

Abundant Hope
Lighting Many Candles



Home Study Course - 12
WALTER and Lao RUSSELL

UNIVERSAL LAW, NATURAL SCIENCE AND PHILOSOPHY

By

Walter Russell, Sc. D., and Lao Russell

LESSON NUMBER 45

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Swannanoa, Waynesboro, Virginia

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PRELUDE TO LAST FOUR LESSONS

Not one word of science, philosophy or law has been written in these lessons simply because they were science, philosophy or law, but because they are God's ways which you must know in order to make God's ways YOUR ways.

The more you know how God controls His power to create His orderly, balanced universe, the more you can use that power to control the universe you are creating around the center which is YOU.

God expresses His power because He IS power. God expresses love because He IS love. God manifests law because He IS law.

When your KNOWING places you at the still center of the universe which YOU are creating, so that all of its power stems from YOUR KNOWING instead of from your SENSING, then YOU are that power which extends from the still center which is YOU into that electric universe of your body and its extensions which YOU are creating.

We are not trying to make scientists or philosophers of you. We are trying to awaken within you an awareness of the Source of all science and philosophy by knowing God's ways sufficiently to make His ways YOUR ways.

God's command as given in The Divine Iliad was that all men must know God. These were His words: "See Me, know Me, be Me. Be thou the fulcrum of thine own power".

The fulcrum from which all power springs is KNOWLEDGE. When you have that Omniscience which is unfolding in Cosmic Man you will no longer misuse, break or disobey God's law, because of being unaware of it, you will COMMAND it because you KNOW the law from being the law.

We are teaching science, philosophy and law to you only for the purpose of awakening God awareness in you, and not for the purpose of adding to your cultural achievement, or for raising the standard of your educational status.

When we explain how Nature perpetually polarizes and depolarizes, in its every expression, we do so because you do that in your every action. You do it each second of your life in your breathings--each hour of the day in unfolding and refolding, but you are not aware of it.

Mankind has not yet learned the continuity of life and death--and that each leads to the other.

When life depolarizes and "dies" it is for the purpose of rebirth. When a business man buys goods or builds a plant he is depolarizing and devitalizing his strength for the purpose of multiplying it. That is also the reason you go to sleep at night. You are devitalized. Your power to polarize has reversed by depolarization. You sleep to again reverse it and awaken to find that you have reversed it.

When we explain to you the process of turning inside-out and outside-in it is for the same reason that you also are engaged in that occupation every moment of your life and do not know it. You find yourself making mistakes and do not know their remedy. You are in trouble and do not know what to do about it. When you do know God's ways you will not make mistakes without knowing WHY, or be in trouble without knowing how to make of it a steppingstone to greater things.

That is the reason why we briefly climax our lessons to you by revealing the essentials of God's ways to you. Volumes more could be written which would but give you greater detailed knowledge of each essential, so we but touch lightly upon details and mechanics, but strongly upon principles.

By the time we reach lesson 48, we will have unfolded enough of the underlying principles and practice of God's ways for you to understand the transcendent meaning of that last revealing chapter which tells you things that no man of earth has yet written down for man, nor would it have been understood if it had been written down.

This whole Course of lessons has been for the purpose of transforming your thinking and your knowing so that you would be able to comprehend what is written in Lesson 48 which would otherwise be meaningless to you.

We will proceed, therefore, to briefly complete the essential working principles of God's plan for your greater understanding. It would take many volumes of great detail if your purpose was to become a professional chemist, metallurgist or electrical engineer.

CURVATURE AND SPIRALS

The whole basis of curvature in Nature stems from the fact that the equilibrium of Nature is divided into two opposite forces which we call positive and negative electricity. Positive electricity polarizes forming bodies to record the concentrative thinking of The Creator of bodies, and negative electricity depolarizes bodies to record The Creator's decentrative thinking. These two are the father-mother principles which integrate and disintegrate in eternal repetitions.

The thought action-reaction of the two electric forces expands outward from a center--like an outward explosion, and contracts inward toward that same central point, like an inward explosion.

An infinite number of radii thus extend outward to meet an infinite number of radii which are returning. Radiating force thus meets gravitating force as both travel in opposite directions. They resist each other because they oppose each other.

As each one of these forces have to pass through the other one on their outward or inward journeys--like a stone falling to earth or vapor rising from it--each must give way to the other's resistance by bending around each other.

Figures 117 and 118 illustrate this principle. Two opposing forces cannot meet head on, as in 117, so they intertwine as they pass through each other. Figure 118 illustrates that bending of the two opposing forces passing through each other radially. If you examine the wood of an old tree which has lost its bark you will see the effect of that resistance by the spiral growth in the wood from ground to the top of the tree. The slow growth of the tree lengthens the spiral whereas more quickly timed explosions than those of tree growth shorten the spirals.

All through Nature you can see this principle demonstrated in the growth of everything, or in all effects of the motion of waters and winds. You will note this effect in the spiral twisting of water falling down the drain of your bathtub, or in the sudden meetings of winds in whirling the dust at their meeting points, or the violent spirallings of falling and rising air currents which twist so furiously around their zero points of equilibrium that houses are torn from their foundations in the tornado whirlpools while not a blade of grass stirs at their zero centers.

Figure 119 illustrates the same principle as 117 except that six pairs of oppositely directioned forces are meeting in a wave-field. Note the beginnings of spiral twistings resulting from resistance by each for the passing of the other as illustrated in Figure 120.

If the outward explosive effect of radiation met with no resistance, its effects would dissipate radially, but it is opposed by gravitation. Opposition between the two is repeated throughout the universe within wave-fields of opposing pressures, but all opposition is voided at wave-field boundaries where all motion seeks rest and balance.

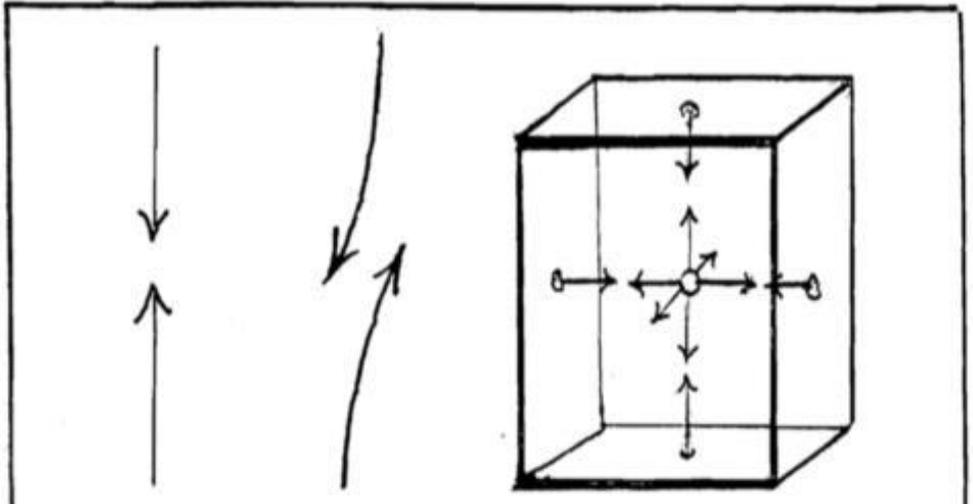


Fig. 117.

Fig, 118.

Fig. 119.

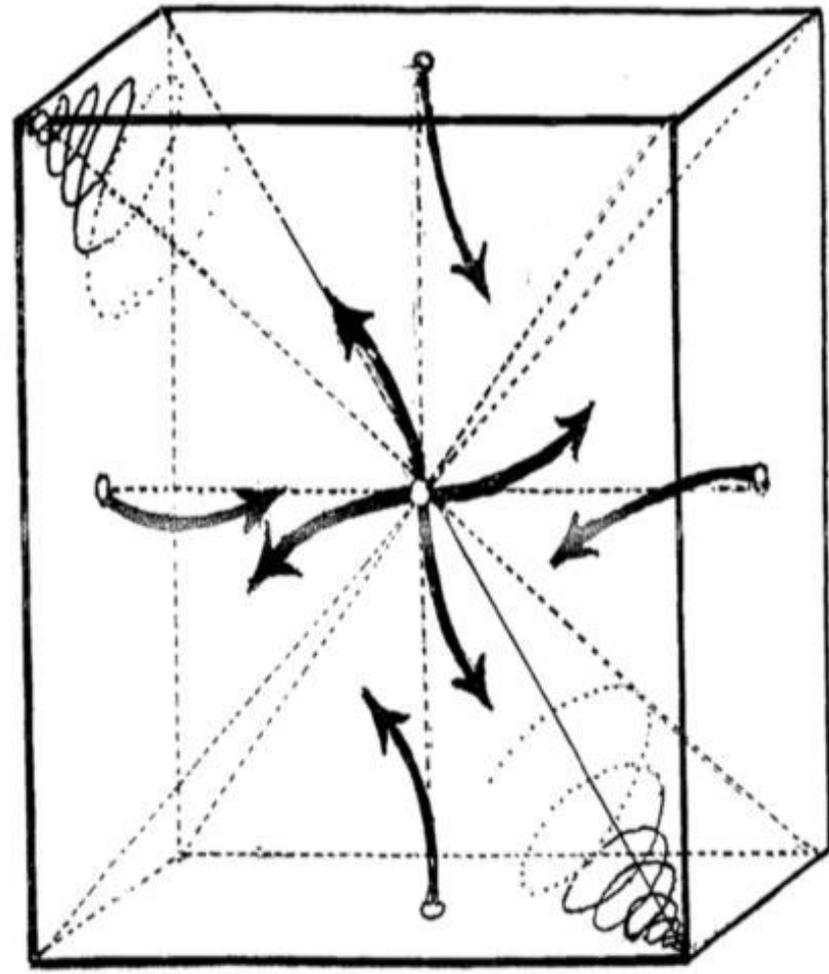


Fig. 120.

ILLUSTRATING THE BEGINNING OF CURVATURE IN THE RESISTANCE OF EACH OF THE TWO OPPOSING FORCES OF POLARIZATION TO EACH OTHER.

The repeated waves of motion taking place anywhere, as illustrated in Figure 121, do not radiate equally in every direction from their centers. That would be impossible because such equality of pressure would not fill all space in wave-fields.

Equality of pressure would form spheres as a result of the action of the outward giving of radiation. Spheres are formed at the corners of wave-fields where eight diagonals meet in the vortex caused by spiral twistings in the diagonal direction.

You will note by Figure 122 that ~~six~~ [eight] spheres formed by ~~six~~ [eight] harmonics would not fill all space when they met together in six places upon cube ~~diameters~~ [handwriting unreadable-- see image below].

hey met together in six places upon cube ^{boundaries.} ~~diameters~~. The
e spheres must also be filled. For this reason the pres-

The empty space between the spheres must also be filled. For this reason the pressures of the outward thrust of radiation meet with greater resistance at cube diameters than they do at diagonals, which are much longer.

Because of the much lesser resistance at diagonals than at diameters, radiation seeks the lines of least resistance to its outward pressure and spirals toward the corners of cubes with increasing speed as centripetal force multiplies in the apices of the vortices thus formed.

You will comprehend this much better if you imagine the spheres in Figure 122 to be rubber balls being inflated within cube enclosures. If the inflation is continued sufficiently the spherical shapes of the rubber balls would disappear into the cubes within which they are compressed as shown in Figure 123. This is not an exact analogy because the inflation of rubber balls would form true spheres until they met at six points, but the outward thrust of radiation would not be spherically equal in pressures because of the greater resistance met within these six directions than in the eight diagonal ones.

ANOTHER STEP TOWARD THE GREATEST OF ALL LESSONS

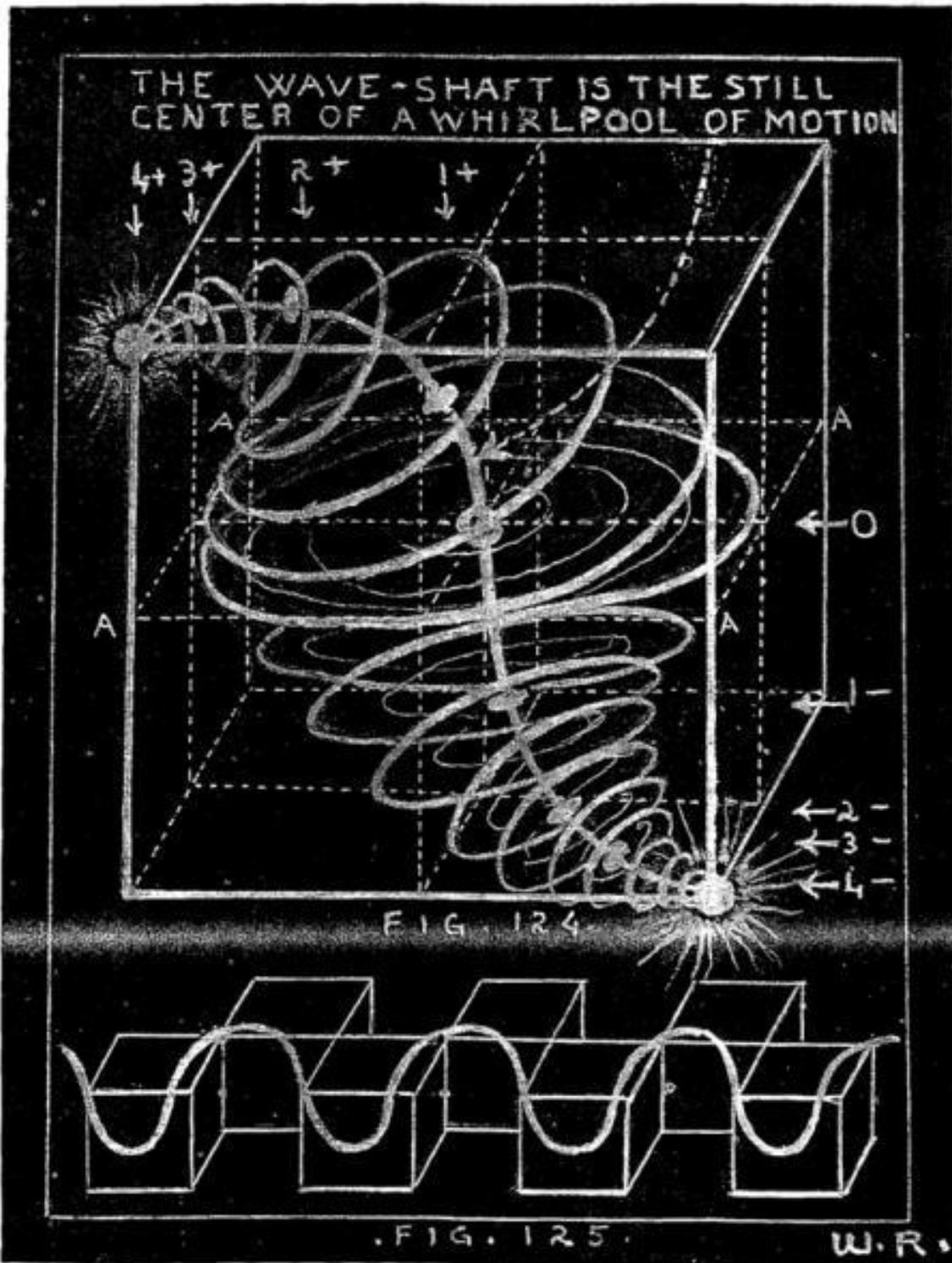
The great lesson of life is to learn that the measure of giving is the measure of regiving. Nature manifests this principle in every action-reaction.

The measure of electric potential given out by desire in the seed of a tree is regiven in the measure of the tree. That is not sufficiently great a measure of electric potential to create an

earth or sun, but it is sufficient for a tree. The intensity of desire in man to create in large measure is the same in principle as the intensity of desire in Nature to create a solar system. Every action of outgiving by man or nature is regiven toward the point of giving in the measure, quality and pattern of the outgiving.

Let US study Figure 124 together to see the working of the law of equality in all action-reactions.

At the center of the cube is the point of desire for outward giving. It is marked zero. From that point of extension, the desire reaches outward, radially, like an outward explosion, such as you see in Figure 121, meeting with the resistance which spirals its effect of polarity, such as you see in Figure 124.



ILLUSTRATING NATURE'S METHOD OF WINDING LIGHT UP INTO SOLID SPHERES TO
CREATE THE CONDITION OF GRAVITY AT TROUGHS AND CRESTS OF WAVES. THE
EFFECT OF GRAVITATION IS PRODUCED BY THE INWARD PULL OF CENTRIPETAL FOI

Now take note that the maximum of outward giving is reached upon the plane marked A, A, A, A, which is the wave axis. Upon that plane the REGIVING also begins and expresses itself centripetally from the base of a cone to its apex in spiral twistings which wind light up around wave shafts from large expanded volumes into small compressed ones. Outward GIVING is RADIATION in electrical terms, and inward REGIVING is GRAVITATION. In mental terms they are DECENTRATION and CONCENTRATION.

That is the way God makes bodies. He first conceives them, or imagines them, by decentrative thinking. He then gives them the body forms of His imaginings by concentrative thinking.

And that is the way you make bodies, whether they be parts of your own body, or machines which you have imagined. The body you make can be only the image of your imaginings and the measure of your desire. The quality and pattern of your outgivings will crystallize into body form in the image of your thinking. That is LAW. What you give out will return in your image.

Now let us look at Figure 124 from another angle. In past lessons we repeatedly stated that each opposite of a polarized pair borrows its opposite and reverses its own polarity to become its opposite.

Note the workings of God's ways in this respect. The extension, or outgiving, from zero is manifested centrifugally by expansion toward the cold dark of surrounding space. The retraction, or regiving, toward zero, is manifested centripetally by contraction toward the white incandescence of hot suns.

Gravitation is thus born from radiation to reborn radiation. Life is thus born from death to reborn death to life.

Outbreathings spring from inbreathings to again become outbreathings. Cold borrows heat to become cold for again reborn heat.

Centripetal force is the reaction of centrifugal force which fathers the borrowing of centripetal force.

And none of these could be without desire--desire to divide idea into thought imaginings--desire to polarize in order to create--or to achieve--and to record creations or achievements in material bodies.

That is what God's universe is--and that is what YOUR universe is--your DESIRE recorded in BODIES, by the THINKING of your MIND.

ALL OPPOSITES IN NATURE TURN INSIDE OUT AND OUTSIDE IN

When Nature desires to create a solid body of matter, it first expands and evacuates a great

volume of space. This causes a great black hole where space has been evacuated.

The light within it has been seemingly "taken out" to create dark--and that which has been thus "pumped out" has been simultaneously wound up centripetally to create incandescence.

Darkness is an effect produced by dividing light into long light-waves--and incandescence is the opposite effect produced by multiplying light by shortening its light-waves.

Solidity is thus born out of vacuity. A positive pole is created on one side of a dividing equator and its equal negative opposite is created on the other side.

"Empty space" is thus created simultaneously with its centering suns, just as the two poles of a bar magnet are simultaneously created. As the suns are gradually wound up inside black holes of space, the interchange between the two becomes more and more intense. The winding up into centripetal vortices multiplies gravitational power and radiational power alike. The power of gravitation to pull in, however, exceeds the power of radiation to resist it during the half cycle in which true spheres are being formed, and then the power of radiation increases to unwind the spheres in the other half of the cycle. As radiative power increases, the cold black holes of space which are outside of hot suns bore right through the suns and dissipate them centrifugally by making rings of what have been spherical suns for billions of years. There are hundreds of examples of these rings in the heavens but a conspicuously good example of rings in this solar system are those which surround Saturn, (see Figure 135) and a good example among the distant nebulae is the great ring in Lyra, shown in Figure 134. For these and other stellar examples see Figures 136, 137, 138 and 143, in the following lesson, N° 46.

Rings again polarize and become satellites, such as planets around suns--for all planets are first rings thrown off by the sun--and moons which revolve around planets--for moons are likewise polarized rings which have been thrown off by planets.

Space is on the outside of compressed bodies which have evacuated space by the power of gravitation to pull inward from within. Space then acquires the inside of compressed bodies by the power of radiation to thrust compressed matter outward from within.

Radiation is forever thrusting compressed matter out into the black hole of space which surrounds it in order that radiation can then become gravitation and wind matter up again from the black hole of voided space into the solid spheres which gravitation produces. Gravitation produces spheres but radiation divides them to produce systems of spheres. See Figure 131.

Thus it is that the two opposite forces of gravitation and radiation are forever interchanging to keep the piston of the universal heartbeat forever pumping in its manifestations of life and death, growth and decay, appearance into form and its disappearance, to record the concentrative-decentrative thinking of The Creator in the fulfilling of His Law of Love in giving and regiving.

In order that you may thoroughly understand these inside-out, outside-in turnings of electric action-reactions, we will take one numbered step at a time to describe the process in words, and then diagram these steps to simplify their understanding.

To do this we must replace the following misconceptions which are fundamental beliefs of present day science with true conceptions which are demonstrably provable as conforming to Natural Law.

1. The expanding universe theory. It is believed by science that the universe was created aeons ago as one great ball of fire which is now being divided into stellar systems, all of which are expanding toward a disappearance which they call heat death--or entropy.

Science bases this theory upon the provable fact that all of the great stellar systems which they can see in their telescopes, are rushing away from each other with incredible speeds. This fact is true, and the assumption that the universe is dying a heat death is also true, but that which science does not see is that birth continues to live as death continues to die. It would be equally true to say that all living beings are dying--but they are perpetually borning. They balance each other.

Expansion of heat toward the cold of death is balanced by the contraction of cold toward the heat of life.

This is an expanding-contracting universe. Contraction in it equals expansion to the weight of a milligram in the whole universe, but science does not see the contracting effect which balances expansion, because it does not know where to look for it. That secret must also be revealed.

2. The birth of planets theory. It is the commonly accepted belief that the planets of this solar system were "pulled" out from our sun by some accidentally passing star. Because of this belief it is presumed that our sun may be unique as being the only one which has planets, for such an accident might not occur once in hundreds of billions of years.

This theory is not true to Natural Law. Suns could not collide, nor could they vary their ordained balanced paths in their wave-fields by even one inch. Planets are not born that way. They are born from rings thrown off by the sun's equator, just as moons are likewise born from rings thrown off from the equators of planets. All atomic, solar and stellar systems are born that way. This secret must also be revealed.

3. Science believes that the moon would fall upon the earth except for an initial impetus given by it which is just fast enough to keep the moon from falling upon the earth and not fast enough to make the moon fly off at a tangent into space. Sir Isaac Newton thought that he had proved this theory mathematically, but there were so many things which Newton forgot, and so many others which he did not know, that his mathematics are useless.

Planets are not falling into their suns, nor are moons falling into their planets. The exact reverse is what is happening. All planets are slowly spiralling centrifugally AWAY from

suns and all moons are likewise spiralling away from planets. More than that, all suns and stellar systems in our great nebulae, such as our own Milky Way, are spiralling away from their central sun. This mystery must also be clarified.

4. Structure of the atom theory. Science has a strange belief about atomic structure which has no basis in Nature whatsoever. Science conceives that the nucleus of an atom is made up of certain numbers of positive and negative "charges" in corpuscles called protons. These are surrounded by concentric shells of electrons which determine the substance of the element by their number and arrangement in the shells which control their orbits. Every electron added presumably changes the character of the substance to another element.

Nature does not work that way. All matter is electrically polarized to manifest both of its polarized characteristics in every mass. Every corpuscle of matter in the universe, whether atom or sun, is divided by an equator between its two hemispheres, one for its north pole and one for its south pole.

Every particle of matter, or mass like our Earth, radiates and gravitates, and these are not confined to hemispheres where gravitation functions alone in one, and radiation alone in the other. Both function in the whole mass and in both hemispheres. Even the two poles of a bar magnet manifest both positive and negative abilities to pull inward and thrust outward.

The theory of separately charged particles has, therefore, no precedent in Nature. Every atomic system follows the same law that solar and stellar systems follow. These you can see by the hundreds in the heavens, and there is not one of them which is not centered by one doubly charged polarized mass, which marks the point of highest potential in its system, and is surrounded by lesser masses of lowering potentials whose orbits are elliptical because all are in planes which are conic sections cut at angles to conic bases.

There are no atomic, solar or stellar systems which have circular orbits. Even those which are upon the plane of wave amplitude, such as carbon, are centrifugal during the transition from one side of the equator to the other. Circular orbits are impossible in nature for there are no spherical systems, such as modern science has conceived, to cause them. This principle must be clarified to bring the structure of the atom within the wave instead of outside of it.

No theory of science is valid which will not fit into the wave, for waves are all that are, in Nature.

5. The Quantum Theory of science is generally accepted as fundamental. It is so untrue to Nature as to belong to the realms of pure fantasy. In it varying corpuscles of matter have cavities within them which are punctured by holes just large enough in each case to let light through to set microscopic "resonators" in vibration. The origin or nature of the resonators is not given, nor are they accounted for by any law or process of Nature. As this theory is but pure invention, and has no place in Nature whatsoever, we shall not spend

time or space in explaining it away for there is nothing to explain. We merely present it to show how hopelessly science is trying to build up a reasonable cosmogony upon the radically wrong principle of Nature that energy is expressed by only one of the two poles of this equally polarized universe, and is, therefore, non-reciprocative.

