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The Procession of Planets

FRANKLIN H. HEALD

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THE
PROCESSION
OF
PLANETS

BY

FRANKLIN H. HEALD

SECOND EDITION

1901.

Los Angeles



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APOLOGY.

As an excuse for assuming to point out to my readers, that which has so greatly puzzled much wiser men who are especially educated in the science of astronomy, and furnished with all the instruments and mechanism which can in any way assist them, allow me to plead, that we may be so close to an object as to be able to see only the details, while one standing farther away and not perplexed by these parts may see at a glance the whole structure, which has been erected, unknown to themselves by these men of particulars.

New theories are the work of vigorous and healthy imaginations, and are the forerunners of science and truth; and science would make but sorry progress if we did not allow our imaginations to reach out into the unexplored darkness. New theories which are wrong, are very soon pulled to pieces and destroyed by science, but if they are correct, facts and figures already known will sustain them.

We should not be ashamed to abandon a pet hobby, when it is tried in the crucible of truth and found wanting, but rather be ashamed to allow it to cling to us like dead moss.

If the new ideas, theories or seeming facts hereinafter presented to thinking people for the first time, are wrong, they will be easily demol-

ished and brushed out of the way of truth and progress; and the sooner the better. What we want is the truth, the whole truth and nothing but the truth, and law and order of nature; and we want none of the chance and changing notions of the jealous and angry gods.

I am quite well aware of the considerable amount of orthodoxy in connection with scientists and scientific societies, but if it is necessary to dedicate a book, I most respectfully, dedicate this little volume to science and invite scientists to criticise it without mercy, with the same cruel justice exercised by a camera. If it cannot stand before criticism it is not true and we do not want it.

The details of many of the points and facts, which to me seem to fit so perfectly into this structure, as to make it a beautiful and simple truth, have been hurriedly passed over; first because some of the discoveries I have made are patentable, and second, because being now a firm believer in the wireless telegraphy of thought, I do not care to longer delay the copyrighting of present discoveries, lest some more active fellow mortal should anticipate me and carry my message to Garcia.

In the matters of the magnetic poles and the three different qualities of heat, i. e., heat, light and electricity, there is much more to be explained. There is also a large field for young mathematicians in determining the exact age

between planets, after the relative values of the force of gravity and centrifugal force are established according to this discovery.

If the main principles of this discovery of the procession of planets are found to be correct may I hope that others will hasten to fit into their proper places those facts and truths which have been hurriedly passed over or missed- I will also be pleased to explain to any one such points as I have failed to make plain.

FRANKLIN H. HEALD.

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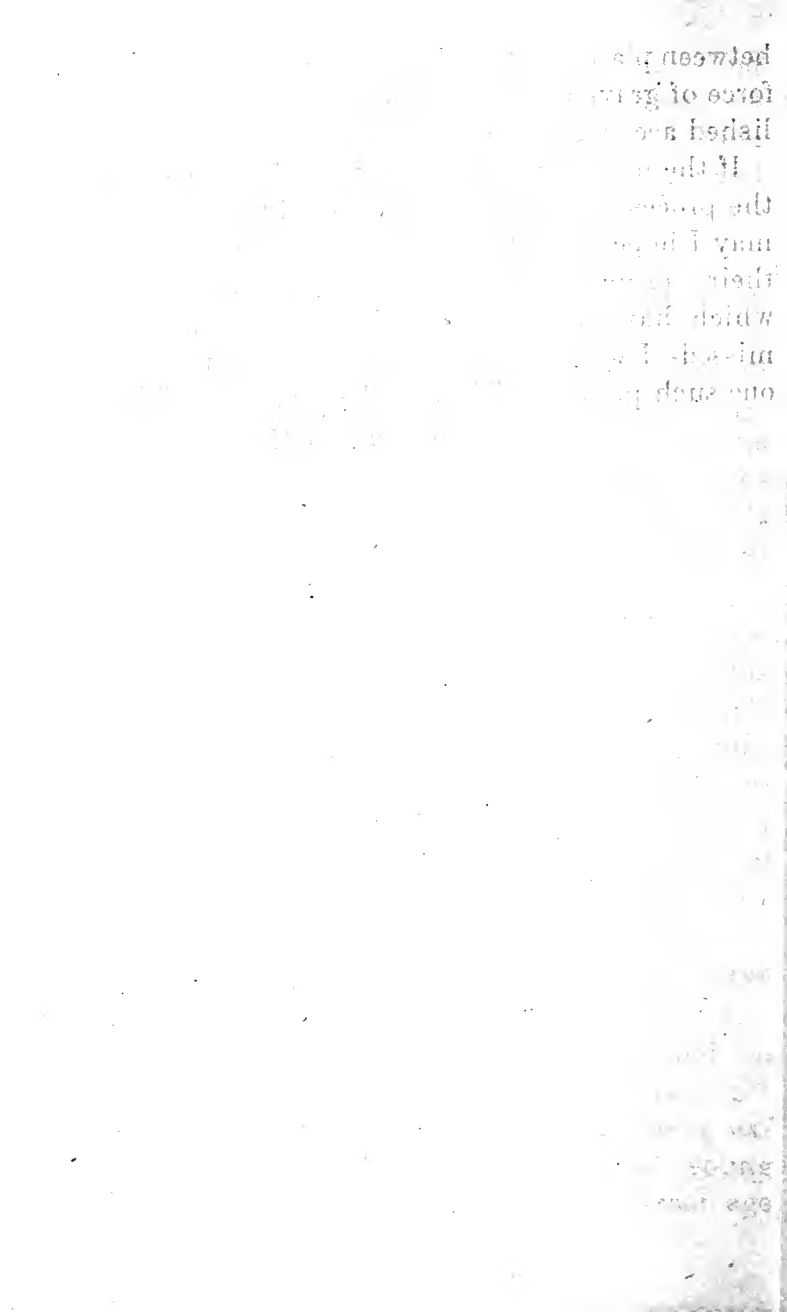
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CHAPTER I.
THE FORCES.



THE FORCE OF HEAT AND THE
FORCE OF GRAVITY ALWAYS
OPPOSE EACH OTHER.

There are two great forces in nature which keep matter in ceaseless motion. These two forces, the force of Heat and the force of Gravity have their greatest centers in the sun, relative to the planetary system and are always in opposition to each other.

2 The force of Heat is forever disintegrating matter and forcing or pushing it away from the sun as light and electricity.

3 The force of Gravity is forever crystalizing, collecting separating into its elements and drawing it back to the Sun.

4 If there was only the force of heat in nature, all matter would be disintegrated by heat into light and electricity and sent out through space never to return.

5 If there was only the force of gravity in nature, all matter would finally be gathered into one vast motionless sphere, never to be distributed.

6 In either case all would be silence and death, as there would be no more motion of matter. Heat is the chemical action which causes the life and motion of matter and grav-

ity is the crystalizing, condensing ossifying and death of matter.

7 When matter is returned to the sun, by the force of gravity, separated into its elements the friction caused by its chemical dissolution in that great mixing caldron of electrical energy, gives up exactly the same amount of heat which it cost the sun to throw it out. There can be no loss in nature.

8 Sir Isaac Newton discovered the force of gravity by wondering why the apple fell to the earth, instead of falling into the sky. If he had taken another step and wondered why it came to be in the treetop, he would have found that it was placed there by the force of heat, and he would then have discovered the other great force of nature, or rather that heat is the other great opposite force in nature.

9 It was the force of heat acting upon the soil, that sent the rich juices up through the pores of the tree, to the apple blossom and it was the force of gravity which collected, crystalized or ossified their substances, bringing on ripeness, old age and death.

10 In the case of the apple, heat was life and gravity was death. It is the same throughout all nature and the force of heat can never hang an apple so high that the force of gravity will not find it and bring it down, neither can it send matter so far away into space that gravity

cannot collect it, separate it into its elements and return it to the sun, a corpse.

11 It is the force of heat which evaporates the water of the sea and sends it over the mountain tops, in the form of colorless vapor, but it is the force of gravity which condenses and collects it into the rain-drops and brings it down to refresh the earth.

12 It is the force of heat which swells and lightens the atmosphere and sends it away to melt the ice and snow in the cold north, but it is the force of gravity which again condenses it after the heat has become latent and brings back the cold north wind.

13 It is the force of heat, generated by the chemical friction of decay or decomposition of the food which we take into our stomachs which warms our blood, feeds our tissues and muscles and sustains our life, but it is the force of gravity which collects its substances, condenses and ossifies the bones, muscles and tissues of the body finally bringing on the ripeness of old age and death.

14 What is known as chemical force, is the heat generated by the friction of chemical action in the dissolution of different substances or elements of matter and their reuniting in other conditions of matter.

15 In the rotting of the log, as in its burning, it is the uniting of the carbon of the log



the oxygen of the air which causes the heat. We can make thousands of combinations of chemicals or elements of matter, which disintegrate and unite with each other so readily and with such suddenness, as to cause an explosion.

16 when heat, light or electricity is sent out from the Sun by the force of heat, it is composed of a perfect mixture of all elements of matter found in nature. When it is thrown out into the regions of space and the heat has left it or become latent, it is crystalized and separated into its elements, which means its different kinds of material, such as air water or mineral, and finally returned to the sun, to be disintegrated and reunited with the original matter of the sun.

17 It is the chemical reuniting then, of these elements, which gravity has separated and returned to the Sun in the shape of planets, moons asteroids, meteors and cosmic dust, which causes the chemical friction necessary to furnish it with a never ending supply of heat and material.

18 Therefore we find electricity to be composed of a complete admixture of all matter in nature, in the exact proportion in which it exists, pushed out from the Sun by the force of heat through space, carrying the life, expansion and buoyancy of youth.

19 Each atom of its substance or fluid also

carries with it all the motions of the Sun which are also the motions of all the heavenly bodies with the exceptions hereinafter explained (see CH, XIII.), and is always, during its long journey in constant and instant connection with the Sun; a constant stream of its living energy is always leaving the Sun and is continually arriving at every heavenly body or particle of matter in the universe.

20 Without gravity to separate matter into its chemical or mineral elements, there could be no chemical heat generated by its return to the sun.

21 So it is through all nature, we must look to these two greater forces of heat and gravity, which are forever opposing each other, for an explanation of all phenomena, which they will surely give correctly if correctly interpreted.

22 What they do however is only temporary, because what one is doing the other is as industriously undoing and thus as we shall see in the chapters following, there is a continual outpouring of energy from the Sun in every direction through space, and a constant returning of its separated elements, guided by the minor forces, in the great circling orbits of the planets, moons, asteroids and meteors, following in this long funeral procession, which had no beginning and can have no end.

23 This discovery of the procession of planets

is simply that the substance of the Sun is being constantly disintegrated by the force of heat into light and electricity and driven out through space and being composed of the expanded particles of the same material which was decomposed to produce it; is crystalized into cosmic dust, collected by the force of gravity as the heat leaves it, and gradually gathering into masses, forms the new worlds in the outside regions of the solar system, which as new planets are slowly drawn towards the sun as they make their mighty orbits, until after billions of years. they again return to recruit that great chemical center of heat, light and life, after having passed through many stages of evolution, from a loose cloud of gas, cosmic dust, meteors and stones; gathering their contrary comet moons; passing through the fires of friction, as generated by their grinding sand and meteors; melting by the immense heat they generate; burning and radiating themselves away to planets of the second class; some bursting at this danger point, by their great heat and rotation into astroids, cooling and forming a crust; bearing life by the laws of evolution; dying and turning their magnetic poles to the sun; falling into that central, rejuvenating caldron of heat where they are chemically dissolved and return the heat they received at first only to be renewed and sent out again on the same long journey.

