

THE MOVEMENTS OF THE WORLDS

As Revealed by Astronomy, the Exactest of All Sciences.

THE SUN'S PATH THROUGH SPACE.

The Solar System Speeds, Year by Year, Through Fresh Space—Glorious Gardens of Stars and Stars—"In My Father's House are Many Mansions"—Complex Nature of Created Things, from the Largest to the Smallest.

Rev. J. W. Reynolds writes: As knowledge and piety extend the horizon of our view, the world enlarges to our contemplation. We travel beyond the sphere of sun, moon, earth, planets, and enter new firmaments to behold other suns and stars of greater and lesser splendor. The vast system of which we are members is hastening on, with sun, planets, satellites, meteors, comets, asteroids, from the southern rich region of stars to the northern rich region, where the chief splendor is gathered in Cygnus. We are speeding along a relatively barren path, from a rich past to a glorious future, at the rate of 154,185,000 miles the year. We are circling a centre in the direction of Alcyon, a star of the Pleiades, of which Job (xxxviii., 31) said, B. C. 1520, "Canst thou bind the sweet influences of Pleiades?" Round some central sun, or in a great vortex-ring, we move as parts in a scheme of movement too wondrous and complicated to be as yet interpreted by astronomers, and we complete the course in about 18,200,000 years.

As the earth and other planets are carried on, their orbits continually advance, and the actual path, year by year, is through fresh space. The pole star of to-day will not be the pole star of 3,000 years hence. Viewing the sun as among other suns and the planetary orbits as seen from the fixed stars, those orbits are little more than a point, and the sun is invisible. What unknown possibilities lie in that measureless extension of space, where worlds are sprinkled as dust of gold, for the display of intellectual and moral life! Our sun and his fellow-suns are connected with groups of minor suns, with clusters of star-dust, with masses of star-mist, with whorls and convolutions of nebulous matter, sometimes combined in vast spherical gatherings of worlds. There are orbs lying in such close order that we think great brilliancy is in those heavens; but, after stricter examination, the distance between our sun and his nearest fellow. Farther off still are stars whose rays take thousands, perhaps millions of years to reach the earth. The arrangement is of striking order, and the possibility of it having sprung up by chance is so ridiculously small that Quetelet calculates it as nothing. There is a multiplicity of worlds in infinite space, and a countless succession of worlds in infinite time, with point or base of gravity regulated by the weight and motion of all. Great and glorious is the Garden of God! The suns are planted in flowery beds of many splendid colors. The planets interweave in sparkling germination, various foliage, blooming fecundity of borders. Dark suns, weird places, cavernous chaotic regions, shadow forth the desolation of a dismal watery fields. There are ridges and clusters, rows and shelves, with spirals and streams, and celestial depths, where are disclosed the signs of as yet unthought of laws. "I shall maintain it all my life," says Rousseau, "whoever says in his heart there is no God, is either a liar or a madman." Thoughtful men, studying the sun's path through space, its rule, physical constitution, age and origin, receive a deep impression that the divine account (Genesis i.), the simplest in the world, is not vague nor indefinite, but startling, grand, abrupt. There is an appearance corresponding to our own limited aspect of nature, in words and times agreeing with our ignorance and mortality, but possessing an inner spirit, revealing powers of the world to come.