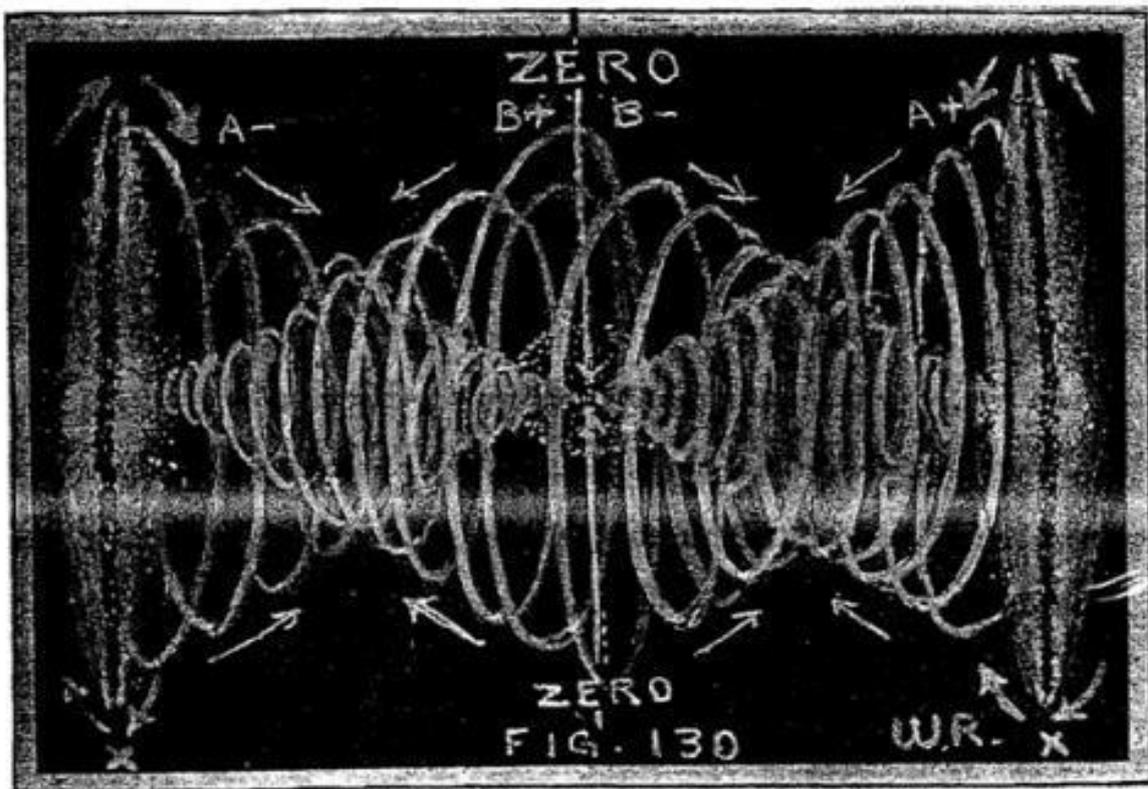
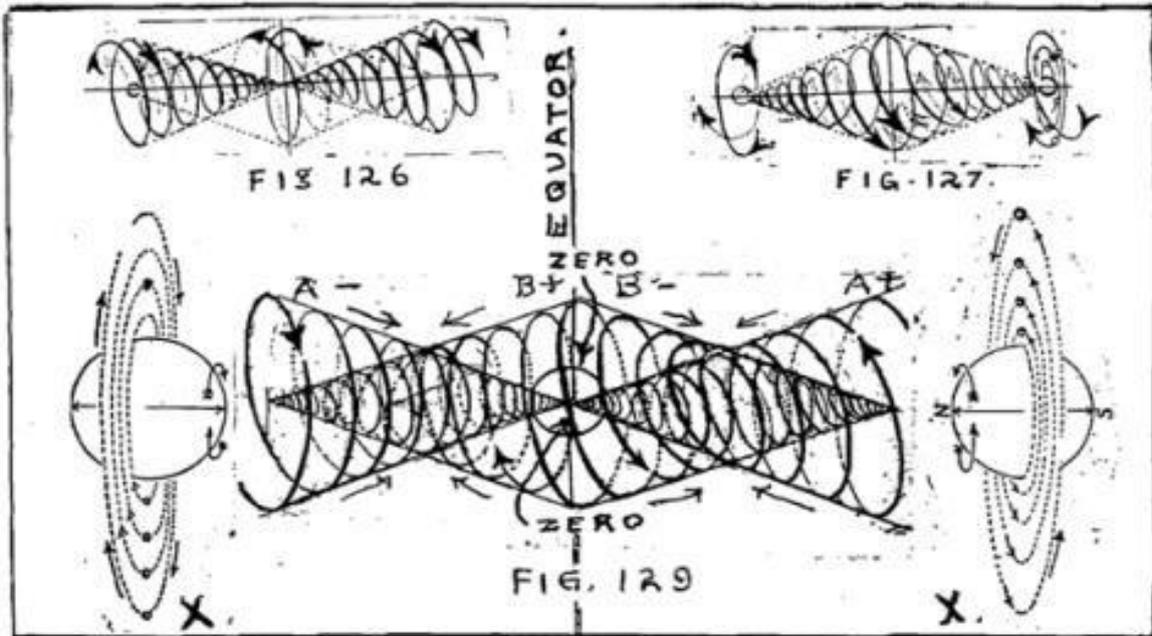
There are many other misconceptions, but space is too limited to give even casual mention to more of them.

THIS EXPANDING-CONTRACTING TWO-WAY BALANCED UNIVERSE

Step by numbered step we will unfold the only process which The Creator makes use of to cause the motion which builds and destroys the bodies of Creation, for rebuilding and redestroying forever.

1. Motion is impossible in an equilibrium. To produce motion the equilibrium zero must be divided into two equal and opposite conditions and extended from an equator into which both conditions must return and be voided.
2. The two conditions thus produced by the division are gravitation, which compresses motion into small volumes called matter, and radiation, which expands motion into large volumes called space. The two are equal.
3. Gravitation compresses motion into visible, incandescent solids by pulling inward toward a point and thrusting space outside of it to surround it. Incandescence is a "product" of gravitation.
4. Radiation expands motion into invisible vapors and gases by acquiring the inside position within solids and thrusting outward from the inside of solids and letting space in on the inside. Darkness is the "product" of radiation.
5. The resultant repetitions of action-reaction sequences caused by the interchange of motion between these two opposing forces in their attempt to conquer the other, become the basis of a universal compression-expansion pump which makes of this universe a two-way alternation between visibility, as motion compresses matter into appearance, and invisibility, as motion expands matter into disappearance.

Let us now demonstrate the workings of the electric pump which is our universe by following the process of its workings upon the accompanying diagrams.



LOOPS OF FORCE IN AN ELECTRIC CURRENT ARE WOUND UP CENTRIPETALLY JUST AS SOLAR AND STELLAR SYSTEMS ARE WOUND UP IN THE HEAVENS. CENTRIFUGAL FORCE UNWINDS THEM FOR REWINDING AND REPETITION.

6. Figures 126 to 130 represent an electric current which is dividing an equilibrium into compression-expansion conditions and extending the effect of that division along a wire. Figure 127 shows the effect of the outward explosion of radiation which creates a great volume of evacuated space extending radially from the zero center of the division.

7. Now note that the equator which divides the two opposing forces become the bases of two cones whose apices head in opposite directions.

8. The outward explosive centrifugal action which formed the bases of the two cones simultaneously reacts to pull inward centripetally toward apices which are whirling vortices of ever increasing intensity and speed of motion.

Carefully observe how these opposing centripetal vortices come to points of rest in the apices of cones where they become centers of gravity for the system of matter which are wound up by those two whirling spirals. The two opposing centripetal spirals are pictured alone in Figure 127. In Figures 129 and 130 they are marked B⁺ and B⁻, meaning positive and negative.

9. As a result of intensive spiral twistings and the resultant compression of motion toward points which center hot spheres, an equally intensive centrifugal force is born which is evidenced by throwing off wheel-like discs which eventually spin upon planes at 90 degrees from the shaft which winds them, and become the poles of rotation for the bodies they have thus wound up into spiral wheels whose hubs are suns and whose multiple rims are planets and moons whirling in elliptical orbits around their centers.

In Figures 129 and 130 you will see two whirling disc-like wheels marked X and X which are called loops of force in an electric current, or the element called carbon in the wave-field, or a giant nebula in the heavens. The building of the bodies of atoms does not in the slightest degree vary from the process of building bodies such as the Milky Way.

The loops of force in an electric current, such as shown in Figure 130, are exactly like the stellar "loop of force" seen in the heavens named Comae Berences, as shown in Figure 131, even though one may be an inch in diameter and the other a hundred light years. In this diagram you see the spinning wheel on edge, but if you could see it while facing its hub it would look like Figures 132 and 133. These two nebulae are in Camelopard and Ursa Major. The inward pointing arrows in the black lanes of these two spiral nebulae are the inward pulling centripetal spirals which wind their centering suns by the way of their poles. The outward pointing arrows are the outward thrusting centrifugal spiral spokes of the wheels which gradually unwind suns and planets of suns by the way of their equators. All matter is generated by the way of its poles and dissipated by the way of its equators.

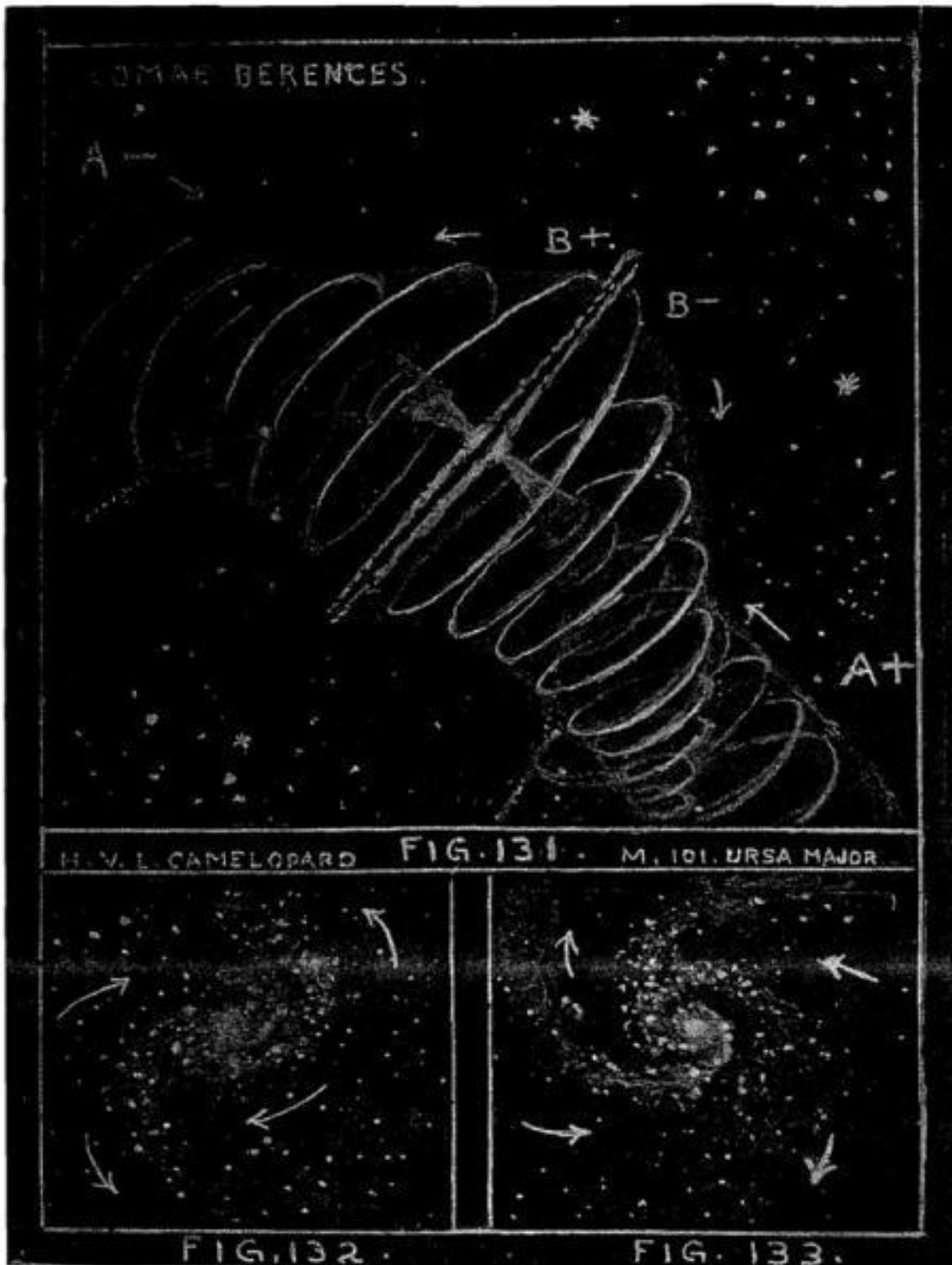


FIG. 131 ILLUSTRATES METHOD OF CREATING INCANDESCENCE BY MULTIPLYING DARKNESS. INCANDESCENCE IS THEN DIVIDED TO AGAIN BECOME DARKNESS. FIG. 132 AND 133 SHOW GIANT NEBULAS COMpressING DARKNESS INTO LIGHT, AND EXPANDING LIGHT INTO DARKNESS TO CREATE BODIES AND DESTROY THEM.

10. The next step in the process of building bodies after winding them into true spheres is to unwind them centrifugally into disc-like wheels which again form bases of cone pairs whose apices are opposed to each other. Unfolding must follow folding, depolarization must follow polarization. The "living" must "die" to live again in this pulsing two-way universe of waves of motion.

Now again centripetal force winds up the motion of expanded matter into centers of gravity which were the zeros of the black holes of their beginnings. The piston of the universal heartbeat again swings from its expanded condition toward compression.

You will better comprehend this by again referring to Figures 101 and 102 on page 33 of Course N° 11. You will there clearly understand how the crests and troughs of waves, where gravity has compressed, must interchange with their opposite conditions on the other side of their equators, and each then become the other.

The black holes of evacuated space draw the centripetal vortices of gravity into their centers to again become hot suns. The centripetal vortices marked AA in Figure 129, and BB in Figure 131, have rewound the expanded motion of the disintegrating spiral wheels into motion which reintegrates. Radiation has reversed itself in this piston stroke to become gravitation as the opposite pair reversed themselves in the first described piston stroke.

We trust that you will review this effect over and over again until you are thoroughly familiar with the way gravitation pulls inside of space to create solid bodies, leaving space on the outside, and the way radiation then thrusts solid bodies apart to again gain the inside.

We shall now consider the expanding spiral wheels in greater detail so that the polarization- depolarization process which gives to all matter its life-death cycles will be more clearly understood, especially by science which has not yet observed that there is a compensating force which gives rebirth to dying radiant energy.

Once again we repeat--THERE IS NO DEATH IN ALL THE UNIVERSE--that which disappears MUST reappear. Reappearance is unavoidable. Repetition is the law of Nature. Repetition and reincarnation are ONE.

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Walter Russell, Sc. D., and Lao Russell

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AS ON EARTH SO IS IT IN HEAVEN

When you walk through the forest it never occurs to you that all the trees are dying for you see forest growth at all stages at all times. You see new trees sprouting from invisibility to visibility. You see young saplings growing strong and mature, ones passing into the beginnings of old age which precedes decay and disappearance into zero from which they all sprang at different periods.

When you walk through a city you do not decide that all of the people are dying, because you know that children are borning as well as that old people are dying. We build schools and homes as well as cemeteries.

Our immediate environment familiarizes us with the continuity of repetition of all effects of motion. Why is it that we should assume that the order of the universe which has no exception in all which we can see around us on a small scale should vary in that order on large scale effects such as our solar and galaxial systems of stars and nebulae.

THIS CONTRACTION-EXPANSION--LIVING-DYING-- TWO-WAY PULSING--POLARIZED ELECTRIC UNIVERSE

Let us wander among the stars, therefore, and see how much the order of their coming and going is like unto the coming and going of borning-dying-reborning familiar creating things which come within our small range of vision.

All of the following two pages of stellar effects--except the last two--represent old age. All of them, from Figures 134 to 143 are dying from expansion caused by space acquiring the inside position to increasingly greater extents. The last two, Figures 144 and 145, are well

past middle age but are still virile and strong for they are generating enough gravity to grow old gracefully, as a strong man of sixty still retains enough polarizing ability to greatly retard his depolarization.

All the stars of heaven represent as many stages of polarization followed by depolarization, as the burning-dying things of earth represent them in all stages of their journey from birth to death.

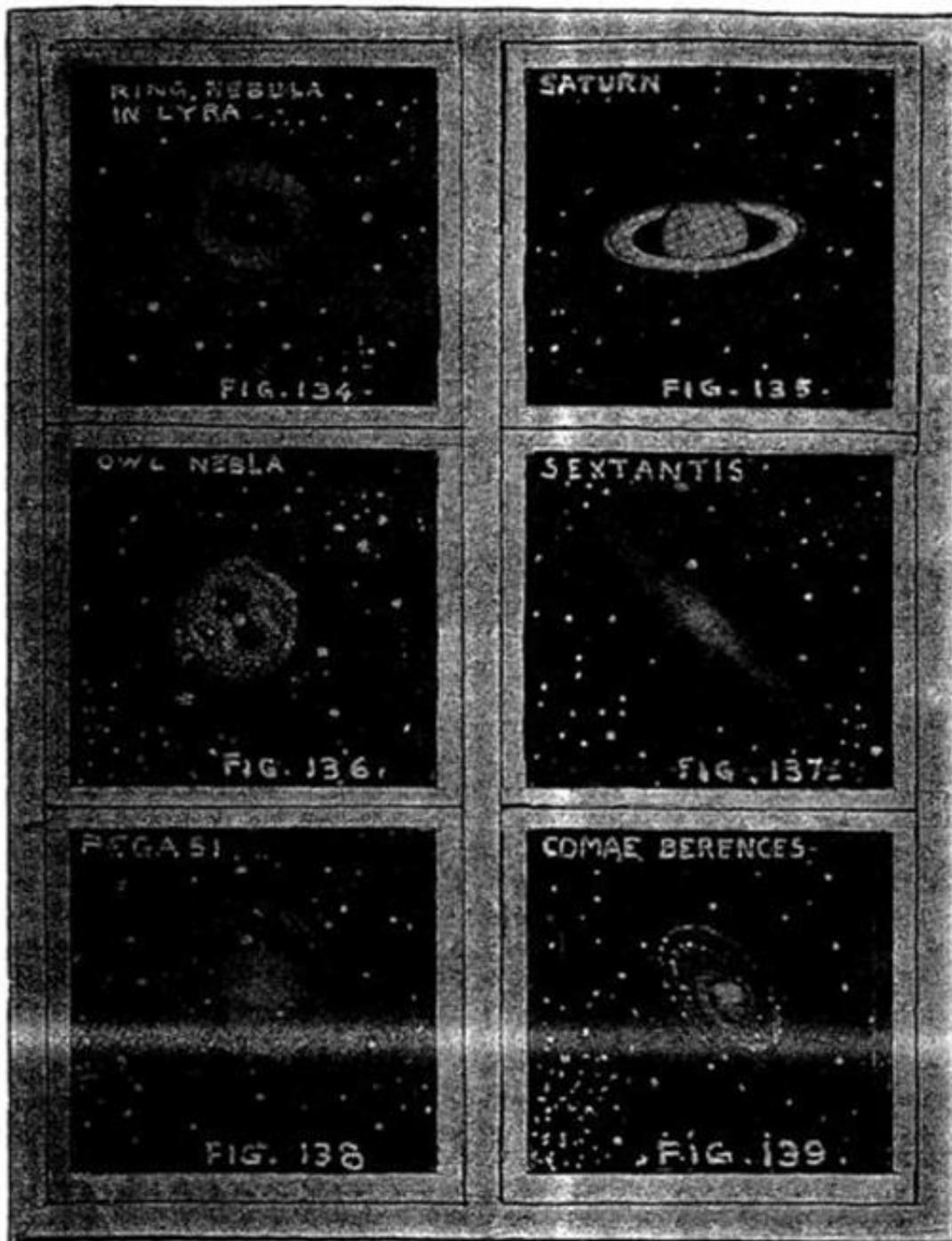
If you will but remember that youth, from birth to middle age of any creating thing, is that beginning half of its life cycle which centripetally winds its body structure into perfect spheres--and in the other old age half of its cycle those spheres oblate and throw off great rings as centrifugal force increases its power to return the body to the zero of its Source.

To put it more simply, the youth half is the period of greater compression which constructs and strengthens bodies--while the old age half is the period of greater power of expansion to dissolve and weaken bodies.

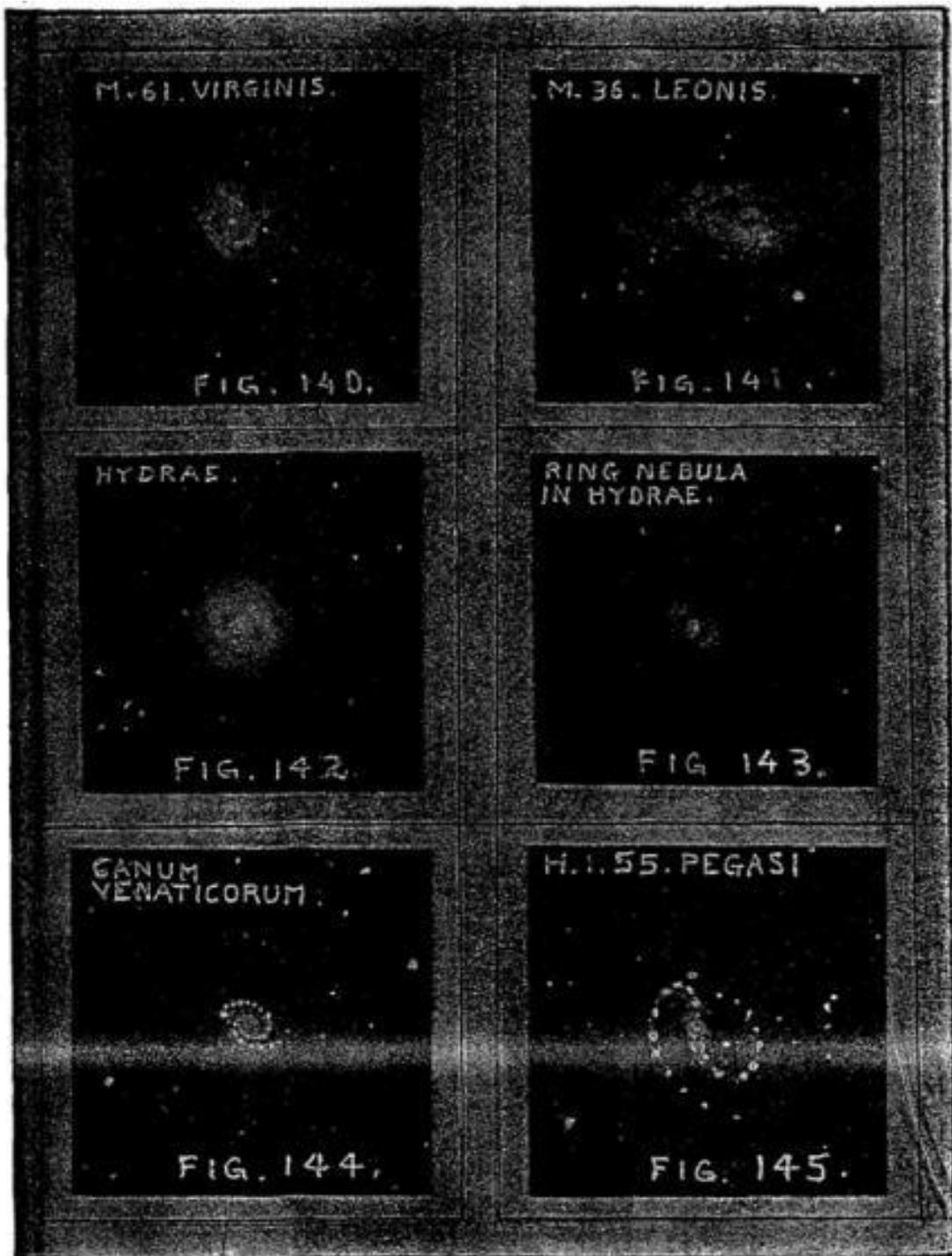
Consider such examples of very old age as you see in Figures 134, 135, 136, 137, 138, 143, 146 and 147. All of these have expanded to many times their youthful volumes. Expansion is dissolving them all to their zero of space. The great ring nebula in Lyra--Figure 134--was once like Figure 154, then later like Figure 153. Today a great black hole of evacuated space has thrust the former giant sun outside of it, and every particle of which it was composed has also been thrust apart as space gains the inside of those former solids to make vapors of them.

You must realize what this means. The simple example of water and water vapor will help you to realize it. Water vapor is a tremendously increased volume of water, caused by more and more space thrusting water particles away from each other. A gallon of water becomes a large cloud--and a large cloud contracts again to a gallon of water when condensation compresses water particles closer together and thrusts space out on the outside.