24 There are a multitude of reasons to prove the formation of new worlds begin in the remote space outside of the planet Neptune, who swings in his mighty orbit 3,000,000,000 miles from the Sun. Half the distance from our Sun to the nearest fixed star, is 12,500,000,000,000 miles. Supposing our Sun to control by its forces the matter distributed through this space and there would still be a strip outside of Neptune of 12,497,000,000,000 miles wide, out from Neptune's orbit.

25 In order to better understand the situation let us suppose this space to be inclosed in a glass case. We would then have a glass ball of 25,000,000,000,000 miles in diameter, with the center taken out 6,000,000,000 miles in diameter to represent Neptune's orbit. In this space, outside of the inner ball and inside of outer ball, we might reasonably expect our Sun to exercise its forces of gravity and electromagnetic energy.

26 Light which travels at the rate of nearly 12,000,000 miles per minute and which is composed of every known substance in the solar or any other system, as the spectroscope plainly proves, must therefore reach this remote regeon before it is all crystalized.

27 It is a well known fact that the space through which the Earth travels is filled more or less with small particles of sand and stones and some many tons in weight. It is pertinent

then to ask how came they there? Not by chance of course, because there is no chance work anywhere in nature. No doubt the Sun is receiving large contributions of matter in this way.

28 It is estimated that 1,000,000 meteors of various sizes fall into the Earth's atmosphere every hour. The Sun being 1,310,000 times as large, would receive that many times as much multiplied by its additional force of gravity.

29 Outside of Neptune in the vast space of which we can have so little knowledge is where we must look for the new planets, where the crystalized light or electricity collects by the force of gravity, which is the first process in the forming of a new world. Being almost deserted by heat in this immensely cold regeon the mass attracts more and more as it grows larger and its force of gravity greater.

30 This mass we perceive has now established a force of gravity of its own which is being acted upon by the Sun's force of gravity and must be considered in connection with the motions it must now take in an orbit. It has pointed its magnetic poles in the right direction which of course throws its equator on the plane of the Sun's equator and as its poles are fixed it must revolve at its equator, without disturbing its poles.

31 If therefore we take for granted, as we are compelled to do by noting the fact, that every



planet and moon in the solar system points its north pole towards the same part of space, we see at a glance that all their equators must be on the same plane.

32 All matter which leaves the Sun carries the motions of the Sun with it no matter if it is the smallest possible subdivision of matter. It has this motion when a part of the Sun and therefore can never loose it in space where there is no resistance to its action. If the planets were thrown out from the Sun in a body as has often been supposed, scientists would not hesitate to admit it would take and retain the motions of the Sun. They would no doubt admit it if the body weighed but a thousand tons, or but one ton, or one pound, or one ounce In fact at what subdivision of matter can they stop in size? Must they not admit that the particles of electricity carry the motions of the Sun, the same as they would if the size of a moon. As these atoms collect into new worlds, it is a collection of motion as well as of matter because the motions of all the atoms are alike, and therefore the new world could take no other motion than an orbit and rotation from right to left which we have seen is the inherent motion of all matter.

33 Suppose we set a top spinning, if we give it a little swing as the string comes off we give it two motions, i.e., the rotating motion of spin-

ning and a circling or orbit motion whereby it makes circles on the floor while spinning. Now if we could throw it out into space where there is no resistance, it would go on making the same motions forever, the same as every atom of light and electricity carry the motions of the Sun and point their poles in the same direction.

34 All matter moves naturally from right to left and when we find a motion from left to right, it is an accident. This is why every Sun, Planet and Moon rotate and travel on their orbits from right to left; it is the reason why every storm center rotates and makes an orbit from right to left and it is the reason why a soaring bird circles from right to left. All vines wind up a stick or string from right to left and will not be forced to grow otherwise. It is the inherent motion of matter and applies even to our own persons, causing us to whirl and make an orbit from right to left around the ball room. Blindfold a man and start him straight away and he will at once start on an orbit from right to left. All races are run on the track from right to left and machinery set contrary to the inherent motions of nature will not give satisfaction. We must take notice that nature does not do her work by notions but by fixed laws, and to understand, we must use less mystery and more judgment.

35 Having now started on its great orbit,

the Sun's force of gravity gradually draws it in while centrifugal force holds it out to a gradually decreasing orbit, until after billions of centuries it is drawn back into that vast funeral fire the burial place of worlds, or to be exact the rejuvenating center of nature.

36 If the Sun is forever throwing out its energy as even Physicists admit it is, it must also have a supply of material coming in, with which to sustain itself. Let us then, carefully examine this procession of returning planets, moons, asteroids, comets, meteors and sand which are always on their way to the Sun, commencing at the farthest planet which our largest telescope is able to reveal to us, and let each one as we come in, give its own evidence, that it is older than its outside neighbor and younger than its neighbor toward the Sun.

37 Let us consider them carefully from far away Neptune, that vast, cold, blue cloud of dust, stones and meteors, to Mercury, the little heavy, old dead world, which like the old dead moon of our Earth, is held in its last struggle, "flying fast and flying faster," while securely bound it is being surely and swiftly dragged to the sacrifice.

CHAPTER II.

NEPTUNE AND URANUS.

WHAT FEW THINGS WE KNOW ABOUT THEM. THEIR COLOR, SIZE AND MOONS.

Neptune, almost 3,000,000,000 miles from the Sun, is so far away that even with the large and almost perfect telescopes of modern times it can not be very well understood. We can however perceive that it is a vast cloud of loose and nebulous matter of a bluish color.

39 The spectroscope shows the difference between a solid body and a mass of loose or independent fragments collected together and Neptune is of the latter class and its density is very low.

40 It is so far away that we can see but one of its moons and this strange body revolves backward in its orbit, or from left to right, and in the opposite direction to all other heavenly bodies. This is because moons are at first caught by the new worlds as comets, coming from outside of the new planets' orbit which causes them to drop behind the planet, which is moving and thus swing the wrong way.

41 This planets bluish colored disk has no markings, not even bands, so we can tell absolutely nothing about its rotation on its axes. It moves on its orbit at the slowest speed of any

planet in the system, requiring one hundred and sixty five years to complete its orbit at the rate of about 240,000 per day.

42 Neptune is 35,000 miles in diameter and is undoubtedly growing larger by catching dust and meteors and clusters of loose stones which must always be forming little centers of gravity of their own, of all conceivable sizes, in these outside regions.

43 The finding of this stranger by computing its force of gravity upon Uranus, was one of the most wonderful feats of mathematical skill, perhaps ever accomplished by astronomers.

44 Uranus is the next planet in order between Neptune and the Sun and is approximately, about half way between the two but is still so far away from the Earth as to be considerable of a mystery. However the telescope shows an increase of warmth, by a greenish colored disk and two faint bands. It is also, like Neptune, shown by the spectroscope to be composed of loose stones but evidence of having worked up considerable warmth when compared with Neptune.

45 The bands show that the equator lies on the same plane as the Sun and the other heavenly bodies and proves that it is rotating on its axes and becoming warm. It is also more compact than Neptune and has gained speed along its orbit, traveling at the rate of 360,000 miles per day.

46 Uranus has four moons which are large enough to see with telescope, which revolve almost at right angles to the planets equator or from pole to pole, rising in the south and setting in the north. Since Uranus was at the position of Neptune, their orbits have turned half way over from end to end, by the inherent motion of matter which their contrary action opposes.

47 Uranus is visible to the naked eye but is very faint. It is but 32,000 miles in diameter and requires eighty-four years to complete its orbit around the Sun. The Sun gives nine hundred times as much light to the Earth as it gives to Neptune and three hundred times as much as to Uranus, and it would make very little difference whether it was day or night or winter or summer on either of these planets.

48 The latter planet certainly gives proof by its bands and the warmer color, that the friction caused by the rotation of its loose fragments of matter, has caused some heat and it is much warmer than Neptune, which gives not the least sign of warmth.

49 We cannot be sure of the time of rotation upon its axes further than, according to the law of the procession of planets, the planets and Sun all revolve alike, or once in twenty-four hours. Their equators travel faster or slower, according to their size. Mars, for instance, rotates

in twenty four hours but being smaller than the Earth, its equator only moves 640 miles per hour. When the first class planets apparently rotate faster than once in twenty-four hours, it is only the outside shell or mantle that is doing so, for which statment we have the best of proof (see ch, iii.). A large planet like Jupiter would move at the rate of 12,000 miles per hour at the equator, if it revolved in twenty-four hours and the great red spots show that the inside revolves much more slowly than the outside. It will finally be found that they all revolve their center parts in twenty-four hours.

50 The Sun is also covered by a loose envelope, but contrary to Jupiter, we will see that its center revolves much faster than the outside, for good and sufficient reasons, one of which is that the Sun is always in a molten state and therefore not in the condition of Jupiter, as a Wheatstone electro-dynamo.

51 No doubt when Uranus has reached the present position of Saturn, millions years in the future, it will have gained the same heat and show a yellowish color, with bright bands almost to the poles.

52 Sir Wm. Thompson estimates the time since the Earth first formed its crust, to be 400,000,000 years and geologists agree that it is a reasonable time. This would, when applied to this discovery, of the procession of planets, take

the Earth back to the position now occupied by Mars and establishing that time as the time between two worlds or, giving us a new planet every 400,000,000 years. Following this estimate and allowing the same time for Neptune, we would have eleven such spaces or 4,400,000,000 million years for a planet to exist from its collection by the force of gravity, until it reaches the Sun and is again disintegrated by the force of heat.

53 The time will come no doubt, when with better telescopes and other instruments not yet invented, we will be able to detect a new planet outside of Neptune and nearly 5,000,000,000 miles from the Sun, thus adding 400,000,000 years more to the time. Of course this time is too long to be comprehended by our present brain capacity but during the history of many thousand years we know of scarcely any change in the heavenly bodies, and we must go to the history kept by the rocks before the time of man, to find a difference of climate on the Earth.

54 The glaciers may have existed half that long ago when the Earth was much more cooled than Mars is now, or should be if he were of regular size and yet so much farther from the Sun than at present that the winter poles were much colder than now and winter much longer on account of its greater orbit. For the

same reason the summers would be longer and immense groths of vegetation would be produced during these long summers of continual sunshine, aided by the additional heat of the Earth itself, which at that time had just formed a crust.

CHAPTER III.

SATURN.

HEATING BY FRICTION. INCREASING
SPEED. ITS RINGS AND MOONS.
AN ELECTRIC MACHINE.

When we come in again, half way to the Sun we find Saturn, one of the most remarkable of the planets, on account of its curious rings, which however should not be taken too seriously as they are only comets wrapped around it in short orbits.

56 Saturn is 898,000,000 miles from the Sun and makes an orbit in 84 years at the rate of 490,000 miles per day. We must notice as we go along, that each planet as we come in to the Sun, is traveling about twice as fast as the last one outside of it. We must notice also that they have dropped towards the Sun about half the diameter of their orbits, each time (see ch, xv.).

57 Here in the case of Saturn, we have the

details of world making near enough to be better understood, in that degree of development, where great heat is generated by friction of grinding rocks. We must be careful not to confound this mechanical method of heating with the chemical heat as produced in the Sun by the chemical disintegration of matter.

58 Being 76,000 miles in diameter it will be seen that in making one revolution on its axes in twenty-four hours, as the center undoubtedly does, the surface would revolve at the equator, at the rate of 9,600 miles per hour. The surface however travels much faster and is credited with making a revolution in ten hours and fifty-five minutes.