How wonderful are the colored suns! The diamond dust in the sky are suns and stars. The brilliant Vega is a splendid steel-blue star, in the constellation of Lyra, at midnight in winter and earlier with the approach of spring, as it skirts the southern horizon, scintillates with red, blue and emerald light. Arcturus, low down in the east and north-east, in spring evenings twinkles yet more beautifully. Capella, towards the north, in summer nights, notably sparkles. Sirius, noblest of all—"The fiery Sirius alters hue, and bickers into red and emerald." These various colors are caused in part by our own atmosphere, but the stars are not wanting in real colors of their own. Sirius, Regulus and Spica are white stars; Betelgeux, Aldebaran, Arcturus and Antares are red; Procyon, Capella and the Pole-star are yellow; Castor is of slightly green tint; Vega and Altair are bluish; Castor has a green companion, Antares also, and there is the well-known "garnet star." In the double, triple and multiple stars are many of the tints of the rainbow. Here we have a green star with a deep blood-red companion; there an orange primary accompanied by a purple or indigo-blue satellite. White is found mixed with light or dark red, purple, ruby, or vermilion. One of the most startling facts is, their color is not unchangeable. Of old, Sirius was red, now it is white. A double star in Hercules changed in twelve years from yellow, through grey, cherry-red, and egregious red, to yellow again. These show that the stars are formed of different elements, and that their vapors burn with variable brilliancy.

The motions of the stars, orderly and stately in gorgeous hue, bear down into the beholder's soul conceptions of hitherto unimagined glory and beauty. Take our own system. The title of law within may itself be regarded as a miracle if wrought by chance. The chances against the uniformity being by chance are, Laplace states, four millions of the sun, of the planets round the sun, of the satellites round their primaries (those of Uranus, possibly Neptune, excepted), and the motion of all on their axis, is from west to east. There is nearly a regular gradation in their density, and the distances are curiously relative, weaving them into one web of mutual arrangement and harmonious agreement. Nevertheless, the uniformity is not an invariability, impressed and stamped by unintelligent force. Variety prevails every-

where. Take the rates of axial rotation. The sun revolves in about 25 days, 8 hours; the moon requires a month to turn; the earth occupies 24 hours; Mercury, 24 hours, 5 minutes; Venus, 23 hours; Mars, 24 hours; Jupiter, less than 10 hours; Saturn, 10 1/2 hours. We are sure that there is reason in all this, and, as Sir Isaac Newton said, it is "the work of an intelligent and most powerful Being."

Uranus, and possibly Neptune, rotate from east to west, unlike all other planets, their moons revolving in the same retrograde direction. The sky is more various and complicated than even the wisest astronomers thought; it is like "a casket of variously colored stones." Then, how far soever the spirit flies, finally stopping at the centre of centres, the centre of creation, the capital of the universe, whence are the laws which govern and uphold all worlds. Who shall describe that throne of might—that palace of splendor—that inner abode of Deity! What line shall measure, what space contain, what time can reckon, the roll, the circle, the vast procession of millions of clustered suns and systems revolving round the presence chamber of the Almighty! What painter could picture, what poet describe, what heart conceive the beautiful grandeur of that source whence flow infinite and eternal streams of goodness! When with the telescope we contemplate the magnitude and numberlessness of worlds, and with the microscope discover life extending beyond life, surpassing all imagination, we confess that herein God is glorified. The incalculable multiplication of worlds, and the necessities of a rule that is infinite, hinder not the fashioning of a moth's wing, so that it possesses a very firmament of beauty. Eternity and space contain endless surprises and possibilities; we know not what we shall be. The Christian rejoices to know that "God has a plan for every man"—that the provision for a soul's salvation is infinite, is connected with worlds and times, transactions and interests, surpassing knowledge. To God, in a human sense, is no such thing as absolute size. There is relative greatness and smallness—nothing more. To us things appear small when scarcely seen by the naked eye—very small when a powerful microscope barely suffices to render them visible; and the space between us and a fixed star is enormous—(Cygni is reckoned at sixty billions of miles)—as compared with that between the earth and sun (about 95,000,000 miles); but there is absolutely nothing to show that a portion of matter, which even in our most powerful microscopes is hopelessly minute for investigation, may not be complex as the stars that exceed our sun in magnitude.

106 Agnes street, Toronto, Ont., May 23rd, 1887: "It is with pleasure that I certify to the fact of my mother having been cured of a bad case of rheumatism by the use of St. Jacobs Oil, and this after having tried other preparations without avail."

Wm. H. McCONNELL.

No Use for Clocks.