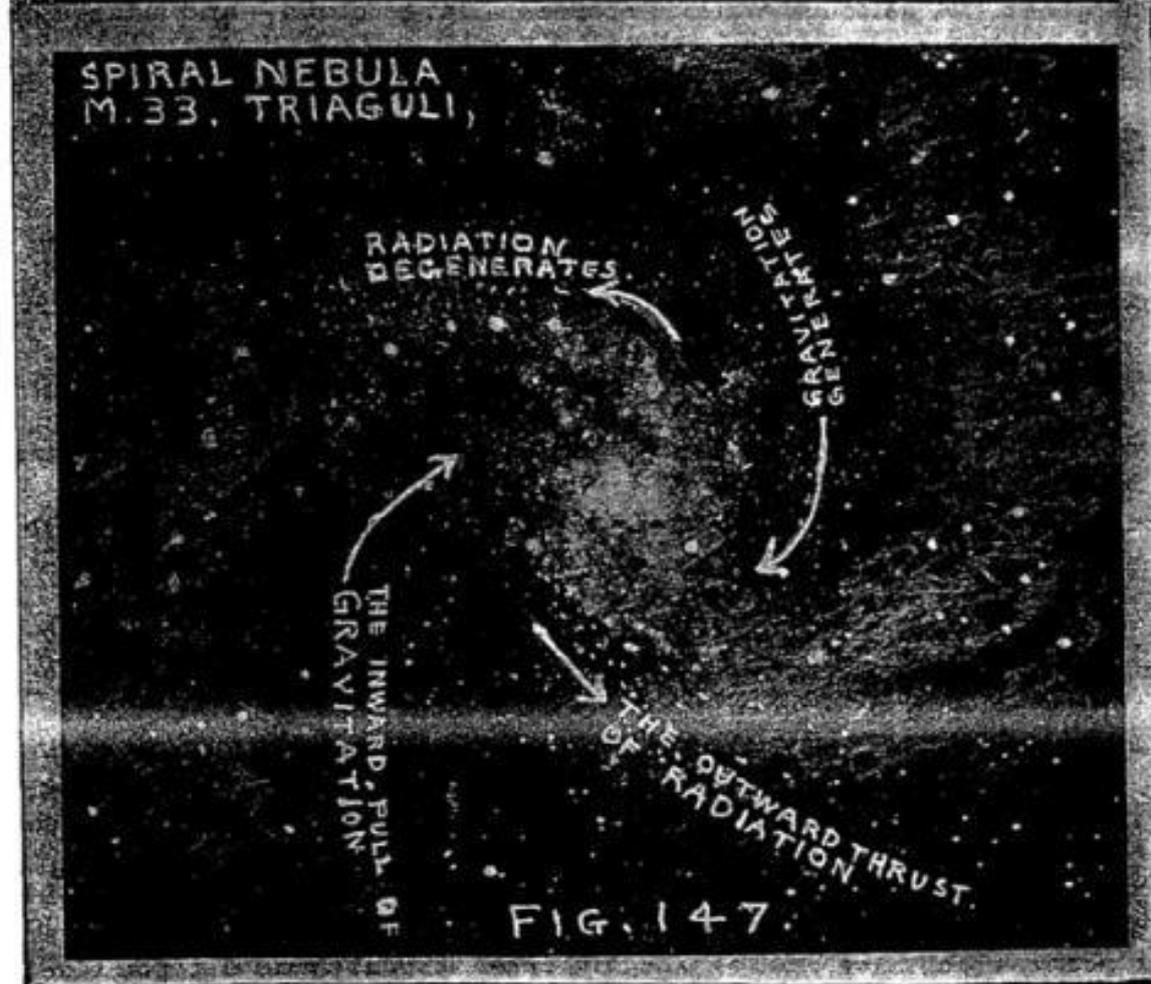
Now consider Figure 134 from that point of view. That immense ring is an expansion of a huge centering sun. Within that great death, however, birth has taken place by the condensation of parts which repolarized into a smaller centering sun which will again throw off rings which will again condense into smaller suns until space has entirely swallowed all of the incandescence which it borrowed from the dark.



ELECTRICITY DISINTEGRATES SPHERES BY UNWINDING THEM BY THE WAY OF THEIR EQUATORS. GREAT RINGS ARE THROWN OFF WHICH REWIND TO BECOME SATELLITES. THIS PROCESS CONTINUES UNTIL MATTER EXPANDS INTO ZERO.



ELECTRICITY INTEGRATES SPHERES BY WINDING LIGHT AROUND THEIR POLES OF ROTATION. THE CENTRIPETAL FORCE OF GRAVITY WINDS THEM INTO HIGH POTENTIAL CENTERS OF GYROSCOPIC SYSTEMS OF LESSER SPHERES.



NOTE THE DIFFERENCE IN BALANCE BETWEEN THE TWO POLARIZING FORCES IN THESE TWO PAST MIDDLE AGE NEBULAS. THE LOWER ONE INDICATES PERFECT BALANCE BETWEEN THE TWO FORCES WHICH CREATED IT. ARROWS POINT TOWARD BOTH OPPOSING DIRECTIONS.

A majestic example of this symmetrically balanced interchange between the light of suns and the darkness of space which borned them, can be seen in that jeweled crown nebula in Canum Venaticorum (Figure 144) which plainly shows that ten or more great suns have reformed from the rings of each of the two radiating arms which have been thrown off from its past middle aged blue-white centering sun. These suns are so evenly placed that they suggest pearls set in the crown of some unseen goddess of space.

Note this process going on in all of the examples herein given, Saturn--Figure 135--has thrown off many rings which have rewound into moons which are again dissolving in the same manner. There are visible rings around Saturn now which will also become moons, just as the moons of Jupiter and Mars, and our one moon, have also done.

Saturn, while thus expanding by throwing off rings, is expanding upon itself by letting space inside of it. Saturn has swollen to many times the size it was when it was as near the sun as our Earth is. Every planet and moon in our system is expanding upon itself by swelling enormously as space gains the inside, and each is spinning faster and faster to disintegrate centrifugally toward zero by throwing off great rings at each equator and flattening at each pole.

Note this same effect in the Owl Nebula--Figure 136--where several giant rings have been thrown off and smaller new suns have found birth from their bodies by the same process that water finds rebirth by reversing the polarity of vapor.

Once more witness this effect of ripe old age in the Dumb-Bell nebula--Figure 148. Space has bored a great hole through the centering high potential of gravity which that ring once was. By studying it carefully you can still trace its spherical shape. The white line we have drawn through it is where its pole of rotation once was. If you could look through it, instead of seeing only the edge of the ring, you would see a huge sun which has recondensed from the [vaporizing] body of this ring, such as the one in Lyra.

The one thing to remember is that birth and death of forming and dying systems are going on all the time EQUALLY. For every polarizing pulsation which contracts large volumes of motion into small volumes, there is an equal and opposite depolarizing pulsation which expands small volumes into large ones.

WE PAUSE TO LET THIS IDEA SINK IN

Give deep thought to this. Try to see if you can breathe out with great force and breathe in with but little force. You will soon realize that they must be equal. Then try to polarize a bar magnet with an electric current so that the positive pole will be stronger than the negative one.

Then reduce the size of one cell in the battery of your car so that they are unequal, then try to walk by leaning forward without counterbalancing the forward leanings with backward

ones. Try to make your clock go with its pendulum out of balance--or try to freeze without generating an equal potential of heat.

This meditation we ask of you so that you will better understand that the balance between contraction and expansion in the whole starry systems of the heavens are as exactly equal as the opposite polarities of your bar magnet are inexorably equal.

The greatest proof of this is in the wave itself. This universe consists only of waves--nothing else. Give thought to the fact that every wave is balanced by an equal potential above its equator (or axis) as below it. Think of a wave which you can see, like a wave of water.

Every crest is equal to its trough. You fully well know that crests cannot build up without creating troughs. Without either one the other is impossible. Without equality in each continuity would be impossible.

Displacement and replacement are equal and opposite. The wave is a pendulum which marks out sequences of events in time. The wave is a piston which pumps one condition into two and interchanges them forever with the one to again make two.

Give deep thought to this last sentence. Let us think it with you by suggesting that you visualize water waves held in suspense, so that neither troughs or crests move until you have thoroughly realized that two unbalanced conditions have been created which cannot be maintained.

Now let them move very slowly, like a slow motion picture, and see what happens. If you watch carefully you will see them interchange with each other by GIVING to each other until both trough and crest have flattened down to their common equator and disappeared in it. You stop the motion again right there and what do you find? You discover that the surface of the water is as calm as it was before you created the waves. There is no longer an equator for there is no division into two, nor is there extension of wave levers from fulcrums.

Now turn the motion picture again and you see waves reappearing. Crests now descend to become troughs, and troughs ascend to become crests.

WHY DO THEY ARISE AND DESCEND? IT IS BECAUSE THEY ARE FULFILLING THE LAW OF POLARIZATION WITHOUT WHICH NOTHING CAN BE CREATED.

We still must continue to think with you to make more certain you do understand this utterly simple principle out of which comes everlasting birth and death as just one continuity.

Instead of thinking of the universe in terms of Creation, or that which God created, let us think of it as a product which God manufactures to give body form to his ideas just as you or I manufacture shoes--or automobiles--or monuments--or books--to give body forms to our ideas.

Also let us think in terms of light instead of waves. When you think of light as the incandescence of a sun surrounded by hundreds of millions of miles of dark space it probably never occurs to you to think of that light as having been manufactured by simultaneously making a black hole of equal potential in space, and that each is the cause of the other.

Think of it that way with us for a moment. That sun could not be there except for the evacuated black hole which was simultaneously created with it. That is what CREATION means. It means division into opposite conditions of gravity and radiation which resist each other furiously to cause incandescence or gently to cause a violet to form. Neither light nor dark exist as substances.

Both are but conditions of motion which have been manufactured, electrically, by desire of Mind.

Let us be simple. You can manufacture light and dark the same way Nature does. Break a brittle lozenge in the dark suddenly and you have created both light and dark. The sudden break evacuated space at the line of the break and a flash of light simultaneously appeared to balance that evacuation. That luminous streak was not there before. You created it by dividing an equilibrium into two furiously opposed conditions.

Likewise, Nature evacuates over charged clouds and a flash of lightning appears which was not there before. Likewise the sound of thunder appears which was not there before polarized air pressures created those effects by their efforts to seek balance in each other.

You manufacture incandescence when you turn on your electric switch which polarizes the equilibrium of a tungsten filament. You create two tremendously resistant forces which explode that tungsten in two opposite directions--inwards and outwards. Heat appears where there was no heat.

Friction likewise appears as a product of resistance where it was not heretofore present. Likewise incandescence appears where there has been no incandescence.

Every scientist knows that fact as applied to laboratory work with vacuum tubes but they seem to forget it when the scale is astronomical. The electrical nature of this polarized universe is as applicable to the heavens as to an electric current in a vacuum tube.

Let us step into the laboratory and "manufacture" some incandescence. We wish to see the electric current at work performing this operation of obtaining incandescence, so we pump all of the air out of a glass tube and connect the ends of it with positive and negative electrodes. Immediately upon dividing the equilibrium within that tube by turning on the electric divider you see a flash of incandescence at the positive anode and an evacuated black hole around the cathode end which would immediately "swallow up" the incandescence if you turned the current off.

Also you see a series of little spinning loops of light whirling around the center of the tube,

like little hoops--or rings. See Figure 157. The incandescence at one pole was made possible only by evacuating the space around the other one. This very obvious fact should have told the physicist or astronomer that incandescence created anywhere is not possible without simultaneously creating its resultant black hole, and that incandescence could only be manufactured by God or man at the expense of simultaneously creating darkness.

Unfortunately the black holes in space which are sufficiently conspicuous by being silhouetted against incandescence to be distinctly visible to the astronomer are not recognized as such and are accounted for by him as "great obscuring clouds of star dust".

You can see these cathode evacuations which science believes to be "star dust" in many of the photographs herein printed. There is no "star dust" in space. In Orion--Figure 156--you see a very conspicuous vacuity in the center, and another silhouetted against the left edge of incandescence which is being "drawn out" of that blackness. In Figure 149 is another very conspicuous example and two other black holes can be seen in Figure 155. Perhaps the best example of all is shown in Figure 11 on page 21 of Course N° 3, in the nebula in Sagittari.

All through the heavens are black lanes of cathode blackness which are so completely evacuated that they are opaque because of the lack of motion in them which makes it impossible for them to transmit motion. Because of this opacity these also are supposed to be "obscuring star dust".

Remember always that this universe of suns and black space is the electric record of God's desire to think His imaginings into form. The incandescence of the universe manifests the concentrative pulsation of His electric thinking and the blackness of space marks the decentrative pulsation.

Perhaps you do not know it but when you think, you also create incandescence and blackness in your brain cells which are recording your thinking. Desire in you creates light in you, and your thought-wave pulsations vibrate between light and dark until you become so fatigued that the light goes out and your thought pulsations seek rest in their dark, just as the cathode black in a vacuum tube swallows the light in it when polarizing vibrations cease.

Products of electric polarization are electrically manufactured as needed in accord with The Creator's desire, just as your products are electrically manufactured in accord with your desire. God is the Master-Creator of a vast universal body but the processes for manifesting His knowledge are the same processes, principles and laws which are yours to command as creator of your desires.

God creates the universe of His knowing with thought-waves of light. So do you. Thought-waves of light are the only tools God uses to grow a stellar system or a violet. Thought-waves of light are all you use to create your universe, for they are all you have to manifest your knowing.

Electric thought-waves are manifested in matter by concentrative thinking which produces light, and by decentrative thinking which produces dark.

Both of these are physical effects of motion which arise from the still Light of Mind Knowing.

Herein follows a definition of electric thought-waves of light which will outlive the ages even though but few may understand it today.

Light is the effect produced by the concentrative power of gravity which creates bodies given by the dark of decentration for the eternal emergence of other bodies which are eternally regiven to the dark.

WE DIGRESS FOR A MOMENT

There are so many things yet to tell for which we have no more space, but we must at least touch the edge of certain essentials which spread so much confusion because of lack of knowledge of God's ways in the making of bodies. Science has much to say about "magnetic lines of force"--both planetary and inter-planetary--which do not even exist in Nature as you will know when the mystery of curvature is unfolded later in this lesson. Because of these interplanetary lines of force it is presumed that a superior older race from some other planet might annihilate us because of its superior knowledge of the use of these supposedly existent lines of magnetic force for interplanetary travel.

We regret that the impossibility of such a happening cannot be fully unfolded here, but we can give this small paragraph or two to give you the following assuring facts.

1. The only possible planet for human life to still unfold is Mars.
2. If there are still Martian people--and there probably are--they are so many millions of years older as a race, that they have become Cosmic Beings who so thoroughly know their unity with God and man that if they could come here it would be to uplift us rather than to hurt us. When this planet has spiralled so far out as Mars we will also become more God-like. In the meantime our Barbarian minds still fear killings because we still practice killing.
3. If a Martian should land on this planet he would explode inwards the instant he opened his door, on account of the great difference in pressures just as we would explode outwards if we landed upon the surface of our moon.
4. Mercury, the first planet, is fiery hot, is without atmosphere, and all mineral. It is newly born from the sun, which is a crucible which melts planets and sets them out in space to cool gradually, in order that they may play the play of Creation in all of its phases as they spiral out to their zero.
5. Venus is beginning to develop an atmosphere, but at present it is in the carbon dioxide

stage. No vegetable or animal life is yet possible on Venus and will not be until oxygen and nitrogen appear.

6. Saturn and Jupiter have swelled to many times the size they were when their orbits were where our Earth's orbit now is. They are fast disintegrating, gradually oblatting and turning upside down as all outer planets are doing. Their magnetic poles are also creeping down toward their equators and each have thrown off about ten rings which have rewound as moons. All of the outer planets are even more beyond the possibility of animal or vegetable life of any kind. Their pressures are such that hydrogen would fall upon them like snow instead of rising as a gas.

7. Science thinks of a force called magnetism which supposedly attracts and repels bodies of matter as a bar magnet attracts nails, and glass rubbed with flannel attracts or repels pithballs. The force which thus picks up nails is electricity, not magnetism. The steel of the bar holds the electric current long after the wires which produce it have been removed. The supposed magnetic force is the measurer and balancer of motion developed by the electric current and has no other relation to matter whatsoever. In fact it cannot be insulated against matter for balance is universal and cannot be insulated. What man thinks of as magnetism is God's Law of Balance enforcing its law in this divided universe of two-way motion.

And what he thinks of as magnetic lines of force is but the curvature of either convexity or concavity which bend Nature's light rays in its lenses just as your binoculars do. In more simple words they are but one of the optical effects which aid motion to create this illusion which is our universe.

Do you grasp the meaning of this great secret of the illusion of motion? If not, let us clarify it for you. It means that our senses are but one-way-[conscious] not two-way. We see forward sequences which create the idea of time in a timeless universe where time sequences are voided by their backward flow; but we cannot sense this backward flow.

We are forever walking into a mirror of ourselves walking the other way. Every "happening" in Nature is simultaneously "unhappening". Also every happening in obverse is simultaneously happening in reverse.

Every point in the universe is the center of the universe--likewise every point is the same point. Likewise all actions and reactions are universal. The radio proves that to you, for when one man speaks from one point a hundred million men hear him from a hundred million points.

Many chapters are needed to expand this idea more fully which we have not the space for so we will sum this whole idea up in a new law for cosmic Minded man to slowly grasp its full portent.

This new law is as follows:

Every event in Nature is voided as it occurs, is repeated as it is voided, and is recorded as it is repeated.

This means that events, and sequences, and time, are only seeming. Each are simultaneously self-voiding--not the next instant of the happening, but the same instant.

To our one-way sensing all motion is real--but to our KNOWING all motion is but universal imaginings.

WE RETURN AGAIN TO THE HEAVENS

Now let us wander again in the heavens and look at those many stars and nebulas with new knowing. For every star created an equal opposite in potential must be simultaneously created. The incandescent star could not be there unless an evacuated black hole made it possible. The black hole cannot remain in that unbalanced condition, so it swallows up the incandescent star to fill its vacuity and then becomes that star.

Do you not see, therefore, that existent stellar systems cannot be expanding to a heat death in space without simultaneously creating black holes on the other side of their common equators to again born more stellar systems?

Nor can suns or stellar systems expand without black holes into which they can expand.

JUST WHAT ARE SUNS? WHY ARE THEY CREATED? WHAT IS THEIR SIGNIFICANCE?

If suns become black holes, and black holes become suns sequentially in endless repetitions, that interchange must have some mechanical significance in the operation of the universal pulsing heartbeat. Also that interchange must have some significance in forming the patterns of the bodies of creating things.

Volumes are necessary to expand this idea which we must regrettably condense into a few paragraphs, for the idea itself is so big a part of Creation that we must not omit it even though we but touch its surface.

I. The MECHANICAL significance of suns is that they are the stopping places for the universal piston which pumps the vitality of universal force into every creating body of any kind, animal, mineral or vegetable, and of every corpuscle which constitutes those bodies. They are both the heartbeat and [breath] of all Creation.

By the words "stopping place" we mean just what the pistons of your car engine do when they reverse at their wave troughs and crests. They stop and go the opposite way. Suns are the crests and troughs of the waves which constitute this universe. They are the rest points

where the inward piston stroke of compression reverses itself to become the expansion stroke.

When the piston stroke compresses a sun at a wave trough or crest the compression leaves a great expanded black hole on the opposite side of the equator of every trough and crest. See Figures 101 and 102 on page 33 of Course N° 11. When the expansion stroke reaches the equator between the two, the hole in space has been filled, the sun is dissolved and the equator no longer divides, for there is nothing to divide at that zero resting point.

That point is what you call the "dead center" in your car's engine, and is what man calls death in the engine which his body is. You know, however, that the expansion stroke which made your engine "dead" at the dead center will continue to where that black hole was and compress it, and a vacuous hole will then be where the ignition exploded the gas.

Unfortunately man has not that same assurance when his body ceases to pump at its life cycle equator which he calls death, not knowing of the absolute certainty that the law of rhythmic interchange of motion between EVERY PAIR OF OPPOSITES is inviolate. Motion MUST continue to repeat itself.

Why is this? It is because motion only rests to reverse itself when the worker fulfills DESIRE. Rest is not death, because motion which comes to rest MUST begin again. We will tell you WHY in Lesson 48 when we tell you the great climaxing idea which these lessons have prepared you for.

For the present, however, give thought to the fact that workers who fulfill DESIRE may lie down to rest in what we call death, but DESIRE does not rest or die. Apply this to your own body engine. You lie down to rest while fulfilling your desire, but your DESIRE is still as vital in you as ever, and never ceases.

Give deep thought to this in thinking of the relation of your Soul to your body and remember that when your body rests for an hour, or for a night to replenish your body, or for a period of years to completely rebuild another body, DESIRE is still eternal in you--and desire is SOUL in you--eternal SOUL-DESIRE which is THE CREATOR in you.

Can you not let the realization of that fact inspire ecstasy in you because its very majesty?

Can you not now realize fully the naturalness of reincarnation ?

Can you not see that if a sun which has entirely disappeared at its equator MUST reappear in the vacuous dark from which it borrowed its body, in order to again appear, and that if such a process is LAW regarding bodies of suns -- or LAW regarding crests and troughs of waves--or LAW regarding your sequence of breathings--then why can you not know that it is LAW regarding your sequence of borings of life cycles?

2. The CREATIVE significance of suns is that they are the seed of Creation which The Creator scatters in His fields of space to raise crops of patterned bodies just as the farmer

scatters seed for the same purpose.

Remember that matter is the electric record of The Creator's thinking. That being so, suns record the positive patterns of His CONCENTRATIVE thinking while vacuous dark holes record the negative images of those positives.

Suns, therefore, contain within them the whole record of the ONE WHOLE IDEA which Creation is. The whole idea cannot be expressed in one environment. A violet cannot grow on the sun, for example, but the pattern of the violet is in the sun and when the sun extends its environment into conditions where the violet is possible, the sun will extend its pattern to father the violet where a womb for its borning is possible.

And so it is that all things come into being to manifest that One Whole Idea as the sun extends all kinds of environmental conditions out into its gradually cooling planets which mother bodies in their wombs to extend in the images of the patterned seed of the father light.

The patterned form of every creating thing is in every sun of every system--whether it be man, bird, fish, tree, flower or insect. Each idea polarizes a form for it in microscopic cellular beginnings which record their unfolding through countless generations in gradually increasing seed patterns until countless millions of forming seed patterns will mother its forms of today instead of those of millions of years ago.

BIRTH AND DEATH BALANCE EACH OTHER IN THIS UNIVERSE

We have talked about old age in fully expanded systems where space has gained the inside by dividing gravity in order to radiate it. In every chapter of these writings we have persistently emphasized the absolute balance between all polarized effects. Polarity cannot be otherwise than equal.

Polarity is an equal plus and minus of zero. Depolarization ends in zero. Every effect of polarization is equally divided and multiplied in opposite--but equal--ratios.

Birth and death are equal and opposite effects of polarizing stillness to produce motion. Birth and death balance each other as precisely as heat and cold balance each other, or the potentials of the two poles of a magnet balance each other.

Knowledge of God's ways in this respect is the only way man can conquer death.

From this standpoint we will consider borning systems in the heavens which MUST come into being in order that the dying systems can disappear. Consider the following statement decentratively.

Old age divides gravity in order to die--while birth multiplies gravity in order to live.

Those who think of the expanding universe as the end of Creation might take a lesson from

the balance of the death of the whole human race in the near future on Mars while the birth of the human race will again take place in the near future upon Venus which is now preparing to cradle it.

Examples by the hundreds exist in the heavens where early beginnings of giant contracting centripetal masses are counterbalancing the endings of giant expanding centrifugal masses.

Figures 149, 155 and 156 are excellent examples of youthful stages of body forming prior to having a body shaped sufficiently like the sphere which is being wound up to center it. Study these.

Then study Figure 154, the Great Nebula in Andromeda which is one of the most wonderful examples of youth of nebular systems which the heavens have disclosed. This beautiful nebula will be a brilliant spiral system in the heavens such as you now see in Figures 146, 147, 151, 152 and 153--for countless aeons after the ring nebulas first mentioned have entirely disappeared by expanding to a "heat death".

You can plainly see the beginning stages of its unwinding in a great equatorial ring which reaches out, perhaps, a hundred thousand light years in space without having as yet thrown off parts of its expanding body into other giant systems, such as you see in Figures 147 and 151.

What we wish to emphasize is the fact that man can plainly see the equatorial unwindings of radiation in all of the great stellar systems, but he cannot see the polar gravitational windings such as we have diagrammed for you in Figure 131. This is one of the sources of confusion to science.