59 To illustrate why the first class planets, Neptune, Uranus, Saturn and Jupiter, rotate faster and faster as we come in towards the Sun and become hotter at the same time, let us now consider them as great electrical machines, exalting their own motion as they revolve their outside shell or secondary helix, and turn to a description of the Siemens & Wheatstone machine which is officially described as follows;

“Expressed generally, this discovery consists in exalting by means of its own action, to a high degree of intensity, an infinitesimal amount of magnetism. Conceive an electro-magnetic core, with a very small amount of residual magnetism, which is never wholly absent when

iron has once been magnetized. Let a secondary coil, with cores of soft iron rotate before the poles of such a magnet. Exceedingly feeble induced currents will circulate in the secondary coil. Let these induced currents instead of being carried away, be sent around the electro-magnet which produced them, its magnetism will thereby be exalted. It is then in condition to produce still stronger currents. These being also sent around the magnet its power rises still higher; a more copious production of induced currents is the result. Thus by a series of inter-actions between the electro-magnet and secondary helix, each in turn exalting the other, the electro-magnet is raised from a state of almost perfect neutrality to one of intense magnatation."

60 This shows exactly how these big planets increase their rotary speed from Neptune to Jupiter, as we have seen they do. Now let us turn to Prof. James E. Keeler's description of Jupiters' great red spot that we may be sure we have made no mistake and that the interior of these monsters do not revolve as fast as their exteriors.

"In 1878 there suddenly appeared a pink spot on the surface of Jupiter of unprecedented dimensions; the length is given as 30,000 miles by 7,000 miles broad. In another year it was a full Indian red. So completely did it dwarf all other recorded spots, that it was henceforth

known as "the great red spot". It faded away and was almost invisible in 1883; since then it has had irregular spells of brightening but never recovered its pristine beauty. The time of rotation of the red spot, is not the same as the adjacent forms. In 1890 a large spot was moving towards the red spot but it was diverted from its course but remained at a higher latitude into which it had been shunted; it passed the red spot at the rate of twenty miles per hour. The great red spot, is like a bank of sand in the river, past which the clouds go scurrying."

61 This shows conclusively that the inside of Jupiter does move more slowly than the outside and Prof. Howe considers this to be the case as proved by the action of these spots (See Study of the Sky, p, 257).

62 The outside of Saturns' rings travel at the rate of nearly 30,000 miles per hour and Clerk Maxwell, an English scientist, has shown by the spectroscope that these are composed of myriads of small pebbles, too small to be seen individually even by the largest telescopes. Dr. Keller afterwards proved this, by using photographs of spectroscopic observations. He showed that the outer edge of the rings revolves in longer time than the inner edge thus giving a grinding motion to these pebbles, which would cause heat when applied to a planet of like material.

63 A majority of astronomers now agree that Saturn is in a more or less heated state and Prof. Howe, in his Study of the Sky, p. 265, says:

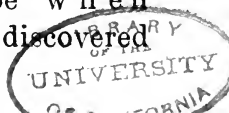
“The placid cloud mantle in which the ball is enveloped, hides the commotion within, but the interior does not seem to be in such a state of activity as Jupiter manifests.”

64 This is exactly the case, and Saturn has yet 400,000,000 years to grind, before reaching Jupiters' position, size and condition of heat.

65 Saturn has eight moons, which travel around it from right to left in nearly the plane of its equator. Since it was at the position of Uranus therefore it has gradually turned its contrary moons over, until their orbits are almost end for end and in another 400,000,000 years at the position of Jupiter we find them in their proper place, making their orbits on the plane of that planet's equator.

66 Neptune, Uranus and Saturns' moons do not revolve around those planets on the plane of their equators, which is evidance enough of their not coming from the planets, because if they had, they would have been thrown cut on the plane of their equators and make their orbits on the same plane.

67 The rings of Saturn are very thin and supposed to be not more than 100 miles thick, and cannot be seen with a small telescope when turned edgewise to us. Gallileo, who discovered



them, supposed they had fallen to the planet when they afterwards turned edgewise. They were not turned back again during his lifetime, and he died in that belief.

68 The inside ring appears to be nearing the planet, as measurements taken by Galileo show when compared with the present time. Changes would naturally take place quickly in so flimsy an affair, as there must be continual collision in so much loose material and consequent checking of centrifugal force, giving it a shorter orbit very rapidly.

69 More than likely these rings may be comets which have been wound around the planet in small orbits. Jupiter has been known to almost catch two comets in recent years. In 1879 Lex-tel's comet became mixed up with Jupiter's moons and in 1889 Brooks' comet had the same experience. The next favorable time to view the rings will be in 1914 when they will be inclined twenty-eight degrees to our line of vision.

70 Saturn's eight moons commencing at the outside are Iapetus, Hyperon, Titan, Reha, Dione, Thehys, Duceladus and Mias. Iapetus is 2,225,000 miles from the planet, being the farthest out.

71 Belts are seen around the ball of Saturn almost to its poles. It is only one-eighth as dense as the Earth, another proof of its heated

but unmelted condition. When it does become hot enough to melt by friction, its density will increase and its size will decrease to the density of a molten mass and from that size it must radiate down to a planet of the second class but it still has 400,000,000 years to reach the orbit of Jupiter, and he is still heating and swelling.

CHAPTER IV.

JUPITER.

ITS SWELLED CONDITION. HOW IT WILL BE REDUCED. A SMALL SUN.

72 Leaving Saturn to its grinding and heating and coming in once more half way to the Sun we arrive at the greatest of all the planets, and greater in size than in weight. It is swelled almost beyond recognition as a planet and surrounded by all the gases and clouds belonging to a stage of great heat, through which every planet must pass before it can become melted into a body and commence its task of radiation and later the production of life. This it could never do if not melted and condensed. Neither could gravity so well separate its elements, and if they were not separated they could not create the chemical heat in the Sun, as they do when properly prepared by gravity. Points upon its surface travel at great speed and it is supposed

to make a revolution in a little more than nine hours. This however we cannot be quite certain of and as we have seen is only the motion of its outside shell as with the first class planets and the Sun.

73 The bright colored bands around Jupiter show it to be a glowing mass, almost ready to melt down. When it finally does so and settles down to a much smaller size the process of radiation will commence at once and Jupiter will be a bright burning star such as Asteroid was before the accident which bursted it.

74 It has been a standing mystery, why Neptune, Uranus, Saturn and Jupiter are such monsters in size when compared with Mars, Earth, Venus and Mercury, but it seems very simple that they must burn and radiate to a reasonable size before they become cool enough to form a crust.

75 Perhaps if Asteroid had not burst but was now in its proper place unimpaired, a bright burning star half or one third as large as Jupiter, we would not have been puzzled so long by so simple a matter. What could they do but lose their heat and size by radiation. For 400,000-000, years or more they are heat centers and must during all that inconceivable time be throwing out their heat and thus losing their material.

76 Jupiter will be almost a small Sun when

he finally bursts into flames but he will not reach the present orbit of Mars for 800,000,000 years where he should form his crust and commence to evolve life.

77 He is the great giant amongst planets now but each one as it reaches his present orbit will be the great giant. Saturn is following him and when he has become melted and is radiating his bulk away Saturn will be the great giant, the rings and some of the moons will be added to the planet's melting mass and Uranus will be in Saturn's place, Neptune will be in the place of Uranus and a monstrous cold, blue cloud of sand, stones and gas will come in sight as a new world just receiving its motions and with its comet moons revolving backward in their orbit.

78 Jupiter has five moons, four of which can be seen with a good opera glass. They are in themselves a very interesting study. Their time of transit, eclipses and occultations are given in the nautical almanac.

79 The velocity of light was discovered by observing these eclipses. Roemer noticed that as the planet and the Earth were receding the time of the small moon I. did not come as soon as it should and in wondering why it was so he concluded that it took light that much time to travel the extra distance, so he watched the eclipses until the two planets began to approach each other again, when sure enough the

time began to shorten and the eclipse come to soon and from this he soon calculated the speed of light.

80 Astronomers give Jupiter credit with a red atmosphere. No doubt it has a fiery gas under the carbonous clouds which partially hides its great smothered heat and they will think the inferneo has broken out again, if there are any of them alive when his smothered flame can no longer be hidden under blankets of carbon and he bursts out into a blazing mass of fire.

81 The great red spot may have been a moon which had been revolving around Jupiter in or under its clouds of carbon which did not make its appearance until it fell into the more solid interior of the planet and received enough heat to make it red (n. 60).

82 Summing up all the evidence we have in sight, we must find Jupiter hotter than any other planet in the system with the possible exception of Mars and if so there is a reason for it. Saturn following him is heating and Mars before him is cooling, so that at some point between his orbit and the orbit of Mars is the point of greatest heat where the worlds melt as they come in. Up to this time they have been growing warmer as we have seen and as the telescope and spectroscope plainly show. While they were heating they were also swell-

ing in volume as well as adding considerable stray matter to their bulk as they generated heat, electric and magnetic currents and power. They have revolved faster and faster and at the same time they have traveled faster on their orbits as they have dropped towards the Sun until now at Jupiter, we find him traveling on his orbit at the rate of 690,000 miles per day.

83 Saturn makes a revolution on its axes in ten hours and fourteen minutes, while Jupiter although thousands of miles larger in circumference makes a revolution in nine hours and fifty five minutes. We can not know the time of Uranus' revolution but we know it is much faster than Neptune's which is proved by its faint bands.

84 So we see that they become more and more great electric dinamos as they come in until they reach the present orbit of Jupiter which must be near the melting point and we cannot deny the patent fact which is in plain sight that as they grind away these millions of years they generate by friction, the heat which finally melts them down, when their increasing electrical motions being no longer augmented cease and the mass gradually settles back to the rotary motion of the inside matter of the planet which as we have seen is the inherent motion of all matter as it comes from the Sun (n. 59).

85 Some astronomers explain the so called

red atmosphere of Jupiter as due to the sunlight effects upon its clouds, forgetting the planet is five times as far from the Sun as we are where the sunlight is a very small matter indeed.

CHAPTER V. THE ASTEROIDS.

THE EXPLOSION OF A WORLD. THEY
ARE SPHERES AND THEIR NAME
IS LEGION.

86 Coming in this time half way to the Sun from Jupiter, which should be the orbit of a planet, we find instead only its scattered remains. A great celestial catastrophe, fragments of a world which burst in the crucible. Here seems the most absolute proof of its former great heat and fast rotary motion. It would require thorough melting and condensing before it could explode and that it was so we have only to notice that each of the 600 Asteroids which our largest telescopes are able to reveal to us, are spheres.

87 If it had not been in a molten state at the time of the accident these Asteroids would be in all kinds of shapes and chunks but they are round and smooth. They follow the original orbit of the planet as near as could be expected

but of course are greatly scattered in width and strung along the orbit.

88 It would be of the greatest interest if we could see this fiery planet in its original orbit unimpaired, as future inhabitants of the Earth will sometime see Jupiter provided of course he too does not burst in passing this dangerous point of heat and speed. No doubt the planet Asteroid would be much smaller and much more condensed than Jupiter because it would be completely melted and would have been radiating its heat and weight away for uncounted ages. Yet it would no doubt be many times larger than the Earth as it would still have 400,000,000 years to radiate itself away, before reaching the present orbit of Mars.

89 Perhaps there may be trillions of these Asteroids which can never be seen from the Earth as they are 100,000,000 miles from the Earth on an average and five times as far, a part of the time.

90 The Asteroids like Neptune were discovered by means of mathematical calculation and theory or reason. Titus in 1772 found that the following ratio should represent the approximate positions of the planets from the Sun. Representing the Earth's distance by ten he found the following ratio between theory and fact.

PLANET	RATIO	THEORY	FACT
Murcury	0 x 4	4	5.9
Venus	3 x 4	7	7.2
Earth	6 x 4	10	10.0
Mars	12 x 4	16	15.2
(Asteroid)	24 x 4	(24)	(24.5)
Jupiter	48 x 4	52	52.0
Saturn	96 x 4	100	95.4

91 Neither Uranus or Neptune had been discovered at that time but when Uranus was discovered and found to reasonably conform to the same ratio this gap between Jupiter and Mars made such an impression on Bode, the great Berlin astronomer, that he undertook the task of finding the missing planet. It was however twenty years before Piazzi, a Sillian astronomer discovered the first Asteroid, Ceres. Since that time they have been found almost nightly by cameras which are set for them.