Explorer Buttikoff says that a clock is rarely seen in the farm houses of Liberia, and many of the town residents have no timepiece of any sort. He adds that there are few civilized countries where a timepiece can be dispensed with so conveniently. The sun rises at 6 a. m. and sets at 6 p. m. almost to the minute the year around, and at noon it is vertically overhead. Many of the people become so expert in telling time by the sun that they are rarely more than a quarter of an hour out of the way. In place of alarm clocks they depend upon the crowing chanticleer to arouse them in the morning.

An Awful Tragedy!

Thousands of lives have been sacrificed, thousands of homes made desolate by the fatal mistake of the "old-school" physicians, still persisted in by some, notwithstanding the light thrown upon the subject by modern research, that Consumption is incurable. It is not. Consumption is a scrofulous disease of the lungs, and any remedy that strikes right at the seat of the complaint must and will cure it. Such a remedy is Dr. Pierce's Golden Medical Discovery. It is a certain specific for all scrofulous complaints. It was never known to fail if given a fair trial, and that is why the manufacturers sell it under a positive guarantee that if it does not benefit or cure, the money paid for it will be refunded. The only lung remedy possessed of such remarkable curative properties as to warrant its makers in selling it on trial!

Popularity of Bicycling.

Indifferent as New Yorkers are to bicycling, the sport is steadily growing in popularity throughout the country, and although many bicycles are manufactured in the United States and many are imported from Europe, the supply of first-rate machines is not equal to the demand. Meanwhile there is no article of commerce more subject to change than the bicycle. New patents are constantly appearing, and although the bicycle, with any but the most careful treatment, is a short-lived machine, most bicycles begin to be old-fashioned before they are worn out. It is a good bicycle that with constant use lasts over five years.

"Love and smoke are unable to conceal themselves," and so it is with catarrh. No man suffering from this loathsome disease, can conceal the fact from the world. No matter how cultured, learned, social or brilliant he is—while his friends may be polite enough to dissemble their real feelings—his very company is loathsome. What a blessing it would be to humanity, if every person afflicted with catarrh in the head, could only know that Dr. Sage's Catarrh Remedy will positively and permanently cure the worst case. The manufacturers guarantee to cure every case or forfeit \$500. The remedy is pleasant to use, and costs only 50 cents.

Must Choose One or Other.

New York Herald: Ireland resembles a good sized volcano just now, a roaring, rumbling, hoisterous volcano that has settled down to business, but it is becoming more and more evident that either the fighting must be given up or home rule must be abandoned. The people can't have both, and it's about time for them to make their choice.

As a cure for cold in the head and catarrh. Nasal Balm has won a remarkable record from the Atlantic to the Pacific. It never fails. Give it a trial. All dealers.

A NOVEL BABY TOY.

It's a Babble Attached to a Long Spring.

Over in West Philadelphia lives a young lady who has passed the greater part of her life in a basket. She is Miss Madeline Ellinger, and is a daughter of Dr. Z. J. Ellinger, of 737 North Forty-first street. To be sure Miss Ellinger has only resided on this mundane sphere less than twelve months, having been born last spring. The fact of her having lived in a basket is probably not so remarkable as the basket itself, which is a combined cradle, swing and carriage, the invention of the general doctor's fertile brain.

Miss Madeline is the doctor's first baby, and is, of course, the finest baby in the land. No commonplace cradle would do for her, so the doctor set his wits to work, with the result that Miss Madeline now occupies the most novel cradle in existence. The body is an ordinary wicker basket, oblong in shape, upon which can be attached rockers, converting it into an ordinary cradle, or with the aid of wheels, into a carriage. But it has rendered its greatest service as a swing, suspended by a spring from the ceiling of Dr. Ellinger's porch, where little Miss Ellinger has passed the greater part of the summer.