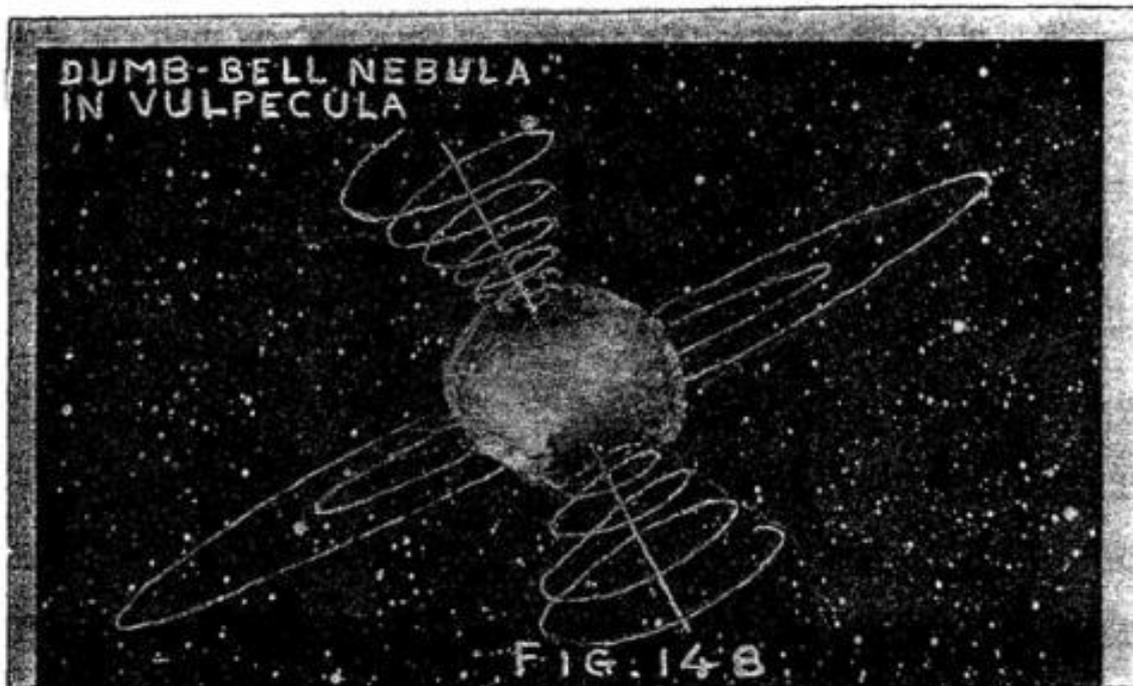
Consider our own sun for a familiar example. The fiery corona which you see when there is an eclipse, is the nucleus of the great ring which the sun is throwing out into the far reaches of its system to born planets and moons. See Figure 172. The corona of our sun is a miniature of the corona which you see the encircling the equator of the nebula in Andromeda Figure 154.

You can see the far expanded corona of the sun before sunrise in the east, or beside the sun just after sunset. It is often referred to as the zodiacal light.

If you would look at that great stream of light which crosses our heavens every brilliant starlit night, which we know as the Milky Way, you will see a great arm of its radiation which is an exact counterpart of the spiral arms in Figures 147 and 151.

What you cannot see in our sun is the centripetal winding up toward the perfect sphere which is still going on to keep the sun in its youth while every planet and moon are fast expanding into old age. The sun is not quite a true sphere yet. It is almost so, however, and its magnetic poles and pole of rotation nearly coincide, while all of its planets and moons are oblatting at their poles and hurling their bodies centrifugally into space faster and faster as planets and moons recede farther and farther from the sun and from each other.

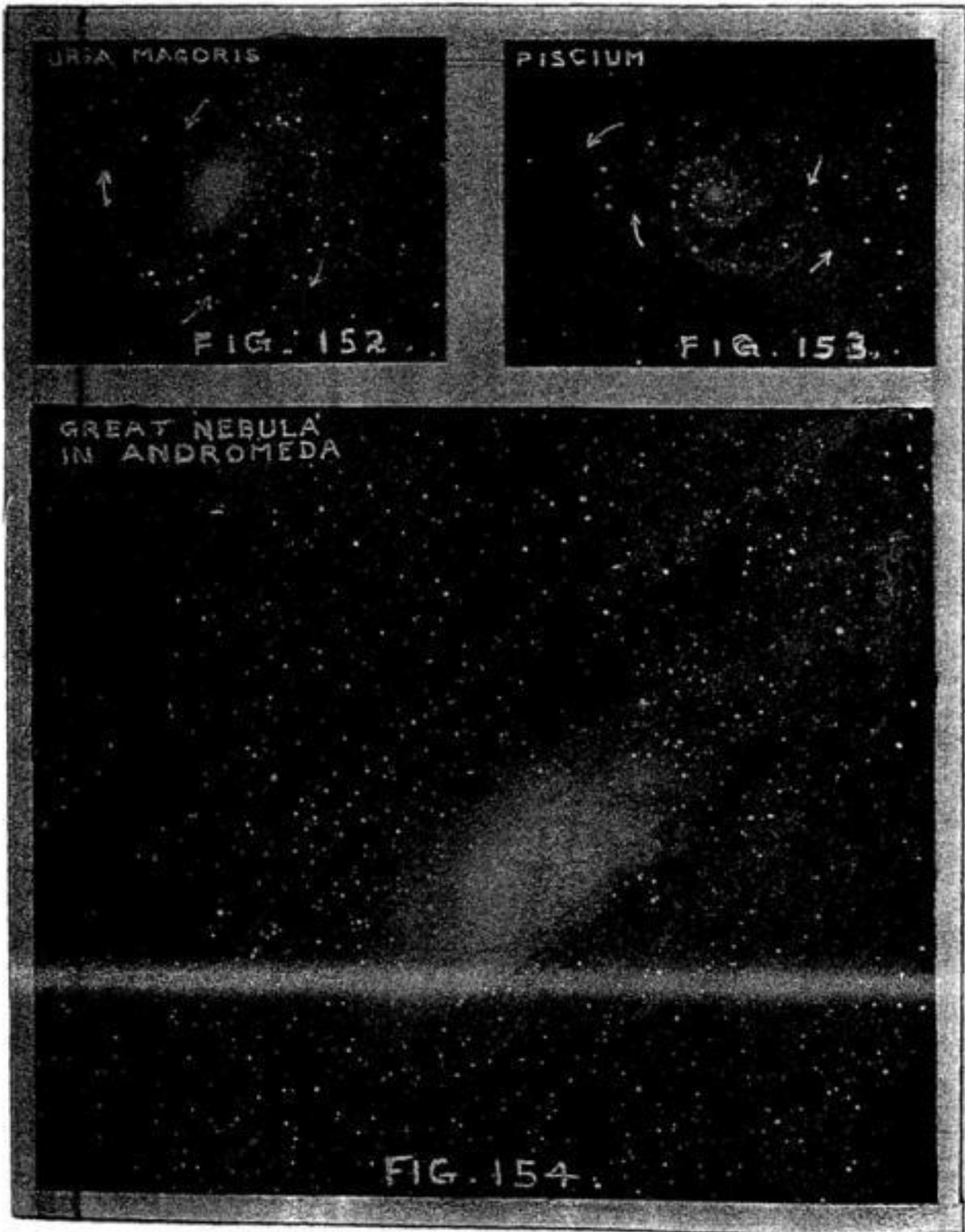
In all planets their magnetic poles are creeping toward their equators gradually to do with this planet what a spinning top does when it loses the centripetal force given by the string which wound it. You have seen tops wobble and gyrate on their axis as they depolarize. The outer planets are doing likewise as they depolarize and their magnetic poles move down their sides. Our own magnetic poles are 23 degrees away from our pole of rotation and will gradually recede further as the earth swells to greater volume on its outward depolarizing journey.



THE DEATH OF A SYSTEM BY EXPANSION. CENTRIFUGAL FORCE HAS BORED A HOLE THROUGH THIS ONCE INCANDESCENT SUN AND MADE A RING OF IT. A SMALLER SUN IS FORMING AT ITS CENTER SUCH AS IN FIGURES 134 & 136.



THE BIRTH OF A SYSTEM BY CONTRACTION. BILLIONS OF YEARS FROM NOW THIS NEBULOUS MASS WILL BE WOUND UP TO THE STAGE SHOWN IN FIGURE 154. BILLIONS OF AGES LATER IT WILL MATURE TO THE STAGE SHOWN IN FIGURES 133 & 147. IT WILL STILL TAKE UNTOLD AGES TO REACH ZERO.



THAT INCANDESCENT CONDITION WHICH WE CALL LIGHT IS BUT A
 CONTRACTION OF THE WAVE VIBRATIONS OF MOTION. LIGHT IS
 CREATED BY THE INWARD PULL OF GRAVITATION WHICH IS THE
 INWARD PULSATION OF THE CREATOR'S CONCENTRATIVE THINKING.
 IT IS FORMING IN 154, MATURING IN 152, AND DISSOLVING IN 153.

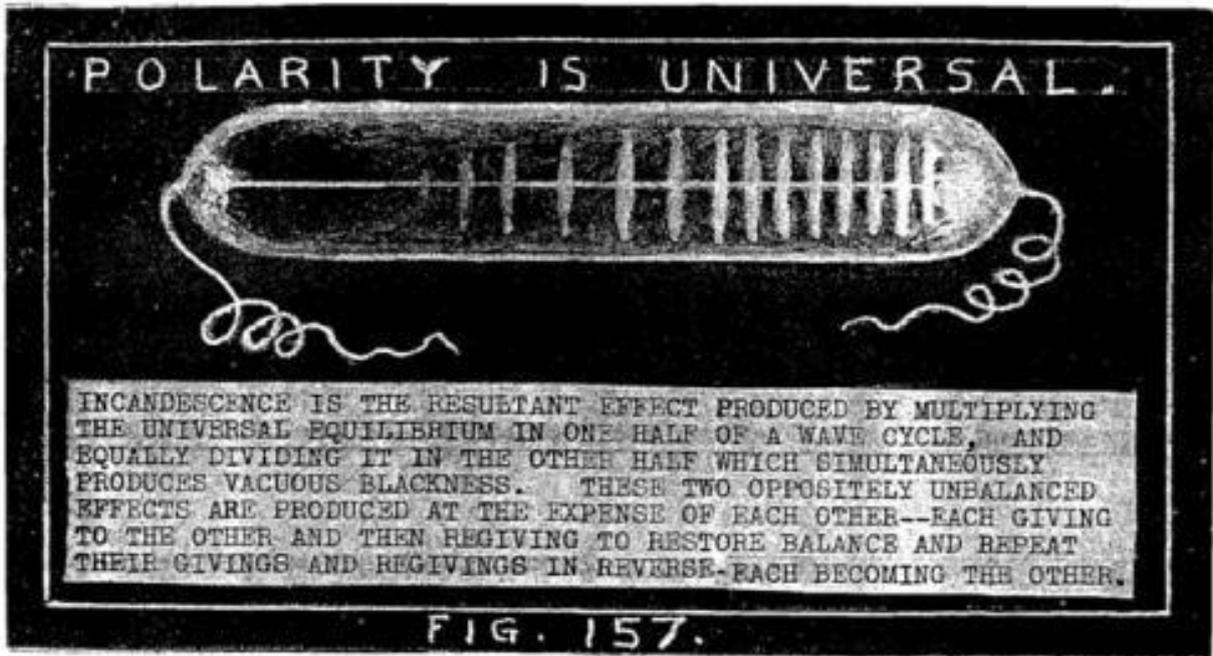
H. IV. 4. CEPHEI.

FIG. 155.

H. V. 30. ORIONIS.

FIG. 156.

TWO EXAMPLES OF NEBULA FORMING. FIG. 155 IS JUST MATURING TO MIDDLE AGE. BOTH OPPOSING FORCES ARE IN PERFECT BALANCE. FIG. 156 IS LIKE AN IMPETUOUS YOUTH OF THIRTY WHO HAS GREAT POTENTIAL POWER BUT IS UNABLE TO BALANCE HIS POLARITY.



Great examples of the forming of spiral nebulas are the star clusters, such as that in Librae shown in Figure 150.

This is a beautiful example of the winding up of a great nebula in perfect balance. Its nucleus is composed of thousands of suns of sufficiently equal masses for their wave-fields to unite and fuse the central mass of units into one. The Andromeda nebula--Figure 154--could have been a star cluster like Figure 150. In fact it is more than probable.

In its present condition each sun in this star cluster is throwing off its separate ring which is too small to be seen, but if centripetal force winds the many into one you would then see great spiral arms of depolarizing radiation reach out into a great ring which would become the conical base for the birth of a new system.

A nebula which is forming in such a chaotic unbalanced manner as that of Orion--Figure 156--or Sagittarius--Figure 11 on page 21 of Course N° 3--could not possibly have so balanced an old age as this star cluster, or a nebula like that in Andromeda. This same law applies to you, or to your business or family life. Every unbalanced action carries clear through its cycle to its very end and is registered in the pattern of every consecutive cycle until that unbalance is voided by becoming balanced.

It would take many volumes to cover this vast effect of balance in the heavens and relate them to life on earth but that which is herein given is sufficient to give you an understanding of the principle involved for application to those creations of yours which are yours to solve.

FURTHER EXPLANATIONS CONCERNING "THIS EXPANDING UNIVERSE"

When the astronomer finds that all of the visible systems of stellar nebula are rushing away from each other, he concludes that they are expanding to a heat death because he cannot see that the expansion of every wave system, atomic or solar, is for the purpose of making conical bases for the beginning of centripetal spirals toward conical apices.

He cannot see that the outward degenerative journey of heat is equal to the inward journey of cold which regenerates heat. That outward journey is but part of a cycle in which nothing whatsoever changes in its totals, for all add up to zero. All effects seem to change because of the very evident appearance of change in the two opposites of every effect, such as volume, temperature, weight and all other effects which would instantly become the zero of their fulcrum if the force which polarized them should be withdrawn.

The scientist can see the effects of radiation everywhere in the heavens because it is evidenced by the expansion of luminous bodies. Unfortunately, however, he does not see, or even suspect, that the non luminous intensely cold evacuated holes of space are the evidence of gravity at work contracting equally every corpuscle or sun which radiation is expanding.

Gravity in itself is invisible--just as radiation, as a force, is invisible. The evidence of radiation is obvious, however, and the evidence of gravitation is not obvious until one knows how and where to look for it.

The expanding universe theory is the result of studying the visible evidence of radiation without knowing of the counteracting visible evidence of gravitation.

For this reason the scientist has never yet discovered that every effect of expansion which is taking place radially is but on its radial journey around a cycle to the zero point of its fulcrum.

He does not see, also, that every system is expanding in relation to every portion of itself, corpuscle for corpuscle, as well as expanding in relation to all other systems. The evidence of one's very limited senses are not sufficient to make it possible to KNOW the universe as a whole.

The astronomer is confused by the largeness of the one little section of the universe toward which he points his telescopes. As the universe is alike in all expressions of matter why not take a smaller section, such as the middle of a cloud of water vapor. In such a section he would see every particle of matter expanding upon itself to radiate its heat outside of itself,--but he would not see the outside cold gaining the inside to contract it again and send it back to gravity as rain. If this were not so the whole scheme of Creation would be thwarted. If suns did not throw off rings to expand and cool into planets, and they in turn did not continue to expand and cool in every part of them, we could have no oxygen to interchange with the minerals of the inner planets to cause vegetation and organic expressions of life in

animal and human forms when inner planets expanded their orbits and became outer planets.

If the astronomer considered but this little section of the universe which is our solar system, in this respect he would also see nothing but the expansion of centrifugal force evidenced everywhere.

Every planet and moon is expanding its orbit centrifugally to cool by letting space within it centripetally. This process allows oceans to form on inner planets such as Earth and Mars and to absorb the oceans on the outer planets and moons, as our moon and all outer planets outside of Mars have already done.

The radiating process is evident to the senses but the generative process is not. See arrows pointing inward on black arms of nebulas in Figures 146 and 147 for the invisible generative force, and pointing outward for the radiative force.

Every atomic system is expanding to form conical bases for centripetal rebirth as well as solar systems. Cold space is forever condensing that which has been radiated. Vapors forever become rains and fall to again become vapors.

When a tree grows out from the planet we see the expansion of its unfolding as leaves extend from branches, branches extend from trunks and trunks from earth. But what we do not see is the centripetal force of gravity which refolds each unfolding part unto itself, unto its very core--yes even unto its seed for repeating its unfolding.

The tree, and every part of it, is an expansion of earth--but the cyclic journey of the tree ends exactly where it begins. After one hundred years of expansion-contraction sequences in all of its parts, it is all of it right where it began. It never exceeded the boundaries of its wave field all during its curved journey which wound up around its fulcrum and unwound into its fulcrum.

The kettle boils. Every part of the water in it rushes away from every other part, and every part expands upon itself to cool--but every cooling part returns to the same source of heat to again expand and cool--even as the seed of the tree expands from its generating heat to cool, and again heat and cool as growth and decay complete their cyclic journeys from points of rest to points of rest, and back again to points of rest.

Again we say that our senses tell us of radiating growth as the tree unfolds from the womb of earth, but they do not tell us of the refolding of the father force of gravity which ends in the womb where growth began.

Out of earth countless forms of men, animals, insects, birds, trees and flowers are expanding from microscopic points into the heavens. They are expanding from each part of themselves, and from all other selves as a whole. The whole law of growth in earths and heavens alike is EXTENSION--EXTENSION--EXTENSION--one part from another part and each part from the whole. And the law is also CONTRACTION--CONTRACTION--CONTRACTION, for

the law of growth is two-directional. One part of growth is extended--or expanded--AWAY from a point, the other part is contracted TOWARD that same point. That law is as applicable to the astronomer's expanding nebulas as it is to the gardener's expanding roses.

Every man, animal, insect, bird, tree or flower which extends radially from Earth return radially to the point of its beginning to repeat its eternal radiative-gravitative journey into the illusion of sequential appearance and disappearance which this universe of motion is.

Perhaps we might apply just simple common sense to this whole mystery by asking of every creating thing:--"In this radial universe where is there any place for you to go?" The answer must be:--"Nowhere--for wherever I go I find that I am forever meeting myself coming back again".

That is literally true in Nature. Action and reaction are SIMULTANEOUS--and when they are repeated sequentially in reverse, the dual repetition is also SIMULTANEOUS. TIME and EXTENSION seem to be, but they are not.

The confusion caused by that illusion is due to the fact that man's senses tell him only of the sequential repetitions but not of the simultaneous voidings.

The electric wave of motion is a lever which extends radially away from a still fulcrum to seemingly divide and extend the fulcrum. Our senses tell us of that division of radiation but do not so conspicuously tell us of the multiplication of gravity. Our senses are not quick to tell us that whatever has been radially extended FROM the fulcrum is radially retracted TO the fulcrum.

The great principle which has not yet been known on earth about the motion of light waves is that every force which is moving away from the fulcrum of its source is also moving simultaneously toward that source.

Likewise every force which is moving away or toward its source is simultaneously passing through an equal and opposite radial force which is headed the opposite way.

NATURE'S LENSES OF LIGHT--WITH NEW REVELATIONS UPON CURVATURE AND NATURE'S PROCESS FOR THE "MANUFACTURE" OF LIGHT AND DARK

We have given much space to the mirrors of zero curvature in Nature and must now tell of the curvature of gravity, and of radiation, and of all space within the wave-fields which are bounded by its mirrors into which all curvature disappears. Nature's method of controlling universal balance will thus be revealed, which is of vital importance for you to know, for it is also your method of controlling your balance.

We must explain why there are no parallel, or straight lines in Nature, and why all lines which lead away from a point must simultaneously curve in reverse in the opposite direction and both forever curve until they return to that same point.

Likewise, we must see why equators of zero curvature extend curved equators in two directions to produce the visible incandescence of gravity and the invisible vacuous blackness of vacuity surrounding it--then why matter turns inside out to let the black vacuity within its particles until the visible evidence of gravity in incandescence disappears in radiation and there is no longer any visible evidence of the workings of gravity.

Then we must see how gravity again becomes evident and radiation disappears in its own vacuity, as space is thrust on the outside by gravity.

One more mystery of curvature must be clarified by explaining why the radii of suns and earths cannot be straight lines but must also curve until they reverse their curvature and why curved equators must lose their curvature in wave-field boundaries of zero curvature, beyond which nothing can pass without voidance and reversal.

Practically nothing is yet known about the curvature of all effects of motion in this universe.

Science merely assumes curvature because of proven optical effects, such as being able to see a star which is actually hidden behind the sun, but no system of curvature, or laws governing it have yet been formulated.

CURVATURE IS SEX DIVIDED

It will come, therefore, as a shock to physicists and astronomers to know that curvature is divided into its two opposite sex expressions as all other effects of life and growth are divided and is manifested by two opposing systems. The divided father and motherhood of Creation is expressed by one system of curvature and the united father-motherhood is expressed by an opposite system.

Curvature begins with polarization which produces a radial universe. A radial universe causes all of its prototypes of man's bar magnets to be cones, for one end is the gravitative center of a contracted solid and the other end is an evacuated center of expanded space.

Together these two opposite ways of opposite forces constitute what is familiarly known as the divided universe, which means that all creating things are divided into pairs of opposite mates, each of which is differently conditioned. It also means that one of the pairs is a division of the other while the other one is a multiplication of its mate.

We can better understand the WHY of this division into pairs, and the relation of the division and multiplication of the pairs, by taking the idea of it into parts and describe each part by simple diagrams until one step at a time leads you to full understanding.

The reason why you must understand this idea fully is to give you full comprehension of the relation of the MIND of man to his body, or of the spiritual to the physical universe. YOU should know this relation in order that the will of your Mind will extend your thinking

from your Mind in balanced pulsations, as the lever is extended from its fulcrum to perform its actions in balanced oscillations.

You also should understand it so that you will know that nothing can happen to your Mind--that it can never fatigue--or have any ailment. The medical and psychiatric world should also understand it so that they will know that senility, insanity, morbidity or any of the ailments they treat as mental are not in the Mind but in the unbalanced extensions of Mind which is Mind thinking. Mind thinking is not Mind, as the extended lever is not the fulcrum. The lever can oscillate out of balance but the fulcrum cannot be touched by that unbalance. When you know your mind as the fulcrum of your power you will command your body to strength and health.

Old age is now the weakest and most dreaded half of man's life cycle. It should be the richest in power and achievement, and more fraught with the joys of inner knowing. The reason old age is dreaded is because people expect to take the active physical first half into the restful mental second half.

BEAUTY AND POWER OF OLD AGE

The first half of life is but a preparation for the second half in which the real power of man should be expressed in great joy and satisfaction in having found one's universality and a means of leaving an expression of one's immortality upon the world of men. Knowledge alone will give you the glory and beauty which lies within the last half of your life cycle.

We are giving you this knowledge in these lessons from a source which has been demonstrated and proven by a steady growth of increasing power of physical and mental expression for eighty one years, with a promise of many more through having this knowledge from early youth. Therefore, is it not well worth while for you to make a supreme effort to make our knowledge of God's ways your knowledge?

KNOWLEDGE IS YOUR ONLY POWER

Do, therefore, study these following pages with reverence, for your own transcendency depends upon how far the door to the Light of all-knowing will open because of your greater ability to know God in you by knowing His ways. If you get but a little in one reading, accumulate that little by fifty readings and much communion, until you will no longer have to THINK it because you will KNOW it.

If, for example, we find it necessary to tell you that the equator of this earth is far out of plane with the equator of the sun and that the earth is wobbling upon its axis like a dying top because of it, do not say that this is not important for you to understand because that is "science", for if you and the medical world had full comprehension of just that one little fact

in the processes which are God's ways, your Mind-power over your body would be multiplied, and the basis for mental treatment in the medical world would be drastically altered in principle. The stars have many secrets which would be of vast help to the medical world as well as to you.

The effort is worth while even though you died tomorrow, for when it has become awakened in your Consciousness it is recorded there as Soul-"growth"--which is God awareness--and is in your seed pattern forever. When you return you will have that added cosmic power, and the seed pattern of your body will also be added to by that which you have commanded it to be.

WE RETURN TO THE MYSTERY OF CURVATURE

We will proceed to unfold these mysteries and veiled secrets which the "unseen universe" has for so long hidden from the comprehension of man.

1. We will begin these steps by further explanation of what is meant by the divided universe of pairs of opposite conditions. If you study Figure 158 you will note the essential fact of that bar magnet is that both ends will pick up a nail of equal weight.
2. If, however, you expanded one end of the magnet to a cone base, and contracted the other end to a point, which would be the apex of the cone, as in Figure 159, you would find that the contracted end would pick up a solid nail but the other end would not. If you divided the nail into powdered filings, however, the expanded end would pick up an equal weight to that of the contracted end.
3. Now take note of another essential fact. The equator which divides the poles of Figure 158 is a flat plane of zero curvature while the equator which divides the poles in Figure 159 is curved.
4. Now note that the curved equator of the conical magnet is very close to the positive pole and only a small volume is between that curved equator and the apex. The other end, however, is very large in volume. That means that if power is equally divided between two equal volumes of matter, as in Figure 158, the equator will be of zero curvature, while if that power is divided between two unequal volumes the equator which divides their polarity will be curved, as it is in Figure 159.
5. You will understand why the equator in Figure 159 is curved by seeing its prototype in Figure 160. The curved equator in that diagram is the earth's surface which is fifteen pounds pressure at sea level all around the globe. Think this over. An equator means a plane of equal pressures. In a radial universe planes of equal pressures must be curved, because every point of equal pressure which is extended from the apex of a cone must be curved.

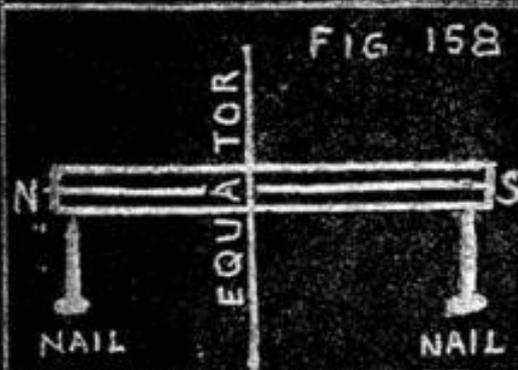
Figure 160 illustrates this point. Lines A and B are two radii of the earth. As they are

extensions from the earth's center of gravity, they form cones like the cone in Figure 159. These two expanding radii divide volumes into the small compressed volumes of solids which make planets at the small end and space at the large end.

