.

Some excellent madder has been grown at Flatbush L. I. by a Mr. Gilm, a Dutch gentleman. The sample is good and he states that the soil is well calculated for this plant as that of any country in the world, and that the immense importations of this article, within a few years may, with ordinary industry, be rendered useless, by the production of an article both better and cheaper.

Science Begetting Science.

To the reflective mind human science presents this singular aspect. Whilst the speculative reason of man continually seeks after unity, strives to see the many in the one—as the Platonist would express himself—or, as we should rather say, strives to resolve the multiplicity of phenomena into a few ultimate causes, so as to create for itself a whole, some rounded system which the intellectual vision can embrace; the discoveries of science, by which it hopes and strives to realize this end, do in fact at every stage, increase the apparent complexity of the phenomena. The new agencies, or causes, which are brought to light, if they explain what before was anomalous and obscure become themselves the source of innumerable difficulties and conjectures. Each discovery stirs more questions than it sets at rest. What on its first introduction, promised to explain so many things, is found, on further acquaintance, to have added but one more to the inexplicable facts around us. With each step, also in our inquiry, the physical agents that are revealed to us become more subtle, more calculated to excite and elude our curiosity. Already half our science is occupied with matter that is invisible. From time to time some grand generalization is proposed—electricity is now the evoked spirit which is to help us through our besetting difficulties—but fast as the theory is formed, some new fact emerges that will not range itself within it; the cautious thinker steps back, and acknowledge that the effort is as yet premature—it always will be premature.

Lectures on California.

The Rev. R. T. Huddart, an eminent divine and philanthropist, will deliver a lecture on California, at the Tabernacle, on the evening of Dec. 4. The object being to raise money for the erection of a church. Mr. H.'s reputation as a lecturer will, we are assured, be a sufficient guaranty that it will be money well expended by those who may wish to attend.—Tickets 50 cts.—for sale at this office.

A Striking Thought.

"The death of an old man's wife," says Lamartine, "is like cutting down an ancient oak that has long shaded the family mansion.—Henceforth the glare of the world, with its cares and vicissitudes, fall upon the old widower's heart, and there is nothing to break their force or shield him from the full weight of misfortune. It is as if his right hand was withered—as if one wing of his eagle was broken, and every movement that he made only brought him to the ground. His eyes are dim and glassy, and when the film of death falls over him, he misses these accustomed tones which might have smoothed his passage to the grave."

Fire and an Afflicting Accident.

On the morning of Wednesday the 2nd inst. a fire took place in Providence, R. I., by which the mansion of Mrs. Anna A. Jenkins was burned down, and herself together with her eldest daughter, Miss Sarah Jenkins, perished in the flames. Mrs. Jenkins possessed great wealth and devoted it to the noblest of purposes, good deeds. She was a member of the Society of Friends, but her charities were confined to no sect. Her daughter was an amiable young lady 22 years of age, and was engaged to be married to a gentleman in New York.

Smithsonian Institute.

The Agents have engaged the services of professor Guyot, late of Neuchâtel, in Switzerland, long devoted to the science, and known by his work on Physical Geography, lately published in this country, to visit the Academies that have been selected throughout the country to register meteorological observations and carry with him the instruments of each—to direct and aid in putting them up, and also to give all necessary instructions as to the method of observing and of recording the results.

Printed directions are preparing at the Smithsonian Institute, relative to every matter to be attended to.

A committee has been appointed by the Common Council, to report in relation to the laying down of a railway in Broadway.