92 Vesta one of the Asteroids is visible to the naked eye and although it is not the largest it is the brightest. The diameters of the four largest of these tiny worlds are as follows:

Ceres	485 miles
Pallas	304 "
Vesta	243 "
Juno	118 "

93 Eros is the nerrest known Asteroid to the Earth and will come as close as 14,000,000 miles in 1924. Its orbit is an elipse and at times

it is far outside of Mars. Being so small, only twenty miles in diameter it is easily influenced out of its original orbit by the planets and is of course liable to be picked up some time by Mars as it must cross the orbit of Mars twice every trip around the Sun. It is expected to furnish an exact basis of measurement by which to correct the distances of all the other heavenly bodies because it is so small that its exact position can be taken at any time within a few feet.

94 The theory that these little bodies came from a ring of matter which was left over by the contracting theory will not stand the test because they have been melted and such small bodies could not generate enough independent heat to melt and we can easily see that they are spheres of great density. They must be cooled to the center according to their density and would cool very fast after being distributed into such small bodies.

95 If the original planet had not bursted, it would no doubt be a bright burning star in the most interesting stage of radiating itself to a planet of the second class. There is no story or legend known in history of this fiery orb so its accident must have occurred at least 10,000 years ago.

96 Perhaps if archaeologists continue to find old cities beneath the almost mythical city of

Niper, they may yet find some reference to it as it must have been a very prominent feature of the heavens having almost the appearance of a small Sun for at least two years out of seven and would have been the third celestial attraction while it lasted.

97 We must be careful not to overlook any point which may possibly throw light upon this interesting procession of planets, therefore we might consider for a moment what became of the three moons which this unfortunate body should have had in company at the time.

98 If one or more of these satellites were a long way out (the farthest should have been in the neighborhood of 600,000 miles) and of any considerable size, like our own moon they or it should be in sight between the orbits of Jupiter and Mars and still preserving an orbit motion if not wrecked in the general smashup.

99 The objection that if one planet bursts at the point of Asteroid, they should all do the same is not a necessary conclusion for the reason that its bursting was due in part to its over rate of speed in rotating, induced by the mechanical process of generating too much electro-magnetic energy. While nature herself makes no mistake we know that a machine is always liable to accident and these planets' in fact, become great electro-magnetic machines at this point as we have seen. We know that Mars,



the Earth, Venus and Mercury have passed this point safely (n. 59).

100 In reference to asteroids near the Sun, it is reasonable to believe that nature would protect her interests as she does by all the laws of evolution and burst these now useless worlds before they enter the Sun. In case of an entire planet entering the Sun in one body, the great chemical activity and consequent overplus of electrical energy, would amount to little less than an explosion on the Earth.

101 These planets might explode by the water and air which sinks into their crusts as they become cooler. When near the sun there might be such great heat as to bring these elements in sight again as explosions of steam, in the great interior caverns. Prof. Alex. Winchell in his Neublarian theory expresses the belief that water cannot approach the Sun, beyond a certain fixed limit.

CHAPTER VI.

MARS.

THE RED PLANET OF WAR. HIS
AGE, COLOR AND FUTURE
CONDITION OF SERVITUDE.

102 Once more half way to the Sun from the Asteroids, we find the red planet of war, Mars. Having safely passed the bursting point in the

procession of planets it is now in the act of cooling and forming its crust. It is receiving its atmosphere and water which its own heat may have been holding at a distance for millions of years since it began to melt in the vicinity of Jupiter and is now almost ready to produce and support life, which the laws of evolution will as surely produce, as it has already received its motions in the great mass of loose stones which started on its long journey so many million years ago, out in the borders of our planetary eternity (n. 29).

103 We can already see snow at the poles of Mars at such times as they are turned from the Sun. Now if there was no more heat in the planet Mars, than in the Earth it should be at least half covered with snow continually because it is nearly twice as far from the Sun as we are and its winters are twice as long as ours but the fact that there are but small caps of snow at the poles where the Sun does not shine for a year at a time, must convince us that it is very hot within itself.

104 Its color also seems to indicate great heat. Of course as soon as a planet melts the friction of grinding material ceases and the generation of heat and energy stop and it must at once commence to cool by the slow process of radiation.

105 After millions of years of radiation and

reducing in size it would become small enough and cool enough to commence forming a crust or temporary crusts, like thin ice over a pond which would be checked or cracked to pieces time after time perhaps. Or the contracting of the cooling crust might cause great crevices, which might account for the curious canals with which astronomers irrigate the inhabitants of Mars. However it seems more likely that these canals are made by the great rush of water from the polar regions towards the equatorial regions after one of their long winters of cold storms for twelve months. It is more reasonable when we remember that Mars is flat and smooth, not having cooled enough to have any mountains. It is receiving its water at its poles as snow, and when this melts it of course flows towards equator, digging deep channels until it is evaporated again by the hot regions, into steam, to again fall at the poles by the force of gravity. Thus we can perceive how these canals may be made by this endless round of water flowing but one way, in a land which is yet almost a level plain and probably little or no crust formed at the equatorial regions. No doubt the planet is much cooler than the Earth was at the same position in space, because, being so small it must have cooled much faster than the Earth.

106 Mars appears to be a pigmy amongst th

planets and his moons are pigmy moons. Of course there is some good reason for this which mathematicians should be easily able to show. There may have been less material handy out in the regions of Neptune, when Mars was being collected by the force of gravity, or the planet comprising the Asteroids may have stolen the comets belonging to him. One thing is quite evident, he never was as large as ordinary planets because his moons are pigmy moons, proportioned in size to himself. Being so small at the start he could only attract the small fry comets. There is an old axiom which is a law of gravity that says, "to him that hath shall be given but to him that hath not shall be taken, even that which he hath." If little Mars away out in the regions of world gathering should be smaller than Asteroid outside of him and the Earth this side of him, we can readily see that they would attract farther and stronger and so rob him on both sides of the material which belonged in his legitimate zone.

107 Having cooled so much faster on account of its small size, Mars may be in a condition to support life at an earlier period or position in space than the Earth was, provided the greater distance from the Sun and smaller amount of light does not interfere.

108 There are innumerable theories regarding

Mars and the probability of its being inhabited but most of these guesses are based upon the belief that Mars is older than the Earth which seems to be a popular fallacy.

109 The density of a planet as in all life must tell its age. It is the work of gravity which produces the effects of age and it is as easy to observe the age of a planet as of a man by simply looking at it. Mountains are the wrinkles of age which always tell us correctly the age of all matter.

110 If it is possible that Mars on account of its pigmy size, is in advance of the Earth, when at the same orbit or age, it must still be in a very primitive condition in the production of any kind of life.

111 The first life generated on a cooling planet, by the laws of evolution, would be governed by the conditions and would no doubt be plant life. From this it must slowly evolve and millions of years the poisons of its low swamps and rotting vegetation, would not permit any higher type of life than snakes.

112 On our Earth we have the records written in the rocks showing that even the birds were serpentine during all the long ages of the formation of coal, when there were no mountains and when the vegetation by the assistance of the Earth's inner heat, was of such enormous size and quantity.

113 Mars is blessed with two moons. Deimos the largest is 12,900 miles from the planet's surface, while Phobos the inner one is but 3,000 miles and makes a revolution around the planet in seven and one half hours or three times while Mars is turning once on its axis and for that reason Phobos has the destination of rising in the west and setting in the east.

114 Both these moon are dead moons, having turned their magnetic poles to the planet. There is every reason to believe that within a few centuries this little satellite will have ended his long journey by plunging into the liquid center of Mars and by doing so, at the same time probably raise some fair sized mountains and make a good deep harbor for the use of future Martesian mariners. A perceptible shortening of the time of its orbit should be measurable in a few decades.

115 The discovery of the moons of Mars was predicted by Voltaire, Kepler and Swift, by calculating the ratio of the number of moons from Saturn to Venus. The number of moons following the planets' makes in itself a most interesting study, well calculated to set an inquiring mind to work in earnest when considered in connection with this discovery. The further and still more astonishing fact that they also obey the law of inverse squares in approaching their planets, gives another volume of evi-

dence to still more overwhelmingly prove the procession of planets to be correct (ch. xii).

CHAPTER VII.

THE EARTH.

WHAT THE ROCKS AND DEPOSITS HAVE TO SAY OF THE PAST.

116 The next planet, which is also in its proper place of half way from Mars to the Sun, is our own blessed Mother Earth, perhaps in the very prime of her motherhood.

117 Prof. Isaac N. Vail, in his excellent work, "The Story of the Rocks," gives both Saturn and Jupiter younger dates than the Earth. He does not attempt to show why or give reasons for their positions in space, but goes on to give proofs that the earth has long eons ago passed the stages through which they are passing now.

118 Although the Earth is only half as far from the Sun as Mars, and the winters half as long it has many times more snow at its winter poles. The snow sometimes reaches its tropical lines, completely covering the temperate and frigid zones; while Mars only has a small cap of snow around its arctic and antartic circles during winters twice as long as ours, proving, beyond the possibility of a doubt, that

Mars has much more internal heat than the Earth.

119 That the Earth has been much hotter than it is now is plainly shown by the history which nature and time have faithfully and plainly written upon the rocks of its crust without sentiment, fear or favor. Reference may be had to any good geology or encyclopedia, as there is no disagreement upon that point among savants.

120 At the time the fire rocks were first hardened, it is evident by their construction, as well as by reason, that there was no water on the face of the Earth. No doubt it was held suspended or pushed out to a certain distance in the form of vapor by the force of heat, and that it only fell after the force of heat had sufficiently subsided so that the force of gravity could condense and bring it down, first at the winter poles, where the force of heat was the weakest.

121 Prof. Vail's "Annular Theory" of the falling of the snows and vapors at the poles, would not be in opposition therefore, to nature, and would be in line with this idea of the procession of planets, which, after we have examined every part in detail, and the old laws and new laws governing it, forms such a beautiful picture of truth, and moreso when we see the snows falling at the poles of Mars.

122 In very deep mines it is found there is a regular increase of in the temperature as we go down. This seems to be almost universal wherever men have sunk shafts or bored wells to great depths, and in some deep mines it is almost impossible for men to perform their labor on account of the heat, all of which shows that inside of a certain crust the Earth is more than likely a molten mass.

123 There are also scattered over the face of the Earth many hundreds of enormous vent-holes or safety valves, called volcanoes, which open down into the molten center and allow the escape of gasses and fire at such times as the pressure is very great. And yet with all these safety openings there are often great earthquakes which destroy life and property of untold value.

124 Judging by the time it has taken, the sedimentary rocks to form and by the depth of the drift covering the first implements used in connection with a brain, the very earliest and most crude human-like creatures could not have existed but a few hundred thousand years ago.

125 If the record of the stars could have been kept from the very birth of man's intellect to the present time, there would probably be very little perceptible change, unless in the flimsy rings of Saturn; the time of the orbits of some of the small moons, or possibly the bursting of

Asteroids, so vast is the difference between 400,000,000 years, the estimated time between the age of planets, and 100,000 years, the estimated time since human life began on earth.