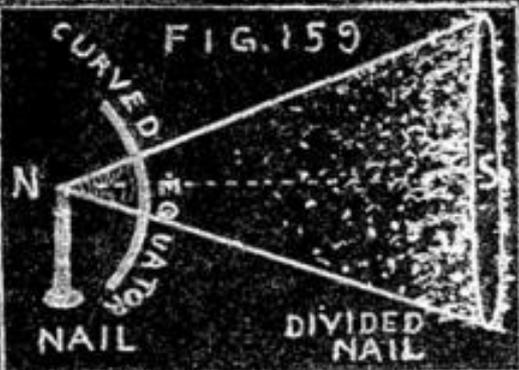
Figures 159 and 160 should now clarify for you the whole meaning of matter and space, and tell you how polarization divides motion into the two conditions "which create solid matter and tenuous space.

If you continue the curved equator in these two diagrams till they meet you will have created a small compressed sphere. And if you continue to expand the two radii of the cones into an infinite number, you will have created a large expanded volume of tenuous space surrounding the sphere.

ALL OF NATURE'S MAGNETS ARE CONES.



A BAR SHAPED MAGNET WILL LIFT AN EQUAL WEIGHT AT EACH POLE. ITS EQUATOR WILL BE OF ZERO CURVATURE.



A CONE SHAPED MAGNET WILL LIFT EQUALLY AT BOTH ENDS IF ONE WEIGHT IS DIVIDED. ITS EQUATOR WILL BE CURVED.



FIG. 160

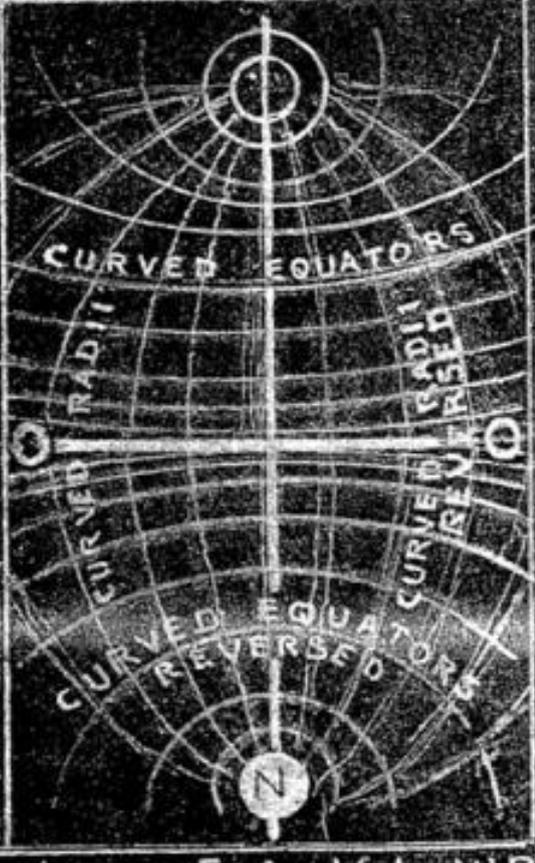
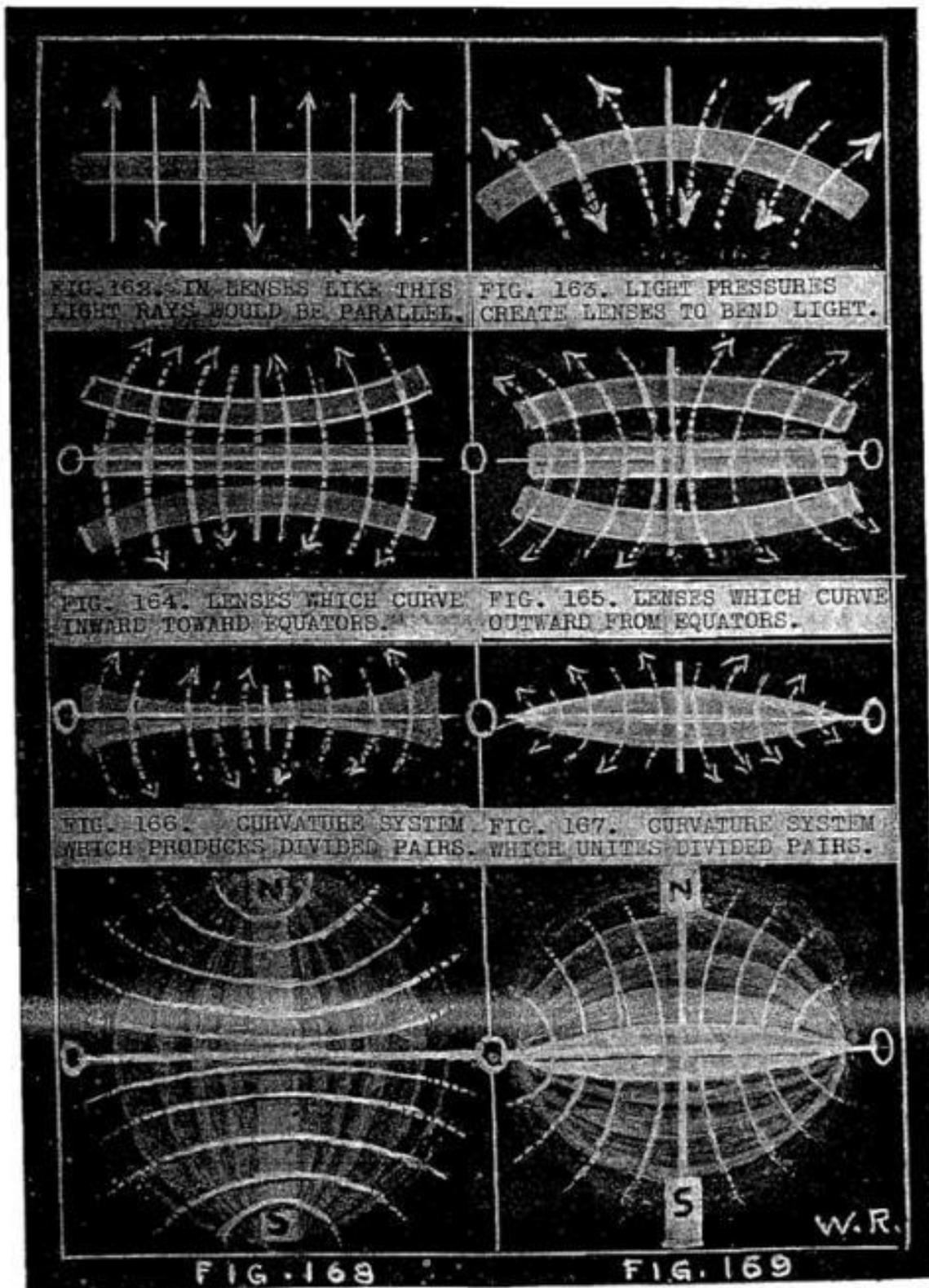


FIG. 161. WR

SOLIDS ARE COMPRESSED GASES. GASES ARE DIVIDED SOLIDS.
 MULTIPLIED MATTER WILL FALL AND DIVIDED MATTER WILL RISE. RADII CURVE IN THE LENSES OF CURVED EQUATORS.
 IN THIS CURVED UNIVERSE GRAVITY AND RADIATION ARE CURVED. GRAVITY FUSES RADIATION DIFFUSES.



ILLUSTRATING NATURE'S METHOD OF PRODUCTION AND REPRODUCTION. THIS SYSTEM OF CURVATURE DIVIDES ONE BALANCED CONDITION INTO TWO UNBALANCED CONDITIONS.

THIS SYSTEM OF CURVATURE UNITES TWO UNBALANCED CONDITIONS INTO ONE AND MULTIPLIES THEM.

Do you not see that the explanation of matter and space is the fact that Nature's "bar magnets" are cones which divide motion which is traveling AWAY from a center of gravity - and multiply motion which is traveling TOWARD a center of gravity.

6. Do you not also clearly see that planes of equal pressures which measure the pressures of gravitation or radiation must be curved. They cannot be otherwise. Fifteen pounds pressure, measured radially from a point describes a sphere. A cloud, therefore, which floats at a twelve pound pressure or less, floats in a curved plane parallel to the earth's curvature. It could not be otherwise.

SUMMARY

7. Both gravitation and radiation are curved wherever they are expressed within a wave-field. Whenever these opposite expressions extend to their wave-field boundaries they not only lose both their division into the opposite expressions of gravitation and radiation, but they lose their curvature as well. Depolarization is then complete. Each has voided the other in the balance of their fulcrum.

8. This is the condition of rest which man calls death, forgetful of the fact that it is the condition necessary for rebirth.

9. Repolarization then repeats itself but in reverse.

WE CONTINUE TO BUILD

10. If the expanded volume in Figure 159 will pick up a nail only if the nail is divided into many parts, do you not clearly see that space in Figure 160 cannot possibly pick up that glass of water, nor that piece of iron, nor that stone, so long as they are in their compressed solid conditions?

In order for the increased volume of divided space to be enabled to pick either of them up they must also be divided into increased volumes so that their potentials are equal to the potentials of the volumes in which they can float.

By dividing the water into water vapor the negative end of the conical "bar magnets" of space will pick up all the water. You can now see that transformed glass of water up at the south pole of the conical magnet, it has expanded to a large volume and has arisen from the north positive pole to the south negative pole.

By dividing the stone or iron into gases, they also would rise until the cold of condensation contracted them into smaller volume. They would then fall.

THIS TWO DIRECTIONED UNIVERSE

11. Another idea can now be clarified. If you divide and expand the equator which connects the north and south poles in Figure 158 so that it forms a cone, as in Figure 159, you have also divided and expanded the south pole over a large area while contracting the north pole to a point. By continuing to expand the divided equator -- which is now a cone -- and by continuing to expand the south pole in the same ratio until they meet in their curved journey around the fixed north pole, you have made every direction which leads toward space the direction of SOUTH -- and every direction which leads toward the fixed point of gravity to be NORTH, South, in nature, is a radial expansion of north -- and north is a radial contraction of south.

Now turn back to Figure 16, on page 29 of Course N° 3, and you will have a better understanding of the two directions which are inward, radially, toward a centering POINT of north, and outward, radially, toward the wide EXPANSE of south, which space is. When this point is clear in your comprehension the mystery of this divided universe of matter and space should be quite clear.

12. The above two paragraphs lead us to a greater understanding of the meaning of two statements which we have often made -- as follows:

1. This is a universe of rest from which all motion springs.
2. This is a thought-wave universe of EXTENSION – EXTENSION -- EXTENSION from a zero point of stillness in space, and a RETRACTION -- RETRACTION -- RETRACTION back to that same zero point.

These two statements sum up what are familiarly called the physical and spiritual universes without the slightest idea of what that really means.

As we continually live and manifest in both of these, it is well to know their scientific meaning and not satisfy ourselves with repeating them as metaphysical platitudes and abstractions.

Again let us be simple by using simple examples and words such as the following. If you want to rest or relax you lie-down. That is the only way you can find freedom from the tensions of action and motion. That is the way you find undivided balance to the extent that you can forget your body. Now comes the important thought for you to comprehend.

When you lie down your whole body follows the direction of the curved equator of the earth's surface. Every part of your body is in the same relation to gravity. It is completely in balance with its fulcrum. You have as thoroughly depolarized your body as it is physically possible to depolarize it and live. Now you can go to sleep and rest and your body begins to repolarize and reborn its dead corpuscles until the time comes when the desire for action is as keen as the desire for rest has been.

Now what do you do? YOU STAND UP. You stand up at an angle of 90 degrees from the equator upon which you were resting. Tensions immediately take the place of relaxation. You cannot possibly stand up in the dynamic universe of motion without a constant effort to remain upright.

Why is this? It is because you have divided your one balanced condition into two. You have to keep alert with a constant physical effort in order to remain standing. Try it. Try going to sleep, or even relaxing your effort while standing up. You will fall.

That is true of every effect of motion. A hoop, for example, can lie down on the equator, which is the ground, and lie still without any effort, but if you stand the hoop up at an angle of 90 degrees from its equator of rest it will have to spin fast to remain standing.

We use this illustration of the hoop to also illustrate one of the great unknown electrical and astronomical facts of Nature, which is that the equator of every sun in the heavens which has attained its true spherical shape, is a hoop which must keep rolling along in space at an angle of 90 degrees from the axis of its wave in order for it to maintain its own balance and control the balance of every planet, moon and comet in its system. The moment it loses this balanced condition of motion it begins to disintegrate.

When suns are in this gyroscopic position their poles of rotation and their north and south magnetic poles coincide. Perfection of balance, and control of balance has then been reached. These two poles are parallel to their wave axis--which means that they are 90 degrees from their equators-- and are perfectly still. Motion turns around them, as the shaft turns upon its still center, but there is no motion at those poles. This knowledge would be of great help to the astronomer, for by means of it he could determine the wave axis of every sun and nebula in the heavens.

The more you can comprehend the power which lies in the stillness of control over the balance and motion of a giant sun the more you can make use of that power of balanced stillness in the control of every event which confronts you, and the balance of every corpuscle of your body which the slightest unbalanced emotional disturbance will upset, and every balanced one will perfect.

Now refer to Figure 161 and you will see that the dynamic universe of polarized motion--which means divided motion--and also means polarized balance--is 90 degrees from the equator of rest which is marked zero.

Realize, therefore, that wherever there is an equator of rest in which the pressures are equal you have there a manifestation of the spiritual, undivided universe of stillness. Likewise, wherever there is action and change of pressures, due to polarization of stillness into waves, a dynamic equator ascends and descends at 90 degrees from that equator to connect the two opposing poles of that divided wave condition.

It is upon this dynamic equator that waves arise in four efforts at gradually increasing

angles and speeds, until their amplitudes are reached at 90 degrees from their equators of rest. The amplitudes of every electric wave whose axis is parallel to sea level point directly toward the earth's center of gravity.

That means that all such wave amplitudes are radial. It also means that the pistons which pump the heartbeat of the universal body are also radial. It also means that the universe of physical expression is radial.

SUMMARY AS TO RADII

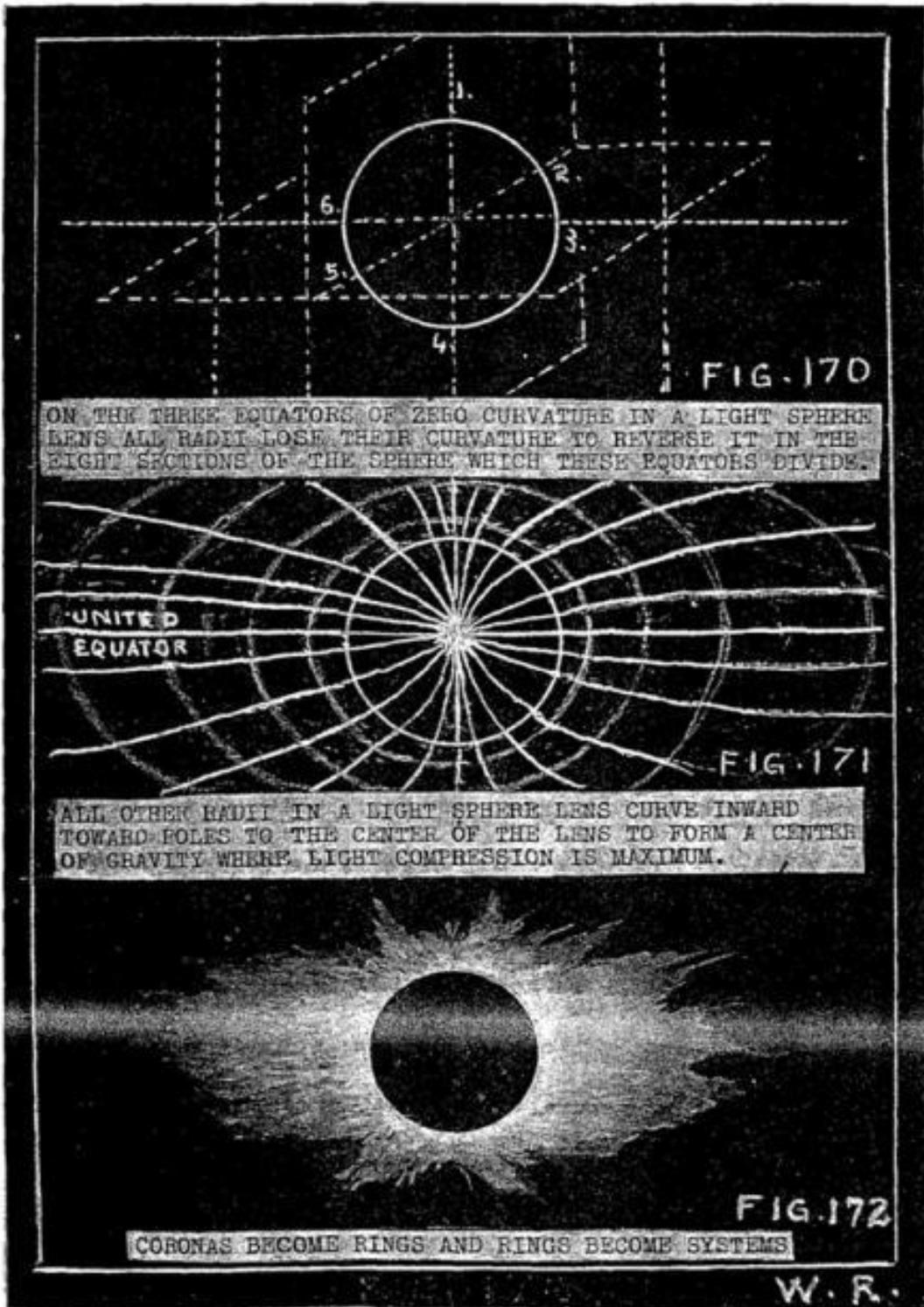
6. Can we not now see that radii are an infinite number of extensions which RADIATE from a zero point of rest and GRAVITATE to an opposed point of rest to cause material bodies to appear, disappear and reappear.

WHAT ARE THESE SO-CALLED MAGNETIC LINES OF FORCE?

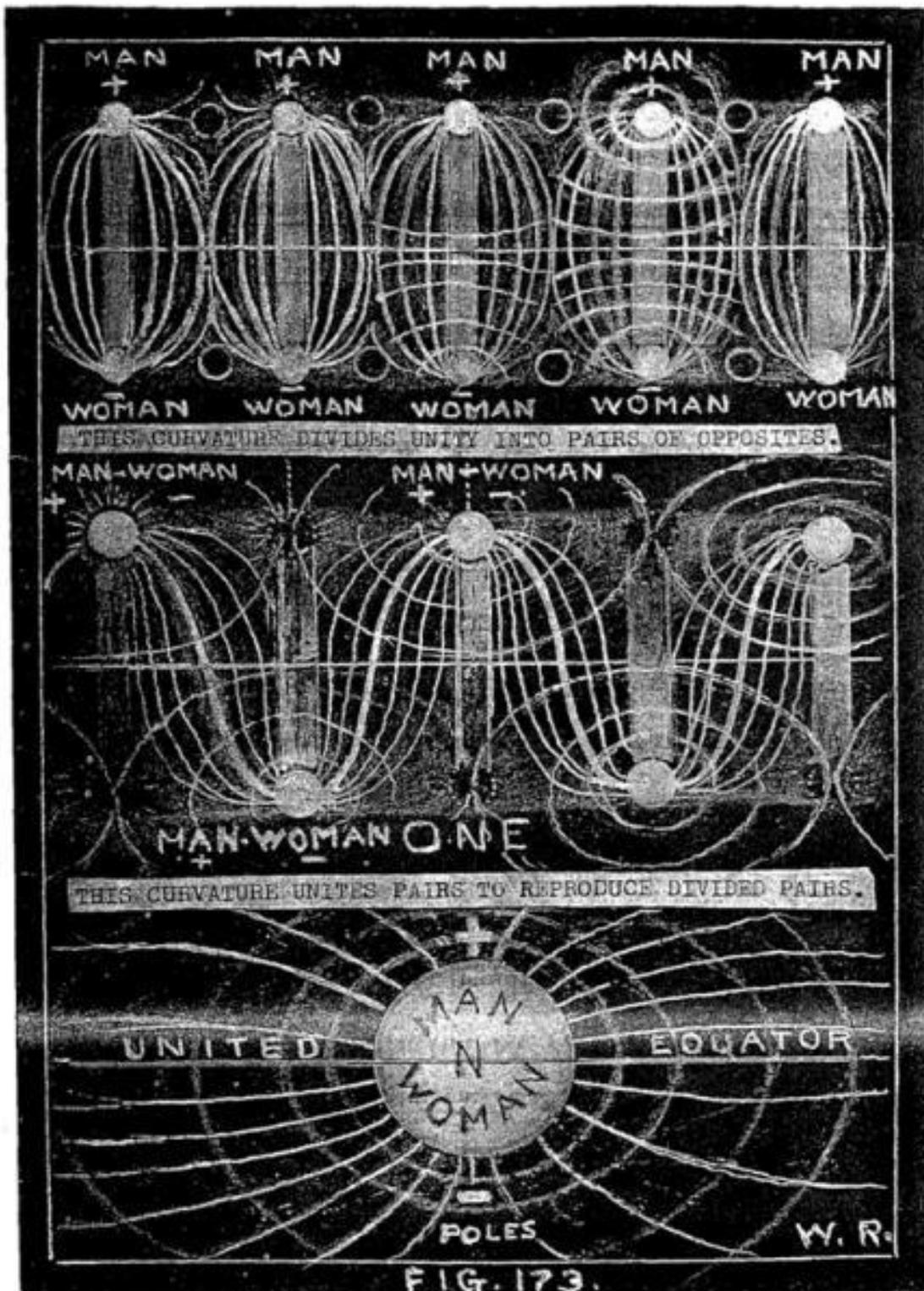
It now becomes necessary to explain away the so-called magnetic lines of force which do exist in all electric phenomena but are not what they are supposed to be, as their name implies.

These curved lines in the sun, or earth, or between the poles of a bar magnet have no relation whatsoever to a so-called non-existent "magnetic force". Magnetic poles are balancers and measurers of polarized electric effects. They belong to the zero of equilibrium from which equators of zero curvature extend to bound, control and balance all gravitational and radiational curvatures.

What, then, are these so-called curved magnetic lines of force? A familiar demonstration is given to students by placing some iron filings on a piece of paper over a magnet, then agitating the paper until the iron filings curve OUTWARD from its centering radius as you see them connecting north and south poles in Figures 168 and 161.

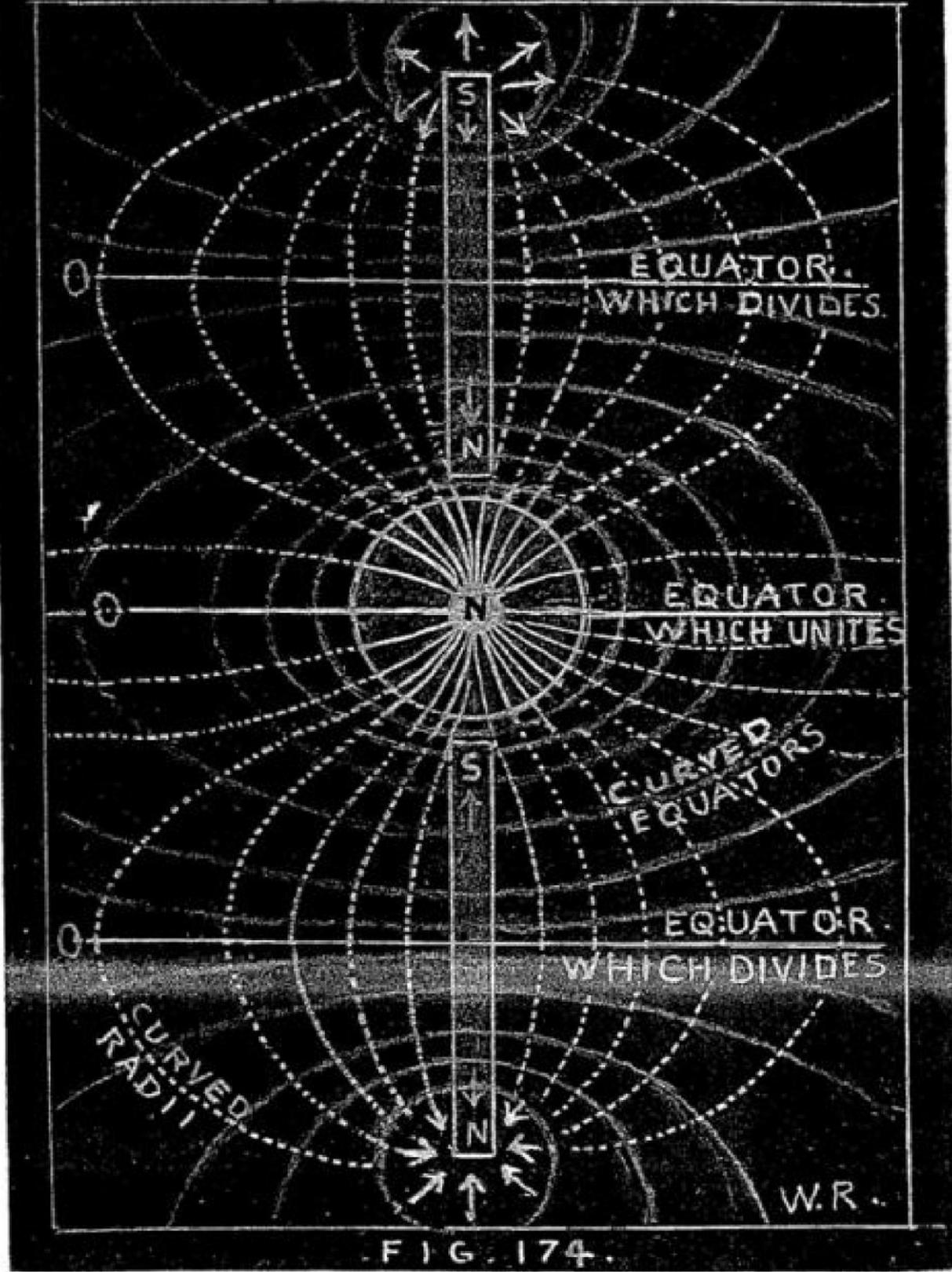


THE OUTWARD THRUST OF RADIATION UPON RADII WHICH BEND AWAY FROM POLES TO LOSE THEIR CURVATURE IN EQUATORS AND GAIN IT AGAIN IN REVERSE, TOGETHER WITH THE INWARD PULL OF RADII WHICH BEND TOWARD POLES AND LOSE THEIR CURVATURE IN POLES AND GAIN IT AGAIN IN REVERSE, CAUSES MAXIMUM RADIATION AT EQUATORS AND MAXIMUM GENERATION AT POLES. THUS ARE SUNS WOUND UP AND UNWOUND.