The spring, which is an ordinary spiral arrangement, with quite a strong tension, is attached by a cord to the handles of the basket and suspended from a hook in the ceiling. Baby is then placed in the basket, which has previously been made comfortable by the aid of a bed cover. The basket is pulled down as far as possible, and then set swinging in motion, and away we go. It requires but one pull, and the novel swing vibrates for hours, much to the delight and satisfaction of Miss Baby.

But now that the weather is too cold to remain out of doors, the swing has been adjusted in the doctor's office. But what proves Dr. Ellinger to be a man who realizes the blessing of labor-saving machinery, is a device which he has rigged out in his bedroom. Like all other babies, Miss Madeline is not averse to indulging in a nocturnal concert. On more than one occasion has her paternal relative walked the floor in the dead watches of the night, amid an atmosphere of mingled prayers, anathemas and lullabies. But now he is relieved of this, thanks to the basket.

Should he be aroused from a dream, perchance of some fat fee, by that shrill voice which he knows so well, instead of walking the floor for an hour or two, all he is obliged to do is to lazily reach for a cord by his bedside, give it a smart tug and the machinery is set in motion. Baby goes to sleep immediately, and the doctor returns to his dream.

The invention is really an ingenious one, and Dr. Ellinger has been properly advised to have it patented.—Philadelphia Record.

Elected or Hereditary Rulers.

Of the various forms of government which have prevailed in the world, an hereditary monarchy seems to present the fairest scope for ridicule. Is it possible to relate without an indignant smile that, on the father's decease, the property of a nation, like that of a drove of oxen, descends to his infant son, as yet unknown to mankind and to himself; and that the bravest warriors and the wisest statesmen, relinquishing their natural right to empire, kneel and protestations of inviolable fidelity? Satire and declamation may paint these obvious topics in the most dazzling colors, but our more serious thoughts will respect a useful prejudice that establishes a rule of succession, independent of the passions of mankind, and we shall cheerfully acquiesce in any expedient which deprives the multitude of the dangerous, and indeed the ideal, power of giving themselves a master. In the cool shade of retirement we may easily devise imaginary forms of government, in which the sceptre shall be constantly bestowed on the most worthy by the free and incorrupt suffrage of the whole community. Experience overturns these airy fabrics and teaches us that in a large society the election of a monarch can never devolve to the wisest or to the most numerous part of the people.—"Gibbon's Decline and Fall of the Roman Empire."

On the Threshold.

Standing at womanhood's door is she. Clad in her virginal purity. A creature fair as the lilies be. And, like the lilies, alas, how frail! They are borne to earth when the storms prevail. And their life goes out in the summer gale.

When we see a frail and lovely creature, standing on the threshold between girlhood and womanhood, we shiver with a fear so what may be, because we have seen so many succumb at this critical period of life. What is needed at this time is a tonic and invigorant—something that will promote proper functions of the female organs. The only remedy to be depended on is Dr. Pierce's Favorite Prescription. This unequalled medicine, which cures diseases peculiar to women, is especially valuable at the period when the girl crosses the threshold of womanhood. Used at such a time, it never fails to produce a most beneficial result, and many a fragile girl has been tided over one of life's most trying periods by it.

Not so Peaceful as we Seem.

"We are supposed to be a peaceful nation," writes Col. Theodore A. Dodge, the well-known authority on military subjects, in the October Forum, "but we have our fair share of strife, foreign and domestic. Since the revolution there have been wars with England and with Mexico, with Tripoli and with Algiers; broils with Paraguay and Corea, and a gigantic civil war; rumors of war with France, England, Spain and Italy. There have been the John Brown raid, the Barnburner and Fenian raids to Canada, many incursions across the Mexican border, and the filibustering expeditions to Cuba and Nicaragua. We have had the Whiskey and Shays rebellions; the election, draft, railroad, reconstruction and sundry serious city riots; we have had well on to two hundred deadly Indian fights and many a wild massacre. Since 1776 than any nation of Europe. This is a startling record for a peaceful people."

Catchup keeps better and pickles also in the bottle.