126 There are many good treaties upon what are usually known as the glaciers, which are very profitable to the student who wishes to follow out the argument of this theory; one of the best, perhaps, is the work of Prof. John Fisk, called "The Journeys of an Evolutionist," and the various other works referred to by him. What are known as glaciers were, however, caused by the cooling of the Earth, first at the poles, where it was coldest and where it was in darkness of winter (at that time being at or near where Mars now is), twelve months instead of six, as now, where the water first made its appearance as snow in the winter months and as rain in the summer, if at all. No doubt when one of these long winters broke up and the winter pole was again turned to the Sun for a year, assisted by the great internal heat, there would be a great rushing of waters to the south, and a great filling of canals and a hissing of steam, and we point to Mars as proof of it; although as we have already shown, Mars, on account of its small size, must be considerably in advance of ordinary sized planets in cooling.

127 The Moon is so near the Earth that we have absolute knowledge that it has no atmos-

phere and this fact is given as the reason of the particularly defined lines between lights and shadows and the absence of twilight on our lesser luminary.

128 The man in the Moon sees a grand show of changing phases of the Earth, the same as the Moon changes from dark to crescent and full. The Earth makes a bright reflected light upon the Moon, fifteen times as bright as the moonlight on the Earth. It is earthlight which enables us to see the darker part of the Moon when it is in crescent. It is therefore never dark on the Moon at any point from which the Sun or Earth can be seen.

129 Here is an instance of sunlight reflected from the Earth and again reflected back from a surface which is known to have no atmosphere.

130 Some Geologists and Astronomers believe the Earth has once changed its poles and cite instances of mastodons froze into the ancient ice of Alaska and Siberia with their stomachs filled with tropical vegetation. This certainly indicates something having happened very suddenly but if the poles ever changed to revolve on the line of its equator, since ordering the life of mastodons, we would find the lines of ice drift in two big series of circles with their centers opposite each other along the line of the equator, whereas they are in circles parallel to

the present poles with evidence that they have never been otherwise.

131 Through a large telescope the moon has more the appearance of having been pelted with all sized Meteors and Asteroids than of being rent by volacnoes. No doubt the Earth would show many such places were it not for the elements (which are absent on the moon), removing the evidence, besides two thirds of the Earth's surface is covered by water which gives no sign. The canyon Diablo, N. M., is apparantly one of these holes where large quantities of meteor or asteroid matter is said to have been taken out. It is possible that the last moon which fell to the earth may have left some trace which may yet be recognized in some great sea or sink but the probabilities are that it fell when the Earth had but a thin crust and passed into the molten interior leaving no mon-oleith.

132 The Moon is shortening her orbit about one minute in 25,000 years, so it is hardly likely that science will ever be able to measure an actual shortening either of the time in which she completes an orbit or in the lessening of the diameter of her orbit.

133 In the shortening of the time of the Earth's orbit there should be enough difference in a few centuries to be measurable, if we had perfectly true instruments to measure time and position.

134 There are so many things to be considered in connection with this discovery and so many places to check back and forth upon each other for proof that there can be but very short lived objection to it. When it is admitted, it will not take scientists long to clear up many mysteries now supposed to be unknowable.

135 There is no mystery of nature that does not dissolve into simple law when placed under the lens of the discovery of the procession of planets.

CHAPTER VIII.

V E N U S .

MAY BE A DEAD WORLD. LITTLE OR
NO WATER. LIFE MAY
STILL EXIST.

136 The next planet towards the sun is our very nearest neighbor Venus, in the same ratio of half way to the Sun from the Earth. It is almost the same sizes as the Earth and no doubt has during the past 400,000,000 years or a part of that time, sustained life, perhaps human life. We can produce no reason why the material of which Venus was made was different from the material of which the Earth and all the other planets are made. This being the case the conditions would be the same and probably at the same distance from the Sun, nature, using



the same material and under the same conditions would evolve much the same kind of life, both in plants and animals.

137 If then there is in our own solar system another planet which supports human life it must be Venus; but the probabilities are that the time has long since passed which would support any kind of life. There is now some well established doubt about Venus revolving upon her axes in the same time as the earth, and it is now claimed by many astronomers that she rotates but once on her axes during her orbit around the Sun, i. e., that she is held with one face to the Sun continually. If this is proven to be true, then she is already a dead world, and we could not hope to find life, either upon the side under the eternal blaze of the Sun, or upon the side of cold and everlasting darkness.

138 Venus is but a few hundred miles less in diameter than the Earth and when the two planets are on the same side of the Sun, they are only 27,000,000 miles apart, so that we may yet be able by the use of greater and better telescopes, other instruments and photography, to become much better acquainted during the present century.

139 Venus receives twice as much light from the Sun as we do, and if the atmosphere is very dense, it would increase the heat greatly, by

the friction of waving, in passing through it.

140 Some astronomers consider its brightness due to a metallic luster received from the heat of the Sun, and if the planet keeps but one face to the Sun, it would certainly become greatly heated, which experiment can be made on our own great deserts, like Death Valley during fourteen hours of sunshine, where the sand becomes so hot that it will blister the tough soles of old forty-niners who walked across the plains more than fifty years ago and have walked thousands of miles every year since, prospecting, from one delectable mountain to another, hunting for the elusive yellow metal.

141 Another popular fallacy for sensational publication, is that the heavenly bodies contain great stores of wonderfully valuable unknown substances, or are composed of deposits of diamonds, other jewels and precious metals. The fact, however, undoubtedly is that they are composed of the same material as the Earth, but that at different stages of their existence these metals and substances were in different forms, sometimes as solids, sometimes as liquids, sometimes as gases, and sometimes as separated elements; but as they pass any given point on their way to the Sun, their conditions are perhaps almost identical. Considering such facts as are well known, with good

judgment, will not permit us to think otherwise.

142 Sometime, so far in the future that it is of little concern to us, except to help us understand our present surroundings, the Earth will have reached the position of Venus, and at that time if there is a living creature upon the planet, we may confidently trust, that it will be the animal man, whose brains will enable him to conform to, and provide against the changing conditions. For that reason it is a possibility, that there is human life remaining on Venus, but it is an impossibility that it has yet commenced upon Mars.

143 The time of Venus' trip around the Sun is two hundred and twenty-five days or one hundred and forty-five days shorter than our own year. She is 7,700 miles in diameter. Having cooled of her inner heat the crust has very likely taken all the water, as the crust of our own Earth is doing so rapidly, and she is thus shrinking by condensation, nearing death.

144 The dense atmosphere, which may be made up of the poisonous gases left by the inhabitants after their busy life (speaking collectively) of 400,000,000 is like a pall, to hide her dead past from us, and therefore little is known of her surface.

145 One of her mysteries would be solved and help to corroborate the solution of the working of the solar system, if we could find evidence of her last moon, upon her surface.

According to the proper procession, herein, her last moon fell when she was near her present position, very likely since she was devoid of animal and plant life, and of course when her crust was hundreds of miles in thickness. In this case we should be able to find some sign of it, and especially if it was anything like the size of our own Moon, which is 2,163 miles in diameter. No doubt so large a solid body would break up entirely, but in the absence of water, so large a mass should be visible in some direction.

146 It can hardly be possible that it is ice and snow (as some astronomers maintain) at the poles of Venus, which makes the horns of the crescent appear brighter than the body of the planet. In the first place, it is more than likely to be too hot for ice and snow, upon the light side of the planet, which is so near the Sun; there is scarcely likely to be water enough left, to be lying idle as ice and snow and lastly, although we do not know the inclination, of the planet's axis exactly, our common sense must assure us, that there could not be ice and snow at both poles, at the same time.

147 The brightness at the horns of the crescent, are probably, due to an optical illusion, which could be explained by a good optician, and cured by using a camera, and looking at the photograph, which is as cruelly just as

nature, having neither conscience, imagination or sympathy.

148 In approaching the Sun, there must be a point, no doubt far beyond Venus, where the Sun's heat will bring the water out of the cracks and depths of the dead planet, reduce it to vapor and repulse or drive it back, by the force of heat; because we must know there can be no water or moisture in the vicinity of the Sun, unless it becomes again a part of the rocks. Perhaps in doing this the planet will be broken up into fragments by great explosions (see chapter xvi) and go into the Sun gradually as asteroid or meteor chunks.

CHAPTER IX.

MERCURY.

A DEAD WORLD, WHICH HOLDS
BUT ONE FACE TO
THE SUN.

149 Next, still in the same decreasing ratio of distance from the Sun, half-way from Venus, comes Mercury, still smaller and more dense, a dead world, worn out and almost ready for the last funeral fire, which will finally add it to our monster central parent. A dead world like our own dead Moon, keeping but one face to the Sun while it is being gradually dragged within reach of those great waving tongues of

fire, which reach out hundreds of thousands of miles, seeking what they can devour.

150 Mercury has neither air or water and can be of no more use to nature, except to donate its remains to the great burning center of life, to be rejuvenated by the purifying dissolution and expansion of fire, and again be sent out in due time and form to the remote regions of space by the force of heat.

151 The Sun is the great furnace or mixing pot where the planets, moons, comets, asteroids, meteors and all other returning matter is melted mixed together and carried away by the force of heat, in the exact proportion of matter in nature. The spectroscope shows a sunbeam to be composed of the same material as every other sunbeam and every other world and all matter.

152 Mercury is 36,000,000 miles from the Sun but its nearest approach is 28,000,000 miles and at such times the Sun's heat is twelve times as great as on the Earth and on an average, seven times as great. All this blazing sunlight comes on but one side of the planet and must convert that side into a bake-oven while the opposite side is in continual darkness.

153 A dead moon has a change of day and night but a dead planet is held with its attracted pole to the Sun itself and therefore can have no change of day and night or of winter and summer.

154 Every planet or other separate particle of matter in the universè, be said particle a great planet like Jupiter or an atom of microscopic dust, has its north and south magnetic poles. This motion or guiding force may be a part of the living energy of the force of heat or it may be an attraction entirely outside of the solar system, some great center or community of interests towards which all magnetic poles point or parallel.

155 When a planet nears the Sun or a Moon nears its planet, there is a point at which the smaller body turns its positive magnetic pole to the larger, the same as a needle points to a nearby compass. This is what has happened to Mercury, and the Sun and Mercury are now one magnetically and will comparatively soon be one body (see magnetic pole, Chambers' Encyclopedia).

156 If the time ever comes when we can examine the solar systems of other Suns, by the use of larger telescope or new methods, (there will be a way provided no doubt, by which we can see by electricity without regard to distance) it will found that they are operating on the same principles and under the same laws, and that the dead planets and moons the same as our own, are guided by the same kind of magnetic poles.

157 Mercury travels around the Sun in an

ellipse and increases its speed when nearing the Sun and decreases it again when receding on the opposite curve, which should prove that a planet increases its speed as it nears the Sun. There is no mystery about it, but at every planet, towards the Sun is down and from the Sun is up, so that as Mercury is falling towards the Sun by nearing it in its orbit we see that it actually does increase its speed by falling towards the Sun in thus nearing in its orbit (see chp xiii).

158 Our own Moon is a like example and Eccles comit positive proof that a heavenly body has shortend its orbit three weeks in a period less than three years. This is but a light body but it is governed by the same laws. If this comet shortens its orbit and we have the record, then we cannot longer say truthfully, that centrifugal force is equal to the force of gravity. It shows us that a heavenly body is not compelled to occupy exactly the same orbit forever but that it can shorten its orbit.

159 In examning Mercury with a telescope the sunlight interferes so much that there is little hope of ever being able to make any discoveries upon its surface, until a new method of seeing through electricity without wires is invented.

CHAPTER X.

THE INNER ASTEROIDS

A MISSING PLANET. MAY
BE ASTEROIDS.
VULCAN.

160 According to the regular ratio of the law of inverse squares obeyed by the distances of the other planets from the Sun (n. 90), there is room for and should be another small planet about 15,000,000 miles from the Sun. However it is a possibility of this theory, in fact it is undoubtedly true that this missing planet is another case of asteroids, or a planet which has been bursted from some cause (n. 101), and left a stream of fragments in its orbit.