NATURE IS FOREVER DIVIDING THE UNITY OF FATHER-MOTHERHOOD INTO SEX DIVIDED FATHERS AND MOTHERS WHICH UNITE INTO THE ONENESS OF FATHER-MOTHERHOOD TO MULTIPLY SEX DIVIDED FATHERS AND MOTHERS.

NATURE'S TWO CURVATURE SYSTEMS



ILLUSTRATING NATURE'S REPRODUCTIVE PROCESS. CURVATURE FOR DIVIDED PAIRS MUST REVERSE FOR UNITED PAIRS. TWO EQUATORS MUST BECOME ONE AND TWO CENTERS OF GRAVITY MUST ALSO BE ONE.

These curved lines are the electric effects of polarization. They are radii of the spheres they help to manufacture, and radii of light spheres in Nature are not straight lines. They are curved.

We shall go even farther than that and say that they belong to that branch of electrical effects which we call optics, for they are curved lines which bend -- NOT ON ACCOUNT OF MAGNETISM -- but because of the light lenses which completely fill every wave-field with their illusion building curvatures right up to the very planes of zero curvature which encloses Nature's cosmic cinema projecting machines.

Let us look at it from that point of view. If, for example, the optician shows you a lens like that in Figure 167 and you look through it you will find that it magnifies small print to large. In other words it EXPANDS them. Conversely if you look through one like Figure 166 you will find that it reduces large print to small, In other words it COMPRESSES them.

It does not have to be explained to you that this is all optical illusion. You know it is. But the lenses shown to you by the optician are small concave and convex things made of glass or crystal which you do not connect with such large scale effects as Nature's concave and convex lenses, which are made of opposed light pressures instead of glass.

It is this difference which makes is difficult for us to tell you that both gravitation and radiation are but electrical effects of opposed light pressures--and such effects are OPTICAL--JUST PLAIN OPTICAL ILLUSIONS and nothing more.

Many mystics have told the world that the universe is but illusion, but none have clarified it dynamically. We shall clarify it dynamically so that those of cosmic perception will understand that this radial, radiating universe is a Mind imagined radial expansion from zero, and that the universe of gravitation is a radial contraction to zero. There is no existent reality to it. It is but an electric thought-of-Mind effect expressed in electric thought-waves which seemingly divide and multiply zero to create a mirage illusion of motion.

We will again take but one step at a time to simplify this seemingly complex problem. Imagine yourself standing on the curved surface of the earth looking upward through the concave lenses of light pressures above you. Every radial direction of your vision would be like those in Figure 163. They would expand and curve outward, away from each other, as they receded from your vision.

Conversely, the light rays which came toward you through the convex curvature of Earth's light lens would contract and curve inward, toward each other.

Within this principle are both the effect of gravitation and radiation, also the fatherhood and motherhood of Creation.

If the light pressures above your head did not curve in planes parallel to the fifteen pounds pressure which curves around the earth, the rays which reached you would not bend in curves, but would be parallel, such as those which pass through a lens of zero curvature as

shown in Figure 162. Nature is not like that, however. Nature is composed of spheres and spheroids and the light pressures which surround them are all spheroidal.

We are interested in the FACT that there are two opposing systems of curvature but we are more interested in WHY there are two systems. The WHY is simple but of vast importance in your thinking. We will tell you the WHY in the simplest of illustrations.

Imagine many silken threads hanging vertically down in a still room. There is not the slightest movement in any of them for there is nothing to disturb them. Now imagine yourself in their midst. They are hanging all around your head, close to your mouth and nostrils. Now note that when you breathe out all of the threads curve outward from where you breathe. Your outward breath is an outward explosion which affects those threads by establishing a system of curvature appropriate to it.

Now note that when you breathe in that whole system of curvature immediately reverses itself into the very opposite system. The threads all bend inwards to the other side of the equator you established for them the moment you polarized the equilibrium which your breathings disturbed.

Now all you need to do for complete understanding is to translate those threads into light rays which bend in the pressures established by polarizing the universal equilibrium. Could anything be more simple? Yet the world has not yet been able to fathom it.

If science had fathomed it we would not be subjected to the law of thermodynamics which says, in effect, that those threads of light can bend outward but they cannot bend inward. In a pulsing universe how can that be? It does not stand up against the simplest of reasoning.

The thermodynamic laws say that the outward explosions of radiation are all that are possible, and there is no compensating replacement of force which continues those explosions, which is equivalent to saying that a machine gun has no new powder to replace its discharged bullets.

All nature is a perpetual machine gun. One little speck of radium will discharge bullets of light for two thousand year. Every discharge is an outer breath. Is it reasonable or logical that such a little living thing, whose life cycle may be two thousand years, can breathe out all that time without breathing in? Could you do it? Then why expect it in any other expression of life, organic or inorganic. Always bear in mind that every corpuscle of matter in the universe lives as you live, and breathes in and out as you breathe in and out.

You express life as a complex organic body, but do not ever forget that your body is composed of countless billions of corpuscles which breathe in and out as you do in periods of life cycles appropriate to their structure, as your life cycle is appropriate to yours.

Reason that out by giving deep thought to it. How could you have a living body which is made up of dead parts?

Let us understand curvature in polarized wave-fields of divided light, therefore, as but part of the mechanics of the TWO-WAY SYSTEM OF MOTION which records the action-reactions of this pulsing universe of God's electric thinking.

If the universe were in equilibrium there could be no light rays, but let us imagine that there are light rays which hang like the threads in the still room above mentioned. If there could be such light rays they would be parallel, like the rays in Figure 162, also every section of it would be like the lens in that diagram.

The universe is not in equilibrium, however, not any part of it, not even one cubic millimeter.

The entire universe is forever polarizing and depolarizing in every fraction of it. WHY IS THIS? It is because every expression of energy is an extension from a point and a retraction to a point.

This pulsing process creates a curved radial system of change in potential in every radial direction, and a curved spheroidal system of equi-potential layers around each point of extension upon which there is no change.

As these two opposing systems of curvature in Nature are not yet known to science we must carefully define them. We may as well give them names appropriate to their meanings. We will, therefore, give the name RADIAL SYSTEM to that system which is unequal in its gravitational and radiational measures from every point of its curvature to every other point.

To the other system we will give the name SPHERICAL SYSTEM because every point of curvature upon the spheres which Nature is building, and upon the prolating and oblatting spheroidal forms which are winding up to, and unwinding from spheres, are equal in their radiational and gravitational measures.

Now note that the spherical system of curvature is that which constitutes the lenses in God's motion picture wave-field projection machines, and the radial system is that which is projected as light rays through the lenses to make the lights and darks of the moving imaged forms of God's imaginings.

We will study the diagrams together which graphically describe the workings of the insides of God's wave-field cameras, bearing in mind that the outside boundaries are cube equators of zero curvature.

In Figures 164 and 166 light rays of the radial system, which have been mistakenly called "magnetic lines of force", bend outward from their polar equators and inward toward their dividing equators.

Conversely, the very opposite system of curvature prevails in the spherical system as shown in Figures 165 and 167. The spherical system bends outward from united equators and

inward towards polar ones.

Figures 168 and 169 tell this story graphically. Figure 168 is a bar magnet. This represents a divided pair, such as positive and negative, or man and woman, or any other pair of opposites. Such a polarized pair can but depolarize--they cannot reproduce their kind.

Why is this? It is because each has its own center of gravity and of radiation. Each is male and female--father and mother, but they cannot be male--female--father--mother until their two dividing equators and gravity--radiation centers become one.

Figure 169 will describe how this is accomplished in Nature. In this drawing two bar magnets are shown. The father principle, represented by the positive end of one bar magnet, and the mother principle, represented by the negative end of the other bar magnet, interchange their polarities.

A complete reversal then takes place when two centers of gravity and two equators become one.

See also Figures 71 on page 31 of Course N° 8 and Figure 82 on page 26 of Course N° 10, also 161 and 173 in this lesson.

By studying Figures 71, 82, 169, 173 and 174 you can see how bodies are produced through the union of two opposites of two pairs. This study will reveal much to you to apply to the principles of mating and the reproduction of balanced offspring.

AGAIN WE DIVERGE FOR A MOMENT

We have spoken of the limitations of the senses in discerning effects of motion, and the confusion arising in scientific observers whose conclusions were arrived at by the evidence of their senses. In the study of iron filings following curved lines between the poles of a bar magnet, which you see in the above mentioned diagrams, science arrived at the conclusion that they were magnetic lines of force because scientific observers thought that there is a force other than the pumping electric force resulting from polarization, which attracted and repelled. Because of the focal poles which measured and balanced the electric division, science concluded that this other force was magnetism.

The fact that nails could be picked up where the two poles are, helped the forming of this wrong conclusion, never suspecting that the electric current still remained active in the steel bars and that the force of gravity--or positive electricity--picked up those nails.

The iron--filings are radii and belong to the radial system of curvature which are visible to the eyes, just as the radiating arms of a spiral nebula are visible to the eyes. That which was not visible to the eyes of these observers were the opposing lines of the spherical system of curvature which are shown in the diagrams above mentioned. The lines of this system of

curvature were invisible however. Had past observers even suspected the two-way workings of electricity in the effect of curvature, as well as in engines, such a conclusion as that of attributing those lines of iron filings to magnetism, would have never been made.

Figures 170, 171 and 172 show how both systems of curvature operate to carry or the interchange which builds spherical bodies. In the upper diagram you see the fully formed sphere which centripetal power has built within its eight cube divisions. In the middle one you see the increasing power of centrifugal force exerting its radiating influence at 90 degrees from the centripetal power of gravity which built the sphere. Note the curvature of gravity in equipotential pressure gradients which surround the sphere. Note their gradually oblate spherical forms -- poles shortening -- equators widening -- to make disc-like conical bases for the centripetal power of gravity to take its turn to reborn new bodies and mature them for radiation to again disintegrate.

If you thoroughly comprehend this perpetual process of body building, maturing and aging which is Nature's purpose, you now need but little imagination to comprehend why the sun extends its corona out much farther at the equator than at the poles, as the lower drawing of the sun in eclipse illustrates. Also it should tell you why the boiling sun spots occur only near the equator, why its equatorial belt is liquid and the polar regions solid, and why the sun is still generating at the poles in excess of its radiation at the equators.

Figure 173 will go farther to enlighten you in respect to the manner in which the two systems of curvature turn light outside in to build bodies and inside out to take them apart. The upper diagram represents five polarized pairs of opposites of any kind of bodies. We have marked them man and woman to bring[?] the idea more closely home than by just marking them positive and negative.

Each divided pair is represented by a bar magnet. If you note the system of curvature which controls divided pairs you will understand why reproduction cannot take place with one wave. In the second drawing these bar magnets are alternately reversed. Now you will see that two disunited waves can become united. Instead of man and woman we now have man-woman, or father-mother. In every sun or planet the positive, or northern hemisphere manifests fatherhood and the negative hemisphere represents motherhood. The two are one physically and they can reproduce physical bodies of their kind. Motion can beget only motion. It cannot beget the Mind -- or Spirit -- which created the motion.

Balanced physical mating will reproduce balanced physical bodies but unity in marriage between unfolding humans means more than physical unity.

Humans have God awareness in them. To the extent that they have God awareness in them they have the capacity for love in its Spiritual or Mental sense. When the minister declares that "ye twain are now one" they are united physically by the union of their polarities in sex interchange but they are not united as one Spiritually.

When a man and woman find unity in both physical and Spiritual balanced mating they

have found the greatest and most priceless of treasures which life can give. Mental mating multiplies the Mental power of both far beyond that which is possible in individual expression.

CONCLUSION

Figure 174 illustrates the complete interchange between both systems of curvature which control all effects of Creation. The essential point to take note of in this diagram is that north and south have also become one at a point of gravity within which the outside has been contracted toward a point on the inside which is NORTH, while SOUTH is expanded to a wide expanse of space to surround and interchange with it to continue the Cosmic motion picture of God's inspired imaginings.

A new world of unfolding Spiritual humans is in the making. How much of beauty and inspiration are you contributing to that new world by knowingly working with God as co-Creator of His universe with Him?

It is in your power to immortalize your name by your immortal works. Beethoven will be reborn in countless humans for ages because of his gift of love to the world. Your immortality depends upon what of your Self you give to the world. That which you take without having given is buried with you in the oblivion of a nameless tomb.

A FINAL THOUGHT

One of the great unanswered questions of all time is the question of how the seed unfolds true to the pattern of whatever species it represents, whether man, oak, birch or pine tree, bird, insect or elephant. In each case the seed is a microscopic still center, surrounded by an infinitesimal volume of inert gas, which is again surrounded by a minute amount of nourishment for the reborn body to feed upon during its first stage of generation into a body.

The answer lies in this lesson just closed. God's bookkeeping and recording system lies within the inert gases. They are the libraries of all Cosmic records. The mechanics of making those records is the electric wave system of light projected through light-pressure lenses to make micro-cosmic film negatives which are Nature's prototypes of micro-film negatives made by man for recording his actions.

The spherical and radial systems of curvature control the shape and form of every particle of growth which unfolds into any species of body into its proper pattern. Bear in mind, however, as we have before stated--that every creating thing which unfolds from its seed refolds back into its seed simultaneously. **THUS IS GOD'S LAW ENDLESSLY FULFILLED.**

UNIVERSAL LAW, NATURAL SCIENCE AND PHILOSOPHY

By

Walter Russell, Sc. D., and Lao Russell

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WE NOW CONSIDER THE MAKING OF MATTER

The time has now come when we must very briefly sum up all which has heretofore been written into a climaxing picture which the many brush strokes of the past lessons have made possible.

We have pictured the orderliness, the symmetry and the balance which all Nature expresses in its efforts to stand up from awakened rest and get into strong action for the one purpose of manifesting God's knowing.

The great primal fact of thus manifesting God's knowing is that all creating bodies of all the elements of matter, or the bodies of thoughts of living things must forever manifest the two-way life cycles of action by springing from rest and returning to rest, forever and forever, throughout eternity. These cycles are not just whole life and death periods. They are from moment to moment, expressing the action and rest cycles of breathing. They are from dawn to dawn expressing the action of the day and the rest period of night. Likewise, they are from birth to rebirth, expressing the action of the whole life cycles of what we call life and death.

To put it in more simple words of scientific meaning, every creating particle of living-dying inorganic matter, or every creating body of living-dying organic matter must constantly divide its cyclic periods in to manifesting rest for one half of its cycle and manifesting action for the other half.

The point which must be understood is that the dynamic period of action is manifested at 90 degrees from the rest period of inaction. This principle is as true of a man who must stand up from his resting position to walk--or for a wheel to roll--or for a top to spin--as it is for the elements of living-dying matter to rise from their inert gases to a plane of 90

degrees in order to manifest action in one half of their cycles before seeking rest for rebirth again in their inert gases, or for the crest of a wave to extend from its axis to a 90 degree plane.

This majestic primal fact of all Creation is the most wonderful and beautiful thing in the universe to inspired man of Cosmic knowing--but to newly unfolding man who not yet knows God in him, it is his tragedy. To him who has not yet known his eternal Self, nor his immortality that rest in God's loving arms is DEATH--and his END.

There is no END in Nature, nor is there a beginning--there is but a continuity of life in both action and rest.

There is no better way of expressing that great primal fact of Creation than to tell of the four efforts which the elements of matter make to stand up at 90 degrees from the plane of their awakening to build bodies of light to roll like wheels of light throughout the universal dark, and then another four to lie down to rest before a new awakening.

The elements of matter are the bodies of light which God builds with the Light of His knowing from which our bodies extend to manifest the Light of our knowing.

The laws which govern the elements of matter govern our bodies because our living bodies are composed of these living elements.

It has always been a fixed conception that the elements are permanent, that no particle of matter can ever be destroyed. Even though they be transmuted into other "substances" their basis still remains and even though complexed into many compounds their component parts still remain and will still find each other upon decay or disintegration of any organic or inorganic compound.

That conception of the indestructibility of matter is not true to Natural Law. All of the elements are but polarized states of motion which come and go--appear as "life" and disappear as "death", as their compounds in animal and vegetable "life" also do. The elements are not "substances". They are but the pressures of motion--divided motion--unbalanced opposites of motion seeking balance.

We come back, therefore, to that one great primal fact of Creation that all expression of idea in any material form is divided into sequential cycles which begin with awakenings from rest--which man calls BIRTH--followed by sensed thinking and action--which man calls LIFE--and ending in conscious sleep to renew the body for re-awakening--which man calls DEATH.

The difficulty for man in this early stage of his unfolding is to comprehend this basic fact of Creation, for he mistakes sensed thinking for Consciousness. When he sleeps it is only his electrically sensed thinking and feeling which cease vibrating because his "batteries" have run down by depolarization.

Man's error is in thinking of that state as unconsciousness. Consciousness never sleeps nor rests--for it never acts.

Consciousness is the fulcrum of knowledge upon which the sensed lever of man's thinking vibrates to express knowledge. The fulcrum never acts. The fulcrum but supplies the POWER--the KNOWLEDGE--the DESIRE--and the INSPIRATION for the action.

Consciousness in man is God-awareness in him. That God-awareness of power never sleeps. In it is desire which never sleeps. The greater man's KNOWING the greater is his awareness of Consciousness and desire which never sleeps. It is THAT which is LIFE--and THAT is continuous--being the undivided Life and Consciousness, knowing neither unconsciousness nor DEATH.

It is axiomatic, therefore, that the "life and death" cycles of man and of the elements of matter do not vary. They are the same, for man's body is a compound of these elements.

What is the distinguishing difference? That is the puzzling, confusing question to which the answer is that man confuses MAN with the body of MAN. The body of man is but matter. It has no awareness of its fulcrum. It vibrates in motion only because of the desire which is extended from the fulcrum exactly as a man lifts a ton rock with a lever because he desires to lift it.

To put it more simply, MAN is the fulcrum of the lever which is his body. His body operates because of desire in the fulcrum to manifest action. The fulcrum is MAN, THE ETERNAL. The body of man is but a form which manifests The Eternal.

The body cannot act until desire is extended from the fulcrum. Try it. Try moving one finger without consciously desiring to move it. You cannot do it. Your finger will remain motionless unless you extend desire into it from the fulcrum.

The fulcrum of desire for motion exists within the atom as well as in man. Every motion of matter is a command from the fulcrum by telegraph messages of sensed vibrating light-waves extended to the atom, planet or butterfly in the same manner as they are extended to man.

The mechanics of the two electric impulses which convey messages to the senses of man or atom are the same. They are the two systems of light-curvature which carry the messages in the form imaged patterns of Mind desire. The radial system integrates and disintegrates the bodies into and out of their imaged forms, while the spherical system of lenses controls the projection of light rays for one half of each cycle and disintegrates them for the other half.

When man knows his Self as Eternal Man, he then will know that he is Eternal Life in which there is no death.

It is this point of greater understanding of the relationship between Mind, and bodies which manifest Mind, that we have had to reach before listing the elements from which

bodies are made.

We can sum that up in this wise:

All inorganic matter, and organic bodies of compounded matter, have an electric sensed awareness of the commands which are extended to them from their fulcrums by radial light rays, but they have no awareness whatsoever of their centering fulcrums, nor of the purport of the messages.

The meaning of these electric messages lies within their fulcrums within which they are recorded as patterns. The patterns of all messages are radially projected through the control of the lenses of the spherical system of curvature. Together these two systems of curvature weave all patterned forms of all bodies in the imaged forms of Mind desire, or in the electric records of Mind desire stored within the fulcrums of all unfolding and refolding patterned bodies.

In animal life the control over their unfolding is known as instinct, or as action by automatic reflexes, without knowledge. It is through such patterned light messages, extended radially through ever curving light lenses, that God watches over all of His creating things.

Eventually man becomes aware of Mind in him, which is God-awareness--or God identity. He then begins to know the Light of his centering Self. Long aeons pass before awareness of God-man identity even begins.

That beginning has long been passed by the few among the race of man. The transition from sensing to knowing is fast lifting the few among men to their becoming the One Knower and the One Thinker of the universe--co-Creators with the One.

During those long aeons of transition instinctive control of the senses of hearing, smelling, seeing, feeling and tasting, which is strong in animal life, gradually lessen as man slowly shares Self-control with his Creator.

Man in the mass is still very little aware of his centering Self, nor of his identity with the One Supreme Being, but there are enough of the human race who have that Cosmic awareness to born another age of unfolding Man. It is to these few among men that God sent His Message of The Divine Iliad. These will understand--and will become the seed of the Age of Cosmic Man, now in its early dawn.

OTHER MISCONCEPTIONS CONCERNING MATTER

Before listing the nine octave waves of the elements of matter we must dissolve a few of the many misconceptions concerning matter and the universe. We regret that we have but space for a few words for each of these.

CONCERNING THE AGE OF THE UNIVERSE

It is a commonly accepted theory that the universe was created untold aeons ago by some giant cataclysm of Nature and is now slowly dying. For centuries savants of science have looked for evidence upon which to base its age. Only recently it has been announced that the 200 inch lens recently installed has revealed new evidence in the Andromeda nebula which may help to determine not only the age, but the shape of the universe, or at least, the extent of its boundaries.

The universe is ageless. Age means a passing of time. There is no such phenomena of motion as time in the Cosmos. The senses of man alone create the illusion of time because they sense a forward flow but not its backward voiding flow.

The senses of man do not inform man of Nature's cycles which continually flow both ways, through each other, simultaneously, from zero to zero without ever exceeding zero in fact, but to man's senses they seem to divide and multiply complexly.

The great error of man is in not realizing that matter is an electric record of God's thinking. God's thinking is orderly and balanced. In it is LAW and all of the manifestations of the qualities of love, truth, and the rhythms of His inspired imaginings. A cataclysmic accident of Nature would lack such orderliness in the chaos of its forming.

God's thinking is not cataclysmic, nor did it have a beginning. If the universe had a beginning then God had a beginning. Such an idea is inconceivable. If the universe is dying, so, likewise, is God dying.

CONCERNING THE SHAPE OF THE UNIVERSE

The shape and extent of the universe still confounds the mind of science. Many conflicting theories have been advanced, based upon such phenomena as time, the speed of light and other effects of motion.

Science text books show cylindrical forms which assume a certain symmetry of shape, and others compress the cylinders to form a series of spheres connected by small cylinders, like an elongated dumbbell.

Curiously enough each theoretical conception has an arrow running through its axis pointing one way, and marked with the word TIME on it. The idea of time seems to have made a fixed impression upon past observers and thinkers who ignore the basic fact of polarity in a universe in which ALL phenomena is divided into pairs of opposites which express their polarity in opposite directions, thus voiding each other in the mirrors of themselves but leaving a one-way effect of illusion upon the one-way sensed records in man's brain.

The universe is without shape. It is an infinite mirrored extension from a point within which it withdraws and disappears to reappear in pulsing sequences.

Every point in the universe is the same point. Likewise each one is the center of the universe and every happening anywhere is universal.

In the brief space which we can give for this idea no better visualization of the shapelessness of the universe could be given you than imagining yourself to be a light in the center of a sphere composed of a thousand little mirrors. Each mirror would reflect that light into its opposite mirrors and each would extend that reflection out to an infinity which has no end and no shape. Each light would be each other light, while seeming to be but an extension of it.

That is what we mean by saying that each point is the same point.

No matter which one of the lights you transport yourself to look out from, you would be no nearer infinity nor farther from it than you were before. That is what we mean by saying that every point in the universe is the center of the universe.

This universe is but a series of wave-fields bounded by mirror planes of zero curvature which reflect and extend the light of one mirrored plane to every other one. Wave-fields themselves are but extensions from zero which pulse one half of a divided cycle. Their withdrawal into their zero is the other half of their cycle.

This is a zero universe of rest from which motion seemingly extends from a measureless point and withdraws into it in pulsing sequences.

It is an universe of electric thought-pulsations which are electrically sensed with an awareness of motion only. All bodies are but electrically sensed motion centered by Mind which controls that motion through sensed awareness of pulsing thought-control.

The senses are but motion which have sensed awareness of motion. Having no knowledge, being but thought-records of Mind knowing, the senses mistake electric thought-pulsations for substance. They then mistake substance for reality which must have a shape.

A zero universe of Mind knowing is shapeless.

This universe of Mind imagined forms is a blank screen of space upon which imagined thought forms are projected. Those forms appear to be on the screen so long as the light of electric thinking projects them there, but if that light ceased to project thought-images they would disappear within the zero from which they seemingly sprang as effectually as form images of the cinema disappear when the light which projected them is shut off.