Wooden—Now, I don't propose—"Miss Smiler—Yes, I've noticed it.

THIRTY YEARS.

Johnston, N. B., March 11, 1889.

"I was troubled for thirty years with pains in my side, which increased and became very bad. I used

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and it completely cured. I give it all praise."

MRS. WM. RYDER.

"ALL RIGHT! ST. JACOBS OIL DID IT!"

BULL AND BEAR.

A Farmer who Learned Something About Brains' Powers.

It appears that a farmer in Pennsylvania lately was disturbed while at dinner by the bellowing of his cattle. He ran out and found that a bear was inviting a calf to come over the fence and provide him with veal cutlets. The farmer resolved to attend the banquet, and thought his rifle might be a useful companion. When he brought the rifle the farmer found that his 3-year old bull was arguing with the bear, and concluded to let the bull and bear settle the question. The bear thought the bull's horns were a pointed hint to leave, and, after a poking, tried to climb the fence. The bull wished to help him over, so the bear hit the bull on the nose as a token that he preferred to get over without help, and again went at the fence. Then the bull charged, and down came fence, bull and bear all in a heap. Neither paused to count 10 though both were out of temper, and the bull again charged on the bear; but the bear hit him between the horns, and the bull fell. Then the farmer, seeing that the bull was dying, went after the bear, who retired to a swamp at the top of his speed, receiving a few slight wounds from the farmer's rifle. But the farmer's ammunition gave out, and he went home for his son. The two followed the bear's tracks, found him at home, and killed him. The bull was dead, the calf died before night, and the farmer and his son made up their minds that next time a bear came to fight a bull of theirs they would do their shooting earlier. The bear weighed 300 pounds.—November St. Nicholas.

Young Night-Wanderer.

The Catholic Review has this severely admonitory passage, which is quite applicable beyond the bounds of its own church. Some parents would do well to take it to heart:

Fool parents are a common species nowadays. The naturalist can easily locate their residence and ascertain their mental qualifications by studying the boys and girls who parade the city avenues and haunt the parks at night all nights of the year. The ancient and honorable custom which kept all children in the house after nightfall has fallen into disuse through the numerical increase of the fool-parent. The fatal characteristic of this creature is its blind confidence in the virtue, good luck and wisdom of its progeny. Other parents may lose their boys and girls to lives of sin and shame, but the fool-parent is positive no sin or shame can touch its offspring. Therefore these unfortunate children haunt the streets and parks until midnight, commencing, of course, innocently enough at the start, with the devil's innumerable agents, and finally to be seized body and soul and delivered to destruction. The only fate that awaits the young night-wanderer is the fate of shame.

Lightning in Prussia.

The Prussian Government has made a report upon its buildings struck by lightning between 1877 and 1886. There were 53,502 buildings used for official purposes in Prussia. Two hundred and sixty-four of these were struck, or half of 1 per cent. per thousand annually. Of the total number 15 only were fitted with conductors, and only one of these escaped injury. Generally the conductors were found to be either dangerous or useless. In six they were not touched.

In the Irish elections they pole the eyes and nose before a vote is taken.

Garibaldi's sons have made good soldiers, but acquired an unenviable reputation for shady transactions in business matters.

ARE NOT A Pur-gative Medicine.

They are a BLOOD BUILDERS, Tonic and BRONCHOPROTECTOR, as they supply in a condensed form the substances actually needed to enrich the blood, curing all diseases coming from Food and WASTED BLOOD, or from VITIALIZED HUMORS in the blood, and also invigorating and BUILD UP THE BLOOD and SYSTEM, when broken down by overwork, mental worry, disease, excesses and indiscretions. They have a SPECIFIC ACTION on the SEXUAL SYSTEM of both men and women, restoring LOST VIGOR and correcting all IRREGULARITIES and SUPPRESSIONS.

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EVERY MAN should take them. They cure all sup-pressions and irregularities, which inevitably entail sickness when neglected.

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