161 There are many reasons to believe this to be the case, one reason being that there is no planet where there should be one and an even better reason being, that vast bodies of solid material are continually falling into the Sun leaving great black holes hundreds of miles in diameter, and splashing firey fluids thousands of miles in height.

162 By keeping a record of the sun-spots for a number of years, it has been found that the spots have certain periods when they are much more numerous than at other times. If they are made by Asteroids falling into the Sun,

this would be likely to happen, as they would hardly be likely to reach entirely around their orbit, 90,000,000 miles and if so, they would be more plentiful in some places than in others. In bursting as much matter would be thrown into shorter as into longer orbits and we can easily understand that they would be so greatly shattered that it would be millions of years before they would all be drawn into the Sun.

163 These little bodies probably travel faster than any members of the solar system, with the possible exception of a Comet when making its short turn around the Sun. Giving them the same ratio of increase in speed according to the law of inverse squares which the other planets obey from Neptune to Mercury these should be traveling on an average of about 5,500,000 miles per day, but these which have come near enough to plunge into it, are moving at the lightning speed of 9,000,000 miles per day.

164 No wonder that when one of them falls into the Sun there are great magnetic disturbances throughout the solar system, at least as far as the Earth where records have been kept since it became safe to believe the Earth is round or to own a telescope.

165 Magnetic observatories are located in all parts of the world, where delicate magnetic instruments are suspended so they will be agitated by any magnetic influence. In watching sun spots in connection with these

delicate needles and magnets, it has been found that sun-spots cause them to vibrate violently. At such times come the splendors of the Aroras in the north, but when there are few sun-spots the Aroras and magnetic needles are at rest.

166 There are many notable records in recent years of the magnetic influence of sun-spots upon these instruments, as well as upon the atmosphere and electrical condition of the weather, which shows that the electric or heat force reaches out to every part of the solar system in its control of the motions of matter.

167 Sep, 1st, 1859 was a notable day for electric storms and magnetic disturbances on all parts of the Earth. In Europe and America, telegraphic apparatus and lines were demolished by over charging from nature. Flame followed recording pens and the Auroras of the polar zones reached almost to the tropics,

168 Late in the afternoon an English astronomer who was making observations of a group of sun-spots, saw two brilliant splashes of fire which traveled 35,000 miles along the Sun's disk in five minutes.

159 On Aug, 3rd, 1872 an observation was made at the Rocky Mountain observatory by Prof. Young, who observed great splashes of fire on the Sun which he supposed to be eruptions and at the same instant when light reached the Earth from this fire, the magnetic needles in English and other observatories gave

notice of the disturbance. Prof. Young's needle was at the same time swung entirely clear of the scale.

170 An observation taken Mar. 26th, 1859, was said to have revealed a small planet crossing the Sun's disk about 13,000,000 miles from the Sun. It was named Vulcan and was supposed for many years to really exist, but the greatest modern telescopes with the assistance of photography have failed to disclose any such planet. This may have been a very large Asteroid and may be found again.

171 In case a planet broke up to form these Astroids before it had radiated down to a planet of the second class, there would be an immense amount of material and it would be by this time greatly scattered.

172 There is known to be one Asteroid, Eros, which is sometimes inside of Mars' orbit, so easily are these small bodies influenced out of their original orbits. Being so small and so near the electric light of the Sun, these inner Asteroids are very hard to see but no doubt there are untold billions and that many of the largest will yet be photographed passing over the Sun's disk.

173 What excuse can astronomers offer for a sun-spot causing such great electrical and magnetic energy on the Earth, other than disclosed by this simple discovery, the chemical dissolution and re-uniting of returning elementary mat-

ter to the Sun. Its sudden disintegration and chemical reunion with the Sun, gives that body an over-plus of energy or heat, which is light, electricity and magnetic energy, and its equal in energy is instantly forwarded through space with the velocity of light. It is a simple common sense explanation, devoid of foolish mystery which should give it the brand of truth (n. 17).

CHAPTER XI.

THE SUN.

THE GREAT VITAL ENGINE OF THE SOLAR SYSTEM. WASTING ITS ENERGY.

174 The Sun is the great central engine of the solar system and the center of the two great forces of heat and gravity. It is a body of small density but is 886,500 miles in diameter and therefore 1,300,000 times as large as the Earth. Its surface revolves at the equator at the rate of 4,400 miles per hour, and at the center much faster as it is known to be covered by a loose envelope of cloudy matter which would naturally drag behind the motion of the more solid inside matter.

175 On the plane of its equator and in the same direction, travel all the heavenly bodies of the solar system (n. 34).

176 This great body is supposed even by Phys-

icists who endorse the wave theory of light, to be composed of heat in the form of gas, light and electricity, which it is forever throwing away into space. Prof. Howe, in "A Study of the Sky," pg, 202 says, in speaking of the Sun's energy "the supply cannot be infinite; how then can the radiation be maintained?". This has already been explained in preceeding chapters (n. 17), but it may be objected that there would not be enough returning matter by such a slow process as the returning of a planet once in 400,000,000 years. The answer of the procession of planets is a double answer; first there is no doubt thousands of times more material going back to the Sun, in the shape of nebulous matter, sand, meteors and cosmic dust which we do not see, than is brought by the returning planets (n. 28), and second that the wasting energy of the Sun is not nearly as great as measured by Physicists in our atmosphere (see "Graduated Atmospheres"), where the ray of light in passing through it at the rate of 12,000,000 miles per minute, must create great additional friction by its forced waving motion and consequently adds by this friction to the real heat of the Sun (see ch. xiv).

177 Going to the top of a very high mountain where the air is more rare than at sea level we find the air much colder although nearer the Sun. There are even snow capped moun-

tains under the very equator and if we could measure the heat outside of the air where the rays travel in a straight line, we would find it very much overestimated; so much perhaps that with a dead world occasionally and a constant supply of other returning matter as above, the supply would be ample to keep the Sun in its usual flourishing condition.

178 We can in any event safely trust the force of gravity to carefully guard, collect and return; every particle of matter, to the smallest fractional part of an ounce, which the force of heat disintegrates and sends out into space.

179 What is known as the zodiacal light is supposed to be a girdle of meteoric dust around the Sun. This may be nebulous matter which has crystalized in the near vicinity of the Sun because we must not suppose that electricity or energy must necessarily reach the vicinity of Neptune before it commences to cool and form into crystals. On the contrary it no doubt commences to change back into solid material as soon as it leaves the solar fires and much of it may never come as far as the Earth.

180 We can begin to realize the vast amount of unseen matter which the Sun is receiving when we consider the meteors which fall upon our own little planet (n. 28).

181 From Neptune the Sun appears 900 times smaller than from the Earth, how much

smaller it must appear then, from the nearest fixed star, Alpha Centuri, which is 25,000,000,000,000 miles away where it would appear 2,699,700 times smaller. It is quite doubtful if it could be seen at all by human eyes at so great a distance.

182 The pole star is twelve and one half times as far away as Alpha Centuri and it requires fifty years for light to reach the Earth from it, a distance of 312,366,700,000,000,000 miles.

183 Astronomers estimate that Arcturus is 1,000,000 times larger than our Sun or 1,300,000,000,000 times larger than the Earth.

184 It has been estimated that some of the Suns in sight are large enough to fill the orbit of the Earth around the Sun, or 186,000,000 miles in diameter. These figures although almost incomprehensible, give us a hint of our comparative unimportance when considered as a part of nature and near surroundings, because these suns are our nearest neighbors in a sea of untold trillions, appearing smaller and smaller as they are farther away until their apparent small size and great numbers finally melt them into mists of white fleecy clouds. Our own Sun, great as it seems to us, would not be missed if wiped out of existence.

185 What monster planets some of these big Suns must have in attendance, upon which we would appear as microbes to any life which

they would evolve. Compared with them, our Earth would not be as large as an adobe marble and it would take as many Earths to make one of them as it would take adobe marbles to make the Earth.

186 We are in ignorance of the Sun's orbit because we do not know where it is going or what is the center of its orbit, but we may be very sure that it travels on an orbit and from right to left.

187 If a comet comes from outside of the Sun's orbit, it passes around it from left to right but if it comes from inside of the Sun's orbit it will pass around it from right to left (ch. xiii).

188 We cannot afford to leave the solar system in a little book like this or at this time but at some future time, perhaps we can put our reason upon old Sol's trail. No doubt it is a long trip even for a Sun to make and before he returns to this point of his orbit, far away Neptune may have passed from youth to old age and be ready for disintegration, in the present orbit of Mercury, with a procession of planets following him and obeying the same law of inverse squares as now, both in their distance from the Sun and their speed upon their orbits.

189 The Planets are more than half the time outside of the Sun's orbit although there is probably not much curve in the Sun's orbit during any planet's trip around it.

CHAPTER XII.

MOONS.

A REGULAR RATIO OF INCREASE
FROM VENUS OUT TO
SATURN.



190 There is an interesting fact in connection with the moons or satellites of the planets which certainly points to the truth of the Planets being of different ages. Commencing at Venus and going outward we find the Moons arranged as follows;

Venus	0
Earth	1
Mars	2
Asteroid	?
Jupiter	5
Saturn	8

191 We will discuss the Moons of Uranus and Neptune in the next chapter, inasmuch as they are so far away that only a few of them can be seen and traveling in contrary orbits they deserve to be considered as Comets.

192 The question now is, why do these planets lose their satellites as they approach the Sun. Why has Saturn eight and Venus none with a gradual decrease between?

193 Saturn's moons travel around it in the same direction that the planet revolves and almost on the plane of its equator. The outside moon of Saturn is farther from the planet than

the moon of any other planet whose moons we can see.

194 According to the laws of this procession these moons are first caught as comets and are thereafter gradually drawn in to their planets in the same way and by the same laws which draw the planets to the Sun. They also obey the same law of inverse squares in their distances from their planets which the planets observe in their distance from the Sun, the planet acting as the center of gravity for these bodies.

195 Of Saturn's eight moons, Iapetus is farthest being 2,225,000 miles distant. Jupiter has but five and the farthest is but 1,160,000 miles from its surface. Here is followed out the same ratio of distances in their moons, which exists between themselves and the Sun. Did Jupiter not have as many moons as Saturn when at the same orbit? Certainly it had and they were as far away, but three of them are now inside of that big melting envelop of carbon, drawn in by the force of gravity and the others are drawn one half closer.

196 If we could only see all the satellites of Neptune and Uranus we would no doubt find Uranus with ten or more moons and Neptune with a bakers dozen. Uranus' most distant moon would be five million and Neptunes' ten million miles away but when we come this side of Jupiter we find Astroid bursted leaving no moons of record.

197 When we reach Mars we find the number of noons in the right ratio but their distance from the planet is in proportion to the size of that little world (n. 106).

198 Like the planets, the satellites gain speed on their orbits obeying the same law of inverse squares, decreasing the diameter of their orbits in the same inverse ratio with which they increase their speed along their orbits.

200 Skipping the Asteroid and Mars for the reasons given, we arrive at the Earth and find our outside Moon, our last one, is in exactly the right place to carry out the proper ratio i. e. 239,000 miles from the Earth's surface.

201 All the moons which are nearest their planets are dead moons, and are held with their magnetic poles to the planets the same as the dead planets point their magnetic poles to the Sun in; fact, in all their ways they follow the same laws as the planets. Why not?

202 Some of these moons may be large enough to create internal heat enough to melt them the same as planets are melted and as our own Moon seems to have been. One of the moons in Saturn's retinue which is very bright is no doubt in a molten condition.