MISCONCEPTION OF WEIGHT

There has been much confusion concerning weight. It is generally considered that weight is

a fixed quality of matter, and not a variable one, which has an above and below zero, as temperature is measured.

A man who weighs 150 pounds on the ground, weighs less and less as he ascends above the earth, weighs more and more as he travels toward the north pole, less as he travels toward the equator and has no weight at all if he floats in water. The moment that his body displaces an equal weight of environment, he loses all weight.

The weight of anything depends upon how far out of balance it is with its environment. The glass of water in Figure 160, page 46, may weigh eight ounces when its environment is a gas, because the two conditions are out of balance with each other, but if you expand the water until its density is such that it is equal to its environment, it will float like a cloud and have no weight.

Science believes that this planet [our moon] has weight and would fall to the earth if it were not because of an initial impetus of just the right speed which keeps it from falling to the earth or from flying off at a tangent.

On the contrary it has no weight whatsoever. It is like the man who has no weight when he floats in a balanced environment. Also the moon is actually "falling" the other way, as all planets and moons all do. The reason they all recede from each other is the same reason that water vapor rises from water.

Every star and planet in the entire heavens is floating in its wave-field and has no weight whatsoever in respect to any other star or planet. Also every planet and moon have just the right velocity to keep them floating where they are in their own vortices. There are countless billions of these and it couldn't just "happen" that Nature gave each of these just the right "initial impetus" to keep each one in its right orbit. That would be too colossal a coincidence to be even considered.

The inner moon of Mars circles Mars every seven hours while the outer moon takes thirty hours.

Likewise, our inner planet, Mercury, speeds around the sun once every eighty-eight days while Earth takes three hundred and sixty-five days. Still farther out Jupiter consumes almost twelve years in making one revolution.

All of them have just the right velocity for the positions they occupy in their wave-fields. The "initial velocity" theory had an unexplainable weakness in the fact that velocity is not constant, as it should be to sustain the theory. The velocity of each planet and moon varies in each revolution around its primary. Its speed increases during one half of its journey around the sun and decreases on the other half.

The seeming pull of gravity between planets and the sun or earth tides to the moon is not due to the attraction of matter but to the changing curvatures within wave-fields which must constantly readjust every planet and moon in the solar system to every other one.

Matter neither attracts, nor repels matter. Every particle of matter in the universe is constantly seeking balance, and finding it only to again lose it.

In lieu of space needed to further expand this idea we will write down some definitions of weight which we hope, will modify the general belief as to the meaning of weight. They are as follows:

Weight is the sum of the difference between the two pressures which act on every mass.

Weight is the measure of the difference in electric potential between any mass and the volume it occupies.

Weight is the measure of unbalance between any mass and its displaced environment.

Weight is the measure of the force which a body exerts in seeking its true potential.

Weight is the sum of the difference between the inward pull of gravitation and the outward thrust of radiation.

CONCLUSION

Every mass in the universe has a true potential position in which it is in balance with every other mass in the universe. When in that position it has no weight in respect to any other mass in the universe.

Every such freely floating mass must continually move to adjust its balance to the shifting balance of every other mass in the universe, and every potential out of place must exert a pressure in the direction of its balanced position in the universe, but all balanced masses which are in their true potential positions float weightlessly in their insulating wave-fields.

We must forever remember that this is a zero universe of rest which evidences its resistance to divided motion in what we term pressure. The measure of that pressure resistance is what man calls weight.

THE NINE OCTAVES OF THE ELEMENTS OF MATTER

It will seem a very strange thing for all of you, but still more strange to the man of science, that we should begin an analytical study of the elements of matter by comparing their nine octave-wave cycles with the life cycle of a man, or [tree], or solar system, but we cannot obtain an over-all comprehension of the nine octaves of the elements of matter in any other way.

There is no variation in the process of Creation. The principle governing the life cycle of an electron, an atom, a violet or a man is the same as that which governs the life cycle of the

elements. There is not one whit of variation in all of them. All go through the same stages from birth to rebirth and those stages are nine--nine octave waves of changing attributes.

Let us exemplify this. A man reaches his maturity of maximum growth, strength and balance in four stages of increasing ability to polarize. Beginning from zero he passes through babyhood, childhood and youth to middle age. For a short period he retains his matured powers then declines gradually through the four stages of depolarization until he comes to rest again at the zero of his beginning.

During the entire journey of man's unfolding and refolding, each stage has attributes of its own which are entirely discarded in subsequent stages. The rattles of babyhood are discarded for toy trains, and toy trains for kites, and the strenuous games of youth are again discarded by the finally matured leader of man's affairs who has reached his physical and mental maximum of united power before his physical decline begins.

Let us parallel this example with the cycle of the nine octave waves of all of the elements. Instead of using the various names of the elements, as we use various names for the stages of man's growth, we will use the one name of CARBON for all the stages of carbon-growth, as we use the name of MAN for all of the stages of man-growth.

It will greatly help you to comprehend the picture of the universe as a whole if you fully comprehend that carbon is the only element in Nature, and all of the others are but names for stages of carbon's "nine lives".

Carbon reaches its full maturity at the midway balance point of its cycle--which is four and a half octaves. This point is reached in tonal stages which have attributes of their own. These attributes are as utterly discarded at each successive stage as those which distinguish a youth from a child--or a man from a boy--or each successive tone in a musical octave scale from every other one. At that midway point it is able to stand up with full strength at 90 degrees from the inert gases from which it arose into action, and into which it descends for rest.

Locate it on chart number 2--Figure 177. You will find it upon the amplitude of its wave, on the line of the united equators, which arises from the zero equators which divide the universal equilibrium into polarized pairs.

At that matured position it is in full strength and full balance. It is father-mother of all bodies in all the universe. Its form is a true sphere, equally divided into northern and southern hemispheres which rotate upon an axis ninety degrees from its center of gravity. Its body is hardest and most dense at this stage of its life, for it takes 3,500 degrees, centigrade of temperature to melt it. Its north and south magnetic poles likewise coincide with its pole of rotation.

Magnetic poles control the balance of all bodies. Like unto the man who walks a tightrope whose balance pole is 90 degrees from his dividing equator when he is in full balance, and

wobbles up and down when he is not in balance, so, likewise, do the magnetic poles of all unbalanced spheroidal oblatting bodies move away from their poles of rotation at varying angles to their equators, to control their balance as they depolarize.

Witness, for example, the controlling balance poles of our oblatting spheroidal planet. Our equator is way out of balance with the plane of this solar system's center of gravity in the sun. As a consequence the magnetic Light, of the Creator which controls all balance, places its balancing controls 23 degrees away from our pole of rotation. This causes our planet to gyrate unsteadily upon its axis as a top does when it is not spinning erect. It also divides (polarizes) the earth's center of gravity into two foci instead of one, which causes its orbit, and the orbit of its satellite, to be elliptical instead of circular.

Not so with carbon, however, or any of its satellites. The carbon nucleus is a true sphere and all of its satellites oblate as they spiral away to form a cone base, but they never leave the plane of carbon's equator, hence the balance poles always coincide with their poles of rotation. This also is true of all the rings thrown out by its depolarizing satellites.

Carbon is the ideal of perfection in bodies. Its structure is perfectly symmetrical and its balance is in perfect unity with its wave axis. Because of that fact its spherical body becomes a true cube when it cools sufficiently to crystallize.

Figure 131 shows you such a symmetrical disc on edge and Figures 146 and 147 pictures them from face view looking at them radially.

The glorification of spiritual man lies in emulating the balance of carbon in its relation to the universal balance, and of man's body structure as typified by the perfection and symmetry of the carbon body structure.

Likewise, the glorification of marriage of man and woman lies in emulating the multiplied power of unity of the carbon pair when its two divided equators become ONE.

Instability marks all disunited pairs in chemistry while the marriage of any two equal opposites immediately gives them the stability which can alone be acquired by the chemical elements by marriage.

We have diagrammed this effect of unity in Figure 94 on page 10 of Course N° 11. By referring to it you will see how such balanced marriage transforms the whole electrical and chemical body structure by the elimination of the metallic attributes, which are present in all disunited pairs, and by balancing the acid and alkaline attributes when unity is completely consummated. It would be well to review this diagram.

Carbon is strongest in its maturity for three octaves, just as a human is strongest during the years of his middle age. It is known as hydrogen when it has reached that vigorous age that a man reaches in his football age. Hydrogen is just one octave below the carbon octave. The carbo-hydrates are basic in organic chemical compounds. Beyond the carbon octave, carbon is known as silicon, which is, perhaps, the most plentiful "substance" on earth.

Beyond silicon its metallic qualities return, its melting points lower and it never again becomes a non metal, nor true sphere, nor true cube in its crystals, although it makes five supreme efforts to reach amplitude in balance in its next octave, and more in the next one.

This amazing story of the cycles of all creating things will be amplified in our analysis of the elements which constitute carbon's unfolding from its fulcrum inert gas during its generoactive half cycle period, and its refolding toward its fulcrum during its radioactive other half cycle.

ANALYSIS OF THE NINE OCTAVE CYCLE OF THE CHEMICAL ELEMENTS

We have explained in previous lessons the fact that nine is the universal number of units in all creating things, and in all effects of motion, which build the bodies of creating things. This fact has been thoroughly diagrammed and related to the cube-sphere upon which unified dual form, all mathematics and geometry are founded.

As the cube-sphere manifests the divided universal equilibrium which polarizes all effects into pairs of oppositely conditioned bodies of matter, and as all of the elements are bodies of matter which are either one or the other of these two polarized conditions, the universal number of NINE is basic in the elements as a whole, and in each octave wave of the nine as individual units.

SUMMARY OF UNITS OF THE PERIODIC CHART OF THE ELEMENTS

Number of INERT GASES--which are the seed for octave growth	9
Number of ELEMENTS in the nine octaves	63
Number of ISOTOPES of elements	49

Total number of unit parts	121

THE MYSTERY OF THE INERT GASES

The inert gases are not elements. They will not mix with any of the elements, for they represent the spiritual universe as recorders of thoughts and actions. They are the "BOOKS" of God's bookkeeping system. The unfolded patterns of all creating things are refolded in them for rebirth.

Likewise, they carry desire within them for unfolding from their seed-records that which they have recorded for aeons of repetitions for again repeating with the last added recordings of every patterned growing thing--be it lion or mouse--rose or forest tree--man or mountain, or even be it mighty star or nebula of the high heavens.

The inert gases are fulcrums for their octave waves. Electric thought impulses extend from their zero and return to them, in them is the inertia for the next impulse to come, the last having "gone to rest", as all things in Nature always do.

Do you think that your body can die? If so, observe the "soul" of radium leaving its depolarizing body in rays of light which are inert gases. You can actually see them in a spintharoscope. Radium will have another body when its depolarization reverses--as all effects of motion always do. It will arise from the records of itself in the resting plane of its wave axis. This it must do, else the heartbeat of the universe would not function true to purpose.

You may think your body can be killed by a bullet, perhaps, or by some unforeseen violent explosion. If so, try to "kill" a filament of tungsten by passing a hundred thousand volts of electric current through it. There will be nothing left of the body of tungsten. That explosion will dissolve all of it into fine vapor--but there is something which centers that tungsten body which cannot be exploded or in any way be affected by a thousand times such voltage. Helium, argon and neon emanations of inert light will still remain and the body of tungsten will as surely be repeated as that the next pulsebeat of the universe will repeat its last one.

Likewise, your body can neither die, nor be killed. It can but rest for a period. Those rest periods of all creating things cannot be evaded. In the meantime every thought and action of your Mind and your body, likewise every patterned form of every part of your body has been recorded cycle after cycle for the millions of years of your unfolding on this planet, as well as countless millions of years of repetitions--repetitions--repetitions of your Being.

No--your body cannot die or be killed. It can but rest between cycles of action while YOU, your Self, eternally exist as Conscious desire for Being which you eternally repeat in bodies which manifest your Being.

Remember THAT. Always remember that something centers your body which cannot be hurt or destroyed, and that is the Conscious Light of YOU whom you are now seeking and forever will until you find your Self in the Light of the One Being.

Remember that YOU exist eternally in the Light of Universal Soul--and your patterned body exists eternally in the inert gases which record your patterned body and surround the still point of Light of your Universal Soul.

When all motion has ceased which constitutes body, desire still remains to repolarize and again unfold that complexly patterned form which lies within a measureless, ultra microscopic point of that inert Light which forever awaits unfolding into the forms imprisoned there. And as every leaf and fibre of the mighty wind-blown oak is enfolded within a measureless point of light, so, also, is every bone, and tissue, and fibre of man's wonderfully patterned body thus enfolded.

You cannot, therefore, kill the oak by sawing it down, for all that has unfolded from that fulcrum-seed-Soul to manifest the idea of the oak has refolded into its fulcrum-seed-Soul wherein lies the eternity of the oak tree idea.

If you now ask of us: "Well--but what happens to my identity?"--we answer you that your identity is the sum total of your experiences over millions of years, and the record of all of those experiences is enfolded in the alpha, beta, gamma, helium, neon, argon, krypton, zenon and niton rays of that other world of Inner Light which is existent eternally within our transient world.

WE DIGRESS TO EXPRESS A THOUGHT OF GREAT BEAUTY

There is another world of great beauty within the world of our sensed awareness. Our senses suspect its glory, by telling us of a "hereafter" which will come after our sensed-bodies have disappeared.

That wonderfully beautiful ecstatic world is here now. It always has been and always will be.

You are seeking it NOW and do not know that you are. Your purpose on Earth is to find it.

Every experience you have is one more step on your way to it.

There are those among men of Earth who have found it. They have heard it in the silences of the forest. The Inner Voice of God's whisperings have told them of it. The rhythms of Nature have sung it to listening Inner Ears, and have visioned it to Inner Eyes.

Messengers have come from far worlds to tell of it to the Soul of man--but few there are who hear--and the many who will not hear crucify the Messengers--for the many have not yet found their Souls.

These live in the body and forever search for happiness in a hereafter which will never come, for he who seeks happiness outside of his Being will never find happiness.

Seek ye, therefore, the kingdom of heaven HERE and NOW, for behold--it IS here--NOW.

WE NOW CONSIDER THE ELEMENTS AND ISOTOPES OF MATTER

When we speak of matter we speak of waves of motion which we call light. The mystery of light confuses us because of the incandescence of the sun which blinds our eyes, warms our bodies and gives us all our sustenance from the growing things of earth.

Our senses are so constantly aware of sunlight that they tell our sensed reasoning that light is something in itself, something real--some SUBSTANCE which is basic, and therefore

permanent and eternal.

Even science so considers light. For thirty years there has been much controversy as to whether light is wave--or corpuscle. Light IS wave--and it is also corpuscle--giant corpuscle, such as a sun; or microscopic one, such as an atom.

That mystery can be simply clarified by asking ourselves this question: If light is wave and corpuscle, what are waves, and what are corpuscles? The answer to that question is that both WAVES and CORPUSCLES are MOTION.

If motion is an effect produced by polarizing an equilibrium, LIGHT IS ALSO AN EFFECT produced by that division. Again our senses accentuate the fact of LIGHT without thinking of DARK being a mate to LIGHT.

We must, therefore, revise our concept of light and dark. We must consider them both as we consider a male and female which interchange to produce each other, and not consider dark as less light, or light as substance.

The multiplication of that state of motion which produces DARK causes that effect which we call LIGHT. Conversely, the division of that state of motion which produces LIGHT causes that effect which we call DARK.

When you feel the warmth of the sun on your body you are feeling the effect of multiplying wave vibrations by making one long dark wave become a thousand or more short light ones. When you divide short waves by lengthening and slowing their vibrations you produce the opposite effect.

This leads us to the necessity for revising our concept of THE UNIVERSAL BODY OF MATTER as a whole. We must entirely eliminate the idea of substance from our thinking and substitute for it the concept that all matter and all attributes of matter are but electrically "manufactured" products of motion.

All of them, including light and dark, heat and cold, solidity and tenuity, growth and decay, acidity and alkalinity and every other conceivable pair of the attributes of matter, are the cosmically manufactured product of two-way motion.

The mechanical process of manufacturing Nature's products is the polarization principle which compresses to produce one of each pair of effects, and expands to produce its mate effect. The "machine" itself which produces these illusions of this objective universe is the octave wave with its two pistons which pump one effect out of the other and then reverse the process to produce sequential ones.

Back of all this is the Source of power needed for motivating the universal heartbeat. That motivating force is DESIRE OF MIND, without which neither God's Creation, nor yours, could ever be.

We have stated that there are 63 elements of matter, and 49 isotopes, in the nine wave-

octaves.

The reason there are 63 is because there are seven elements to each octave. As the amplitude element in each octave is a united pair there are really eight elements to each octave but as this central united pair has but one name it would be confusing to count the elements as eight, rather than seven.

For a greater understanding of these octaves we will use the word tones to describe the elements because they really are tones of octave scales which are as rhythmically placed in their octaves as the tones of a musical scale.

This universe of cube wave-fields is rhythmic in all of its effects, and its rhythms are derived from the cube as its mathematics likewise are.

By referring to Figures 176 and 177 you will see that these octave tones are numbered one to four on the positive side and four to one on the negative side.

Isotopes are divided tones, like the sharps and flats in the octave tones of music. Unlike musical tones, however, there are many more of these split tones than could possibly be put upon a piano, but not more than is possible for a violin in the hands of a master.

None of these semitone isotopes occur in any octave except between 3 and 4 on the positive side, and 4 and 3 on the negative side. By studying both charts (Figures 176 and 177) you will familiarize yourself with the simplicity of this octave variation.

Isotopes do not, and cannot occur in the lower octaves. They do not begin until the sixth octave, that octave in which carbon does not reach full balance and unity of wave amplitude to become a non metal, or salt, but still retains its metallic quality and is named cobalt. In the sixth octave there are five pairs of mated isotopes. See charts numbered 1 and 2, Figures 176 and 177.

When these two charts were first published and widely distributed in 1926, they showed seven full tones in the hydrogen octave instead of just the one which you see in Figure 175. At that time the creator of the new charts gave a series of lectures to tell science that the hydrogen octave consisted of seven full tones, and that hydrogen is number 22 in the periodic table instead of number 1. Shortly after that three of these full tones were verified by science, one of which led to the discovery of heavy water.

Science was in a quandary, however, regarding this "discovery" because the elements had already been numbered from 1 to 92, and a strange and impossible theory of atomic structure had been evolved which made it impossible to renumber the elements to make room for these verifications of the existence of other tones in the hydrogen octave which these new Russell charts revealed.

There was no way out of it but to call these full tone elements isotopes, notwithstanding the fact that isotopes cannot occur in Nature until the depolarizing power of radioactivity

becomes stronger than the polarizing power of generoactivity.

In the seventh octave carbon is known as rhodium, and is a metal. There are five pairs of mated isotopes in this octave also.

In the eighth octave carbon makes a supreme effort to reach its balanced position upon wave- amplitude, but does not come as near to it as in the sixth and seventh octaves, even though it makes thirteen supreme efforts to reach it by establishing thirteen fulcrums of gravity centers between lanthanum and lutecium, the latter one being the now very aged carbon which is not at all like its middle aged self.

Naturally there are thirteen mates between lutecium and bismuth to these thirteen efforts but two of these have not yet been recognized or isolated. If ever found they will be located between lead and bismuth.

Table of the Periodic Law. (Mendeléeef, 1904.)											
Series	Zero Group	Group I	Group II	Group III	Group IV	Group V	Group VI	Group VII			
0	x										
1		Hydrogen H=1.008									
2	X Helium He=4.0	X Lithium Li=7.03	Beryllium Be=9.1	X Boron B=11.0	X Carbon C=12.0	X Nitrogen N=14.04	X Oxygen O=16.00	X Fluorine F=19.0	Group VIII		
3	X Neon Ne=19.9	X Sodium Na=23.05	Magnesium Mg=24.1	X Aluminium Al=27.0	X Silicon Si=28.4	X Phosphorus P=31.0	X Sulphur S=32.06	X Chlorine Cl=35.45			
4	X Argon Ar=38	X Potassium K=39.1	X Calcium Ca=40.1	X Scandium Sc=44.1	X Titanium Ti=48.1	X Vanadium V=51.4	X Chromium Cr=52.1	X Manganese Mn=55.0		Iron Fe=55.9	Cobalt Co=59
5		X Copper Cu=63.6	Zinc Zn=65.4	X Gallium Ga=70.0	X Germanium Ge=72.3	X Arsenic As=75.0	X Selenium Se=79	X Bromine Br=79.98			
6	X Krypton Kr=81.6	X Rubidium Rb=85.4	X Strontium Sr=87.6	X Yttrium Y=89.0	X Zirconium Zr=90.6	X Niobium Nb=94.0	X Molybdenum Mo=96.0		X Ruthenium Ru=101.7	X Rhodium Rh=103.0	X Palladium Pd=106.6 (Ag)
7		X Silver Ag=107.9	X Cadmium Cd=112.4	X Indium In=114.0	X Tin Sn=119.0	X Antimony Sb=120.0	X Tellurium Te=127	X Iodine I=127			
8	X Xenon Xe=128	X Cesium Cs=132.9	X Barium Ba=137.4	X Lanthanum La=139	X Cerium Ce=140						(—)
9											
10				X Ytterbium Yb=173		X Tantalum Ta=183	X Tungsten W=184		X Osmium Os=191	X Iridium Ir=193	X Platinum Pt=194.9 (Au)
11		X Gold Au=197.2	X Mercury Hg=200.0	X Thallium Tl=204.1	X Lead Pb=206.9	X Bismuth Bi=208					
12			X Radium Ra=224		X Thorium Th=232		X Uranium U=239				

The above is a reproduction of the Mendeléeef periodic table of the elements as published in the modern textbooks. It is the present chemical record of the visible universe, or the range of matter within the perception of man as of the year 1904 and to which very slight modifications have since been added. It is correct only in the orderly periodicity of atomic weight, which is mass dimension. In all other dimensions and periodicities it is wrongly arranged. There is no eighth group.

All marked with a circle are out of place in octave periodicity and those marked with an X are properly placed.

The inert gases of the zero group are incomplete and 3½ octaves are missing.

This chart is not a workable or practical chart for chemists' use, for it in no way relieves them of the necessity of experimenting in their laboratories to find out that which should be known in advance of experimenting.

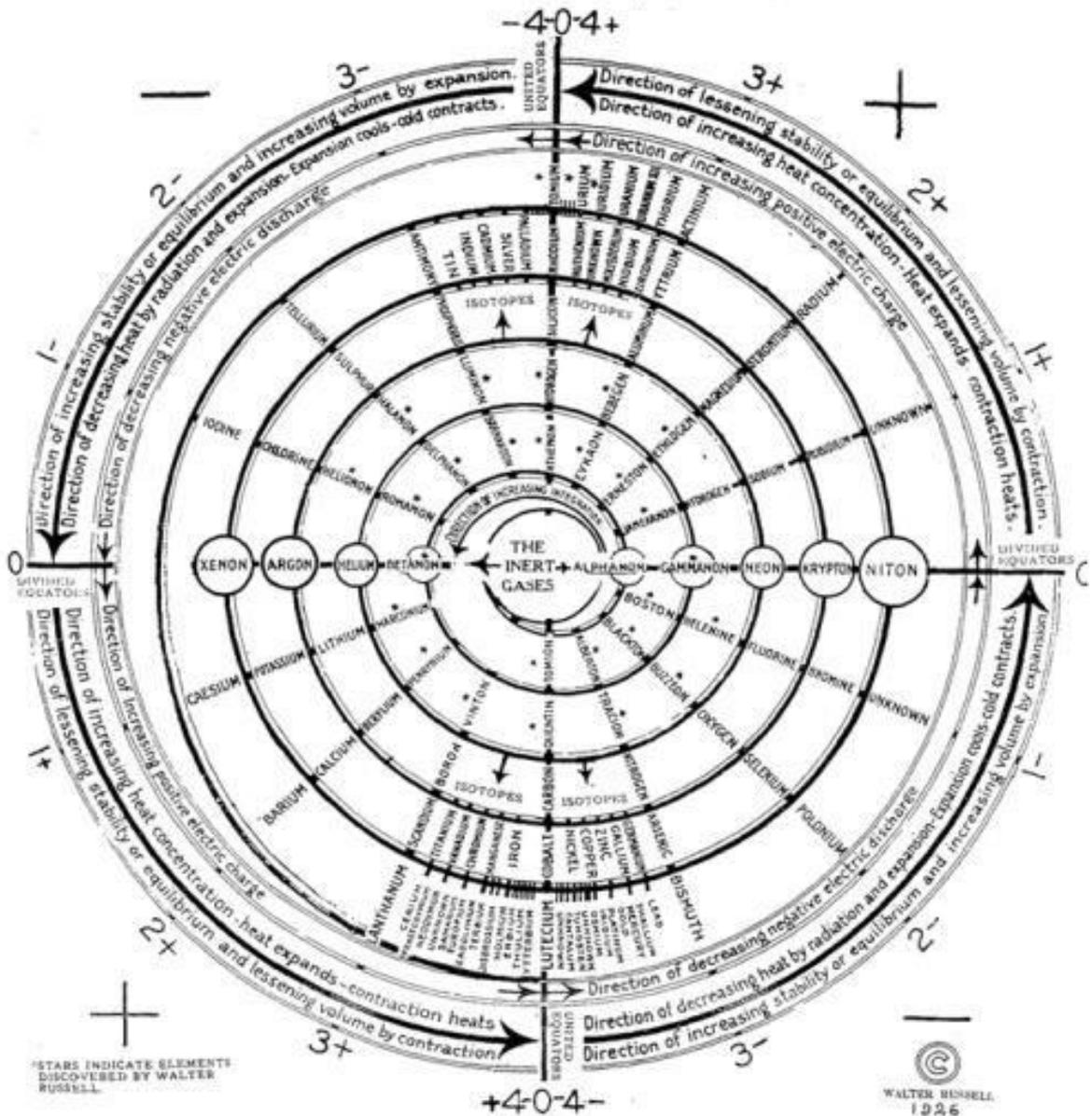
All periodicities of all effects of motion can be properly arranged on a workable and dependable chart such as that which has been herein published.