203 The following table shows the ratio which the moons follow in their distances from their respective planets;

Distance,		Theory,	Fact.
	Earth	240,000	239,000
240,000 x 7-10	Mars	408,000	
408,000 x 10-16	Asteroids	658,000	
658,000 x 16-26	Jupiter	1,500,000	1,160,000
1,160,000 x 24-52	Saturn	2,360,000	2,225,000
2,225,000 x 52-100	Uranus	4,000,000	

(In the above table x is unavoidably used for the plus sign.)

204 In one particular these moons are different from planets, they cannot keep up their procession, and as each moon is drawn into the planet, it has one moon less as we have seen, because all moon material is being used by the new planets, whereas when a planet is drawn into the Sun, its place is easily filled.

205 Saturn with eight moons, Jupiter with five, Asteroid bursted; Mars with two, Earth with one and Venus none; pray what more do we require to show that centrifugal force is not equal to the force of gravity and that they "do move" toward their planets.

CHAPTER XIII.

COMETS.

HOW THEY MAKE MOONS, AND

HOW THE ORBITS ARE

TURNED OVER.

206 This power in nature which is called

magnetic, is of much more importance than it has ever received credit for, although it has been known to exist for a long time, at least as long as the compass has been used for navigation.

207 Make the old familiar experiment of sprinkling iron filings on a sheet of white paper and holding a magnet under it and notice the form taken by the filings. Turn the magnet in different ways and watch them dance attendance. Look at them with interest, you are viewing a minute panorama of the Universe, or the entire matter in existence, although we have not space to carry out the argument and furnish the reasons and proof at this time.

208 Let us not leave the solar system at the present, except to remember that the motion of all matter is the same and that it is the expanding force of heat which gives life and motion.

209 Now let us see how this directing motion applies to the contrary moons which we find attending the new planets. The moons of the new planets always revolve backward in their orbit at first for the reason that they are comets or roving masses of loose material outside of Neptune, which are so far away that the Sun's force of gravity draws them very slowly towards it. As a comet slowly moves along, we will say that it goes within reach of Neptune's force of gravity. Being so much nearer to Neptune, it

immediately starts toward that planet gaining speed as they approach each other and of course attempts to drop into that planet. Neptune is moving however, and the comet falls behind it the same as a comet falls behind the Sun (n. 188) and is swung around the planet and thus commences an orbit. This orbit is always in the wrong direction around the planet because it must come from outside of Neptunes' orbit where the unclaimed material is located.

210 If a comet should slip past Neptune and be caught on the return trip it would pass behind the planet from right to left.

211 One position which our new satellite holds is correct, its poles are pointing in the right direction as every heavenly body does, except those which have approached near enough their superiors to be attracted and be held by their magnetic poles.

212 This contrary moon is now moving in direct conflict to the motion of all matter, as we see in the only one of Neptune's moons which is large enough to be seen at so great a distance, which is revolving backward.

213 Let us look at Uranus now and we find its Moons revolving at right angles to the planet's equator, rising in the south and setting in the north. During the 400,000,000 years since at the orbit of Neptune, the power which we saw arranging the iron filings has gradually

turned their orbit one fourth of the way over or at Saturn, as we see, half way over or end for end, and we find them almost on the plane of its equator, while at Jupiter still another 400,000,000 years we find them exactly right.

214 In order to illustrate how the changing of the orbits end for end brings the revolution exactly opposite, take a wooden hoop and mark arrows on it pointing from left to right. Hold the hoop level with a globe inside of it; now turn the hoop end for end, turning the nearest edge downward and the farthest edge upward. When it is end for end it will be found that the arrows are now pointing from right to left. If the hoop is stopped when one fourth of the way over it would then represent the orbit of these moons at the position of Uranus but if the nearest edge is turned up instead of down, the Moons would, at the position of Uranus rise in the north and set in the south.

215 This is what is happening to the orbits of these moons of Neptune, Uranus, Saturn and Jupiter as we can readily see by the four positions they hold at the four different planets.

216 A great storm is governed by the same forces. It is a whirling of the atmosphere from right to left around a storm center. This storm center also travels on an orbit from right to left and Prof. Willis Moore, chief of the U. S. weather bureau, compares them to the motions

of the bodies of the planetary system (Collier's Weekly, Nov. 1900).

CHAPTER XIV.

HEAT, LIGHT AND ELECTRICITY.

IT IS A SUBSTANCE AND TRAVELS UNSEEN,
 LIKE VAPOR. CONSIDERING THE
 DIFFERENT THEORIES.

217 Sunlight, according to Sir Isaac Newton, before whose clear intellect mystery disappeared like mist before the genial warmth of day, is composed of the minute atoms which were disintegrated to produce it, traveling through space at the rate of 192,000 miles per second.

218 Any solid or mineral substance can be changed by the force of heat into liquid, and by greater heat, into the invisible vapor of light or electricity. Heat, light and electricity are one and the same and are but different conditions of heat. Either can be readily changed into either of the others.

219 Light and electricity then, is the invisible substance of the Sun traveling at the rate of 12,000,000 miles per minute in every direction through space. At this rate of speed we can see that it might reach great distances before the heat or life would all leave it.

220 There is also another theory of light, the wave or undulating theory, which gives light no substance but simply a vibration, notwith-

standing all Astronomers and Physacists agree that the Sun is gradually loosing its energy by radiation. They do not explain how it can vibrate itself away while its vibrations contain no substance. They must evidently, consider this the one exception in nature where something is lost. They even go so far as to set a time when the Sun can furnish no more light.

221 How they get rid of the substance of the Sun is what we want to know and must find out. They cannot burn it up and destroy it, because there can be no loss in nature. It can only be changed in form. Now it is self evident that there is a very large hole in this wave theory where all this energy is escaping in the colorless vapor of electricity.

222 There can be no doubt that a ray of light is compeled to and does vibrate thousands of times in every inch of an atmosphere it passes through at the great speed with which it travels, in atmosphere in which even a fast flying bird must dodge sideways in order to relieve the pressure before him.

223 A bolt of lightning cannot go far until the air in front of it becomes so compressed that it is thrown sharply off to one side for relief. The flash of lightning moves so much faster than the air can get out of its way that it is compeled to seek a weaker place in order to pass. Even giant powder acts so much more

quickly than air can get out of its way that it will break the rock upon which it is exploded.

224 When an eagle or hawk makes his swoop to strike his prey, he comes down in a parabolic curve or in other words, he slides upon the air in exactly the least curve he can make and still prevent the air from packing in front of him and checking his motion.

225 No doubt light or electricity, passing through the atmosphere at the rate of 193,000 miles per second, vibrates 39,000 times in every inch it travels, and more or less, according to the density of the air. If it had no substance it would pass straight through. It could not pack the air in front of it and be thrown back and forth, in order to pass through. The fact that it vibrates, proves that it is an invisible substance passing through another invisible substance.

226 Benj. Franklin, who had the brains required to discover electricity, considered it a fluid substance, capable of being transmitted from one place to another and all the experience we have had with it since, confirms his opinion. It is even stored and held captive to be used as needed to do half the work of the world. How could this be possible if it were but a waving motion? Would it keep on waving in the box in which it was stored, if it were nothing, to be used when needed to perform its work? Or, still more ridiculous, would it cease waving

when imprisoned, and commence again when we touch the button. How ridiculous to think of such a situation.

227 Electricity is a power of heat which is doing half of the work of the world today, and it is composed of matter having substance. All space is apparently filled with this fluid, which can be readily collected by friction, and converted into either energy, heat or light.

228 A beam of sunlight does not vibrate nearly so rapidly where the atmosphere is rare, as is shown by the less friction or warmth at high altitudes.

229 An astronomer friend of the author, writing in reply to the first or preliminary edition of the Procession of Planets, a four-page leaflet, objects to the theory in part, and believes that sunlight only appears to the sense of sight when it enters our atmosphere, in the following words and figures, to wit: "If we could look at the sun, from outside of our atmosphere, we could not see it." In that case, of course there would be no use looking at it, but we can look at the moon, from where we are and see sunlight reflected from a surface which is an absolute vacuum, so far as an atmosphere is concerned.

230 A mauser bullet travels so fast that the the friction against the air causes a collection of electricity, which is discharged into the first

object which the bullet touches. If it penetrates a human body there is a sufficient discharge or explosion to oftentimes mutilate the body, but if it merely grazes the skin, there is a discharge of electric energy sufficient to cause temporary paralysis and unconsciousness. It is unreasonable then to contend that there is no substance to a fluid which will collect on a flying bullet strong enough to knock a man down. You cannot knock a man down with nothing.

231 In some of the great mines where the air currents are strong and the workmen wear rubber boots and clothing, it becomes necessary to connect a wire from the body to the under part of a boot, in order to ground the electricity which the friction of the air currents collect on the workmen's body. Many explosions of giant powder are known to have occurred where these precautions were not taken:

232 The theory that there is no substance in heat, light or electricity, simply because we cannot see it, must be abandoned (n. 265.).

233 Even scientists may have hobbies or theories which they dislike to give up, but a true scientist will not support a theory which he finds to be wrong, even though it be his own theory. It seems ridiculous to quibble about the wave theory or deny that electricity is light and travels with the same velocity as light, through the same space or like conductors, and that electricity has a substance and more; a

power which can be collected, imprisoned and used to perform motion at any future time desired.

234 The school of physicists that first advocated the wave theory of light, objected to the emission theory, because they said, "The particles of light, if they exist, must be inconceivably small; for if of any conceivable weight they would infallibly destroy as delicate an organ as the eye. A bit of ordinary matter, one grain in weight, and moving at the rate of the velocity of light would possess the momentum of a cannon ball 150 pounds weight, moving at the velocity of 1000 feet per second."—(Light and Electricity, Tyndall. Note 206.)

235 This they considered as conclusive proof that the emission theory was wrong, so they set up the wave theory, and in explaining the different speeds at which certain colored rays undulate, or wave, say; "The velocity of light being 192,000 miles per second, if we multiply this number by 39,000, we obtain the number of waves of red light in 192,000 miles. The product is 474,439,680,000,000. All these waves enter the eye in a single second. In the same interval 699,000,000,000,000 waves of violet light enter the eye. At this prodigious rate is the retina hit by the waves of light."

236 The question is, which of these two theories of light would hit the human eye the

hardest and tear it to pieces the sooner? Suppose we are looking at a rainbow and see all the colors at once, we must then sum up how many times each vibrates, and add them all together, to get anywhere near the truth as to the hitting power of this wave theory, which obtains its force from a simple little motion at the sun.

237 Let us examine this wave theory a little farther and see just how fast it can go. In note 219, same work, Prof. Tyndall, speaking in favor of the theory, says: "In the case of light, the ether particles oscillate to and fro across the direction in which the light is propagated. In scientific language, the vibrations of sound are longitudinal, while the vibrations of light are transversal. In fact, the mechanical properties of ether are rather those of a solid than of air."

238 Then this ray of light, traveling by the wave theory, must stop, turn almost straight back and start again 78,000 times every inch. The distance it travels, back and forth, is enormous; but a whole lot depends on the width of its path, as in the case of a drunken man. If its path were one inch wide, we can readily see that it would have to travel 57,000 (violet) times across, and the same number of times back, every inch it advanced, which in 194,000 miles advance would amount to the sum of 362,154,246,400,000,000,000,000,000 miles per second, besides its regular speed of 194,000 miles per second.

239 Now, the fact is, they give it too much to do, unless they had given it some living substance to force all these vibrations. The wave theory would make these vibrations simply echoes, and they would die away in three or four vibrations, if they did not have substance and were being pushed out from the sun by heat.

240 The reason a sound wave is longitudinal is because it has no substance and receives all its force by the vibration of a substance at the point where the sound is created. It must then move the atmosphere in waves in every direction from the point. When the force used in creating the waves of sound is expended in moving the air, the sound ceases. Light being a real substance and forcing its way through other substances, shows its nature by vibrating transversely. When Prof. Tyndall discovered, as in above quotation, that the particles of ether showed mechanical properties of a solid, he should have referred to his own unusually clear brains and reasoning power, when he would easily have discovered that it was the substance of light, heat and electricity which showed these properties, and not particles of ether.

241 Light does travel at the rate of about 194,000 miles per second, as its speed was measured at the other end of the line, from Jupiter coming this way; but it does not travel

at that rate through atmosphere where it must vibrate 40,000 times in every inch. If there was atmosphere all the way frhm the sun to the earth, light would arrive rather late in the spring. All the proof of reflection offered by Dr. Young are superfluous, because we know that light does vibrate in the air and would obey the same laws in this respect.

CHAPTER XV.

MATHEMATICAL PROOF.

THE FIGURES WHICH PROVE THE PROCESSION OF PLANETS TO BE CORRECT.

242 There is a strange sequence or ratio between the speed with which the planets travel and their distance from the Sun. In this ratio (n. 90,) we have the absolute proof with the figures to show that the planets are always on their way to the Sun There can no longer be any doubt of a matter, or problem, if it can be reduced to figures, and the figures correspond with the facts which our brains permit us to understand.

243 Commencing at Mercury we approximately double the distance to reach the next planet and so on out to far away Neptune, each one twice as far away as the last.

243 Why should the planets be arranged in

this perfect ratio through space if there is not a good reason for it? Of course it does not happen by chance, because there is no changing mind to interfere with the law of their arrangement.

244. Commencing at Neptune and coming in towards the Sun, we find the same ratio in the increase of their speed along their orbits that we have in their distance and little Mercury is traveling nearly ten times as fast as slowfooted Neptune while Neptune is almost ten times as far away as Mercury. Let us compare the speed and distance of the planets, that we may be prepared to make a law, or rather, to understand the simple law which they have always followed and must follow forever.

245. The following table shows the distance of each planet from the Sun and its speed along its orbit.

Planet	Miles per Day	Distance to Sun
Mercury	2,454,500	36,000,000
Venus	1,860,000	67,000,000
Earth	1,260,000	93,000,000
Mars	1,100,000	141,000,000
Asteroids	811,000	240,000,000
Jupiter	660,000	483,000,000
Saturn	490,000	885,000,000
Uranus	350,000	1,780,000,000
Neptune	274,000	2,800,000,000

246. With the above table for a basis, does not

the greater speed of the nearer planets to the Sun prove that they have been farther away at some time in the past? Take Mercury for an example which moves at the rate of 107,000 miles per hour. This must prove one of two things, either it was not thrown out from the Sun as a mass by centrifugal force, in which case it would only move at the rate of the Sun's equator, or else it was once much farther away and has gained its great speed by nearing the Sun.

247 At the rate of speed with which Neptune travels, with very little centrifugal force against it, it drops toward the Sun 1,500,000,000 miles in 400,000,000 years while Mercury, moving at such enormous speed only nears the Sun 16,000,000 miles during the same time, because the checking power of centrifugal force is so much greater. To be sure, the force of gravity is also much greater at Mercury than at Neptune but centrifugal force is not equal to the force of gravity, as supposed by Newton.

248 While Neptune is coming in towards the Sun 1,500,000,000 miles, Uranus only comes in half as far, but its speed is doubled thus adding centrifugal force and checking its approach to the Sun that much. So we find them shortening their orbits and increasing their speed as they approach the Sun.

249 As a planet moves around the Sun in an

ellipse, it travels faster when on that part of its orbit where it is approaching the Sun and more slowly where receding. The same is true in the case of our own Moon and the explanation is very simple. When nearest the Earth it has been dropping towards the Earth in its orbit and thus increased its speed.

250 Comets are an excellent example of this law. As they drop towards the Sun in nearer a straight line than any other body, they gain speed very rapidly and also lose their speed very rapidly when thrown up again by their enormous speed. A comet never reaches the same height from which it started however, because of the immense attraction of the Sun which threw it around that body on such a short curve.

251 In the case of Eckles' Comet this shortage of its orbit, measured in time, was three weeks in an orbit of three years.

252 Comets are governed by the same laws as planets, but upon an exaggerated scale, which offers us the opportunity to measure the exact difference between the force of gravity and centrifugal force.

253 If a planet is 1,000,000 miles nearer the Sun than formerly, it has fallen that far toward the Sun, even though it took ages of circling in a great decreasing orbit and has gained speed according to the law of falling bodies, minus the check it received from centrifugal force.

254 Considering all the facts which we now have before us, we find the law which governs their speed and distance from the Sun, is perfectly plain, so plain that if one is missing we can find its scattered remains with a camera.

255 The planets increase their speed along their orbits in the same inverse ratio with which they decrease the diameter of their orbits.

256 Commencing at Mercury with our ratio of distance, we could go on doubling the distance from the Sun twelve more times, out from Neptune and yet be within the glass globe pictured in the first chapter.

257 We know the weight of both Neptune and the Sun, therefore the value of the attraction of gravity between them. By finding the relative value between centrifugal force and gravity, by the use of Comets, we can soon be able to establish the age of the planets and satellites.

258 It is no child's play to unravel all this tangled skein of circling, seething, bursting worlds, with their flying comets, moons, rings and things, and especially when we must find out forces, laws and facts never before known to exist, therefore we will not enter the subject further at this time.

CHAPTER XVI.

IN CONCLUSION.

259 In speaking to a kind friend a short time ago, I mentioned the fact that I would complete my "Processin of Planets" the next day, when he asked suavely, 'how I knew when to quit'. His question was very rellavent however, and I have not quit because there is nothing more to say.

260 What has been said is only a pointing out of how to explain the mysteries of the universe. Where will be the end of the mystery it will sweep away and the knotty problems it will make plain, when men of brains recover from the first shock of the realization of the importance of these new discoveries.

261 When a ray of light is divided by the spectrum into its different colors, it is simply separated into some of its elements. These colored rays vibrate at different rates of speed according to the solidity of the metal forming those particular rays. The only reason to be found to account for the difference of vibration in the separated portions of a ray of light is that being forced through the atmosphere at so great a speed, the more solid portions meet with more resistance than those less solid or more elastic.

262 Different colors can be made only by using different minerals and it must be impos-

sible to color the ray of light in any other way. The fact that a ray of light can be separated into colors is proof that it is composed of disintegrated substance.

263 If light was only a motion commencing at the sun, it certainly could not be divided into colors, which require mineral for a foundation.

264 Prof. Tyndall proved that the rays from the Sun, a coal fire, a candle and electric rays, obey the same laws ("Heat as a mode of motion, pp. 280). We know that when 100 lbs. of coal are burned in a stove, leaving 10 lbs. of ash, that 90 lbs. are to be accounted for. As we know there can be no loss of material in nature and that coal is material, therefore it is plain to our brains that the coal has been dissolved by heat and pushed away from the heat center which its disintegration created.

265 When a solid body is dissolved into this heat vapor the difference in volume of the new form it has now taken, is enormous. From the Sun this is so great that it fills the whole solar system like an atmosphere and no doubt more dense nearest the Sun, getting more rare as we go out into space, the same as the air around the Earth.

266 Gravity therefore, is nothing more mysterious than the contracting of this heat fluid, or electricity. So we can go on explaining the working of nature according to the simplicity of

the procession of planets, but first let us see what objection Scientists and Physicists see fit to make to what has been said in the forgoing pages.

267 I have made a number of discoveries by following these new ideas which I do not wish to explain but simply to mention.

268 The human body can be renewed and life continued.

269 We can see, through electricity, without regard to distance or the use of wires.

270 Motion can be taken direct from nature.

271 The formation of gold nuggets and their places of deposit, is a simple law of this procession.

272 Thought is electric fluid which can be transmitted from one brain to another without regard to sight, sound, distance or wires.



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ANNOUNCEMENT.

An Edition of the Procession of Planets will be issued as soon as possible, which will be printed on first class paper and bound in cloth. It will also be profusely illustrated with the best photographs of the heavenly bodies which science can produce and with figures, cuts and diagrams, to illustrate the arguments made. The new volume will contain a large amount of new matter of great value and be much better arranged for reference. The price will be \$2.50. Names may be sent at any time and book forwarded as soon as published. Such encouragement would also be the means of issuing the book so much the sooner and also of making it better.

A special edition of 500 copies will be issued which will be illuminated by hand in water colors, gold and silver, on extra fine paper and bound in carved soleleather. These books will be numbered from 1 to 500 inclusive, and will be signed by the author, the illuminator, the publisher and the carver. Price \$25.00.

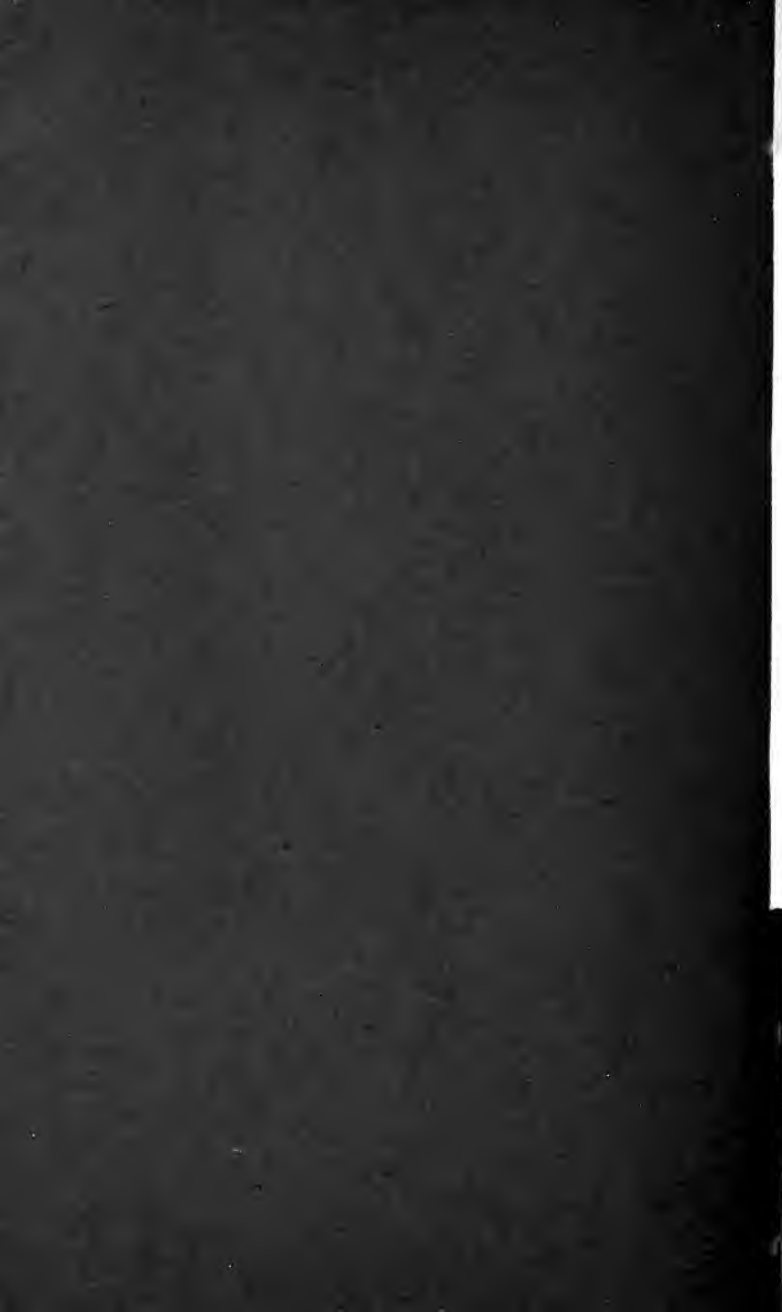
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