Incomplete as this chart is, Duncan says of it in "THE NEW KNOWLEDGE":

"This periodic law of the atoms is God's alphabet of the universe. By means of it, and by means of it only, can we ever hope to spell out the history and the future of creation. It lies here before us lacking only the master word,—the open sesame,—to creation; and, who knows, to the Creator too."

MENDELÉEEF TABLE OF THE ELEMENTS. THIS IMPROPERLY ARRANGED AND INCOMPLETE CHART IS ALL THAT MAN KNOWS TO-DAY OF THE ARRANGEMENT OF THE ELEMENTS. FIG. 175.

Periodicity is a characteristic of all phenomena of nature



The nine octaves of the elements of matter manifest the polarization principle for producing dynamic action by extending two equators from a fulcrum point of rest. These two equators arise by gyroscopic action, multiplied centripetally, in four concentrative efforts to an amplitude plane which is 90 degrees from the zero plane of the inert gases. They then descend in four deconcentrative, depolarizing stages to disappear in their inert gases and again reappear from them in endless cycles throughout eternity. Thus do all bodies appear and disappear -- to again reappear--forever.

Figure 177. The Russell Periodic Chart of the Elements, No. 2

CAUSE OF ISOTOPES--OR SPLIT TONES

In the first half of the life cycle of carbon it is strongly generoactive, just as a man or woman are until they have reached maturity. Just as death is born in the same cradle with us, we are not strongly handicapped by it until we have met it face to face at the halfway point of our life cycles. It then does handicap us for we have to resist its inroads by making greater efforts to do things which we did with ease in our increasingly generoactive days.

We find it harder to hold our bodies together and make them function as old age lessens our generoactive powers. Carbon holds out very well against the inroads of its depolarizing half cycle until it reaches silicon, in the fifth octave, although depolarization, which science calls radioactivity, has become preponderant one octave earlier.

From silicon on the efforts of carbon to combat increasing radioactivity become increasingly greater, and the metals of those isotope elements which follow it in succeeding octaves are our most precious and rare elements. Gold, silver, platinum and other rare metals are among these.

Likewise, iron, manganese, nickel, zinc, lead and copper are among the more plentiful and most useful ones.

Although Nature does not give us mid-tones in the carbon and silicon octaves the laboratory should be able to divide carbon and produce several pairs of rustless metals which are the prototypes of iron and nickel but much harder. A carbon wire would not only be highly conductive but have the advantage of hardness over copper, while still being as rustless.

The non-metal quality of carbon and silicon is graphically shown in combination. Carborundum is an excellent example of stony, crystalline structure of great density. Silicon alone, uncombined, yields many rare and valuable silicates such as quartz, and that invaluable product, glass, is basically silicon.

COMPARING THE NEW RUSSELL PERIODIC CHARTS WITH THE OLD MENDELEEF CHART

In the early part of this century the renowned chemist, Mendeleef, produced the chart which is reproduced here as Figure 175. Ever since then it has been the authority for practical laboratory workers, and the standard for the teaching of chemistry in universities and schools.

Unfortunately it is not only grievously inaccurate but grievously incomplete. It starts with hydrogen as the first element in the first octave. That is like starting the life of a man at about thirty years of age when he was born, and ignoring the seed from which his pattern unfolded.

We have many times stated that a bar magnet cannot be polarized at one end only, nor at two ends unequally. Nor can polarization take place without a dividing equator. The elements of matter--as a nine octave whole--constitute a polarized cycle. The Mendeleef table ignores this primary fact of equal poles in its cycle. It indicates a confused number of octaves beyond the carbon octave on the radioactive side between carbon and uranium while, in reality, there are just four and a half octaves, as our charts show.

Balance in Nature demands an equally polarized opposite of the generoactive side. There MUST BE four and a half octaves on the generoactive side of carbon as our charts show to balance the polarization of the periodic table as a whole. The Mendeleef table is like a pendulum which swings fully one way but swings only a quarter of the way beyond its fulcrum on the return swing. Such a condition is impossible in Nature.

Our ordinary range of perception has not enabled us to discover these "invisible" elements as yet but such an instrument as the spectroscope shows them plainly in their lines which tell the life history of all of the octaves, also there are the familiar alpha, beta and gamma "rays" which are the seed for these octave.

The red lines in the spectrum of hydrogen do not belong to that octave alone, for they tell of the other octaves of carbon's infancy. As the elements and isotopes become older they accumulate more complex lines to tell of more past history.

The spectrum of iron, for example, consists of hundreds of lines. Only a few of these belong to that octave. All of the rest reach far back into the preceding octaves of iron's life history. The physicist has never read spectrum lines as records of past history, however. He has but read them as symbols of the elements which gave him those lines.

Another grievous error is in not providing an inert gas as a seed from which hydrogen could grow. It would be just as illogical to expect to start the life of an oak tree at twenty feet in height without having started it from the seed. Every growth in Nature starts from its seed, and polarization means growth--generoactive growth toward strength and radioactive growth toward "decay". Only five inert gases are shown in this table. There should be nine.

In placing hydrogen in the first group without a mate for it in the seventh group that is again like trying to polarize one end of a bar magnet and leaving the other end unaffected. When hydrogen was discovered as but one of a whole octave that one should have been placed in group 4--the carbon group of united pairs. That would have accounted for the singleness of but one in a whole octave--the strongest one which indicated its presence at its wave amplitude while the others were not so easily discernible.

Many of the isotopes are placed in an eighth group. There is no eighth group. The others are placed among the elements as octaves without inert gases and in groups where they do not belong.

Pages are needed for a further analysis of the inaccuracies and incongruities of this table which we cannot give to it, so we will close this analysis by naming its one great fault,

which lies in placing the inert gases of the zero group at one end instead of in the middle. That zero group corresponds with the equator which divides the poles of a magnet. That dividing equator is in the middle and the poles extend from it BOTH WAYS in opposite directions.

That zero group is the fulcrum of a lever which likewise extends both ways from its stillness. It is also like the seed which divides the upward growing tree from its downward growing roots.

The group arrangement of polarity which divides every electric wave is as follows:

```

...centripetal..... 0 ..... centrifugal.....
four--three--two--one--zero--one--two--three--four
..... positive ..... 0 ..... negative.....

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A VERY BRIEF EXPLANATION OF THE BASIS FOR UNIVERSAL MATHEMATICS

The principle upon which universal mathematics is founded is the measure of plus and minus relationships between the various potential pressures of radial extensions from zero and back to zero. Whenever these mathematical relations balance with each other they are equi-potential and belong to the changeless spherical system of curvature in which all relations are in balance.

Whenever these relations are out of balance they are unequal in their potentials and belong to the ever changing radial system of curvature upon which there is constant change and consequent unbalance.

In the radial system of this three dimensional universe are two directions for computation of mathematical relation--1--the compressive direction of gravity which is accelerative as of its wave-field cube in inverse ratio--and 2--the expansive direction of radiation, which is decelerative as of the cube in direct ratio.

All other computations are based upon cross sections of this three dimensional cube-sphere universe. Planes cross sectioning a cube are two dimensional, hence the two dimensional computation is based upon the square and the one dimensional of length, breadth, or thickness is based upon the pressure and time relation of one point to another as of a straight line joining these two point.

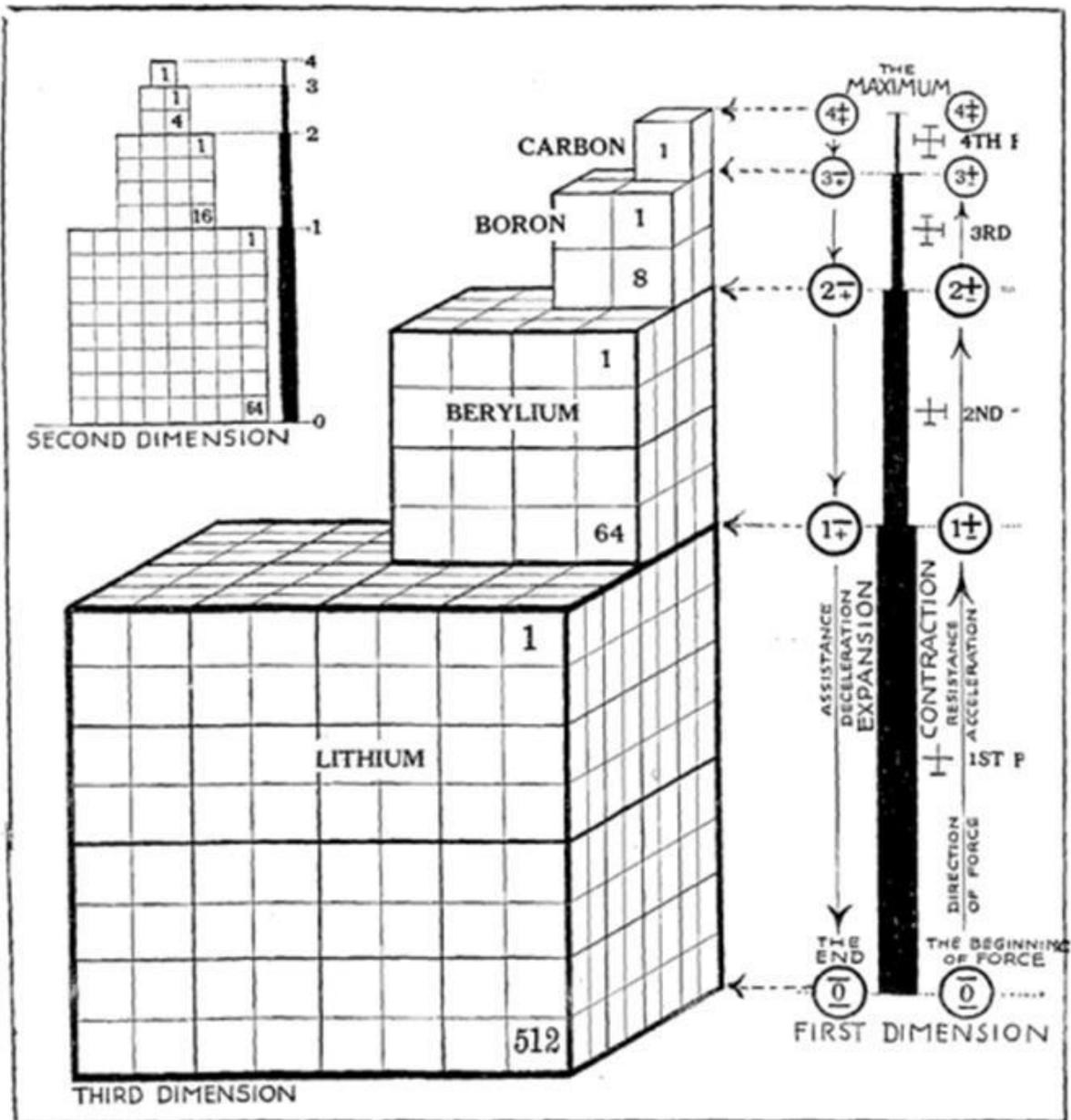


FIG. 178.
ALL DIMENSIONS ARE BASED UPON TONAL RELATIONS IN OCTAVE WAVE-FIELDS.

There are no straight lines in Nature, however, for all direction in Nature is curved, and all curvature is spiral. All motion in one direction, is, therefore a part of an orbit in which the motion covers equal areas in equal time around its controlling zero of gravity. Every one dimensional relation is therefore, subject to the three dimensional forces of this radial universe which accelerate or decelerate in distances travelled between radii.

Figure 178 will illustrate this principle of the relation of wave pressures which govern all mathematics.

The compression direction which leads to the crest of the octave wave demonstrates the need for acceleration as large volumes contract tonally to small volumes in the direction of

gravity.

The law of equal areas covered in equal times is manifested in all matter as it is in the heavens where outer planets move slowly and inner ones very fast.

Likewise, the principle which chemists call valence is manifested as element number 1 in an octave, such as lithium--contracts to become carbon in four stages of valence, numbered 1, 2, 3 and 4.

If you follow these diagrams carefully and give much thought to them, you should by now fully understand how solids are made by tonally compressing large volumes of matter into smaller volumes, ONE STEP AT A TIME, in four successive tonally rhythmic efforts until a volume measuring 512 units has been compressed into 1 unit.

You should now readily understand that much space must be "squeezed" out of such a soft silvery metallic element like lithium or sodium in order to make such a solid, heavy metal as nickel or cobalt. Conversely you should as readily understand that each space must be allowed to be absorbed by such metals as nickel and cobalt to make soft metallic ones.

Carrying this principle of expansion still further these metals vaporize and rise into the heavens instead of falling to earth, simply because they let more space inside by expanding each particle to many times its volume.

Figure 179 demonstrates the orderliness of Nature in thus integrating and disintegrating matter into solid and tenuous bodies. Arrows which point one way tell of the direction of gravity which hardens tenuous matter into solids, and the other way to tell the direction of radiation which softens, dissolves and disintegrates solids.

The letters within circles in Figure 179 are the symbols for six of the nine octaves.

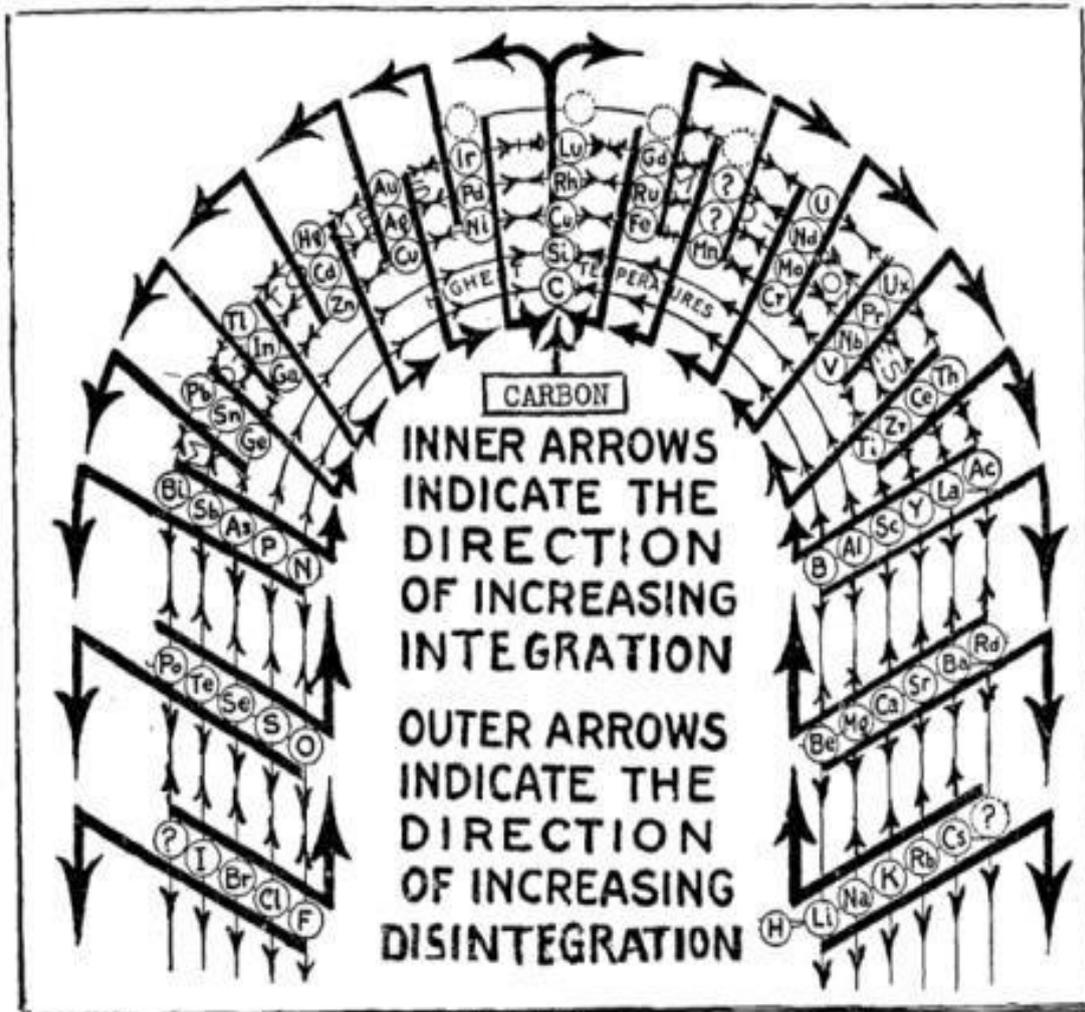


FIG. 179.
 NATURE IS ORDERLY, BALANCED AND RHYTHMIC IN ALL EFFECTS OF MOTION.

WE CONSIDER A NEW BASIS FOR ATOMIC STRUCTURE
 WHICH IS TRUE TO NATURAL LAW

The system of atomic structure which is now universally accepted has no precedent in Nature--is not in harmony with the workings of electricity--and does not in even a remote manner fit into the wave structure upon which this universal body is based, nor does it in even a remote manner manifest the polarization principle which divides waves into cycles of interchanging pressures.

It will serve no good purpose to use space which we cannot spare, to more than sketchily describe the present theory which now serves as the basis of atomic structure.

Very briefly then, the different atoms of the elements owe their difference to the number of protons which is their nucleus--and the number of electrons which surround those protons in spherical shell like layers.

Basing such a structural system upon the incomplete Mendeleef table, and assuming its

validity as a correct inventory of the elements, Hydrogen is number 1, so Hydrogen has one proton for its nucleus and one electron in the first shell. Helium is number 2--so helium has two electrons. This theory places four electrons symmetrically in the inner shell, then eight, sixteen and thirty-two in concentric outer shells.

Revolutions of electrons, as arranged in this theoretical structure, would be impossible in this electric wave universe. By studying the diagram relating to the spiral interchangings of an electric current you will readily understand why such effects are not within Nature's plan.

Every time an electron is added to a system or subtracted from it, it becomes another element, which is like changing the nationality of a family if a new child is born or one child dies. Following this theory, it has been attempted to produce gold by "knocking" an electron out of mercury. This would be tantamount to changing the structure of matter in our solar system by "knocking" Venus, Jupiter or Saturn out of it.

One of the characteristics of this present atomic structure theory is the provision that any electron in any shell can jump timelessly to the next inner or outer shell. To realize its impossibility imagine this planet of ours suddenly jumping to Jupiter's orbit. Such a sudden transition would, naturally, cause a frightful explosion of this planet into millions of asteroids, and it would do exactly that same thing to an atom if one of its electrons were suddenly transported from a high potential pressure position to a much lower one.

As this Study Course is primarily intended to tell you God's ways of creating formed bodies so that you can make them your ways, and as a volume or more would be needed to explain why such an invention is not even remotely related to the way God makes matter, we will dismiss further description of the theory by replacing it with the basis for a structure which is thoroughly in accord with Nature's laws and with God's processes for making matter into many seemingly different "substances".

All of Nature's systems are alike in principle. They are all electrical, and electricity does not work differently on small scale effects from the way she works on large scale ones.

By carefully reviewing the last eight lessons while reading this one, you will fully comprehend that this universe consists entirely of electric waves of octave wave-fields and there are no other electric systems outside of wave-fields.

The nucleus of every electric system is always its greatest mass of highest potential, such as our sun, for example. This nucleus is always one mass produced by the union of two centripetal vortices, which create doubly charged spheres where two apices of such polarized vortices meet as northern and southern hemispheres of opposite polarities. A group nucleus of singly charged masses is impossible in Nature.

THERE IS NO EXCEPTION, OR VARIATION OF THIS PROCESS OF CREATING MATTER ANYWHERE IN NATURE

After matter is thus created by the centripetal force of gravity it has to be returned to the universal equilibrium from which it was "borrowed" by the centrifugal force of radiation.

Again Nature has but one method of returning her borrowings. She divides her masses and depolarizes that which she has polarized. She disintegrates that which she has integrated--dissolves that which she has resolved--and radiates that which she has gravitated by only one method.

That one method is the throwing off of equatorial rings which she rewinds into planets which, in turn, throw off equatorial rings to become satellite moons. Centrifugal force works that way only. Centripetal force gravitates. Centrifugal force radiates. These opposite forces produce solids and dissolve them in that manner only.

Hence every particle of matter, whether it is an electron or any part of an atom, a giant sun or any part of a sun's system of planets and moons or any part of matter which constitutes suns, planets or moons, is--each of them--the nucleus of a system of its own. It has to be. That is the only way it can return to the universal equilibrium from which it was extended as a polarized pair.

Our planet is an "electron" of this solar system. Our moon is an "electron" of Earth's system.

Jupiter's many moons are "electrons" of Jupiter's system. None of them are arranged in concentric shells, but all emerge from Jupiter's equatorial plane and revolve in it until their curving vortices force them to change their planes of revolution as they get farther away from Jupiter.

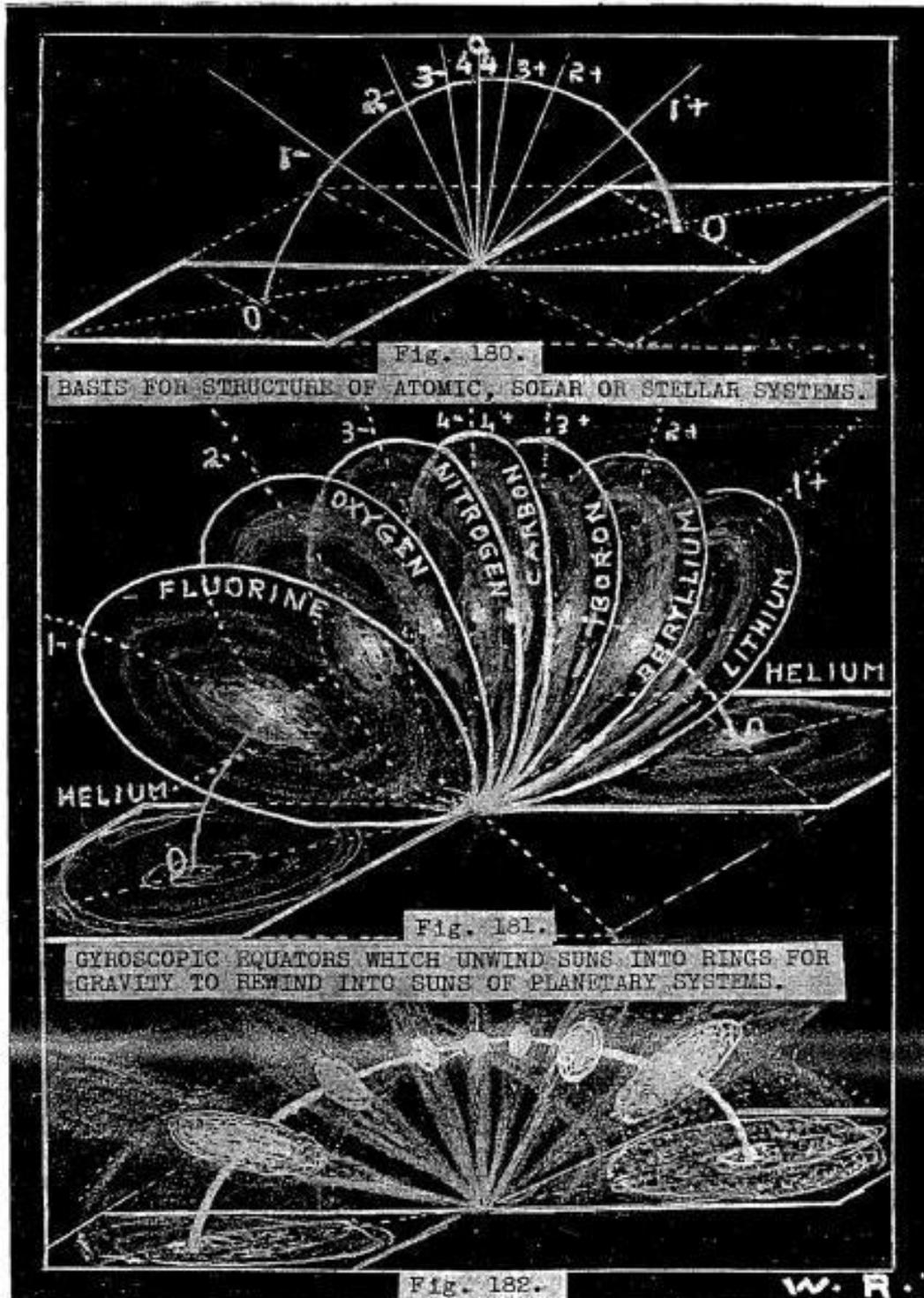
Jupiter's four inner moons revolve in practically the same plane as that of Jupiter's equator, but the orbits of others must gradually change until the planes of their orbits are ninety degrees from our solar equatorial plane in order to conform with the curvature of its vortice's axis.

It has not yet been observed that there are no electrical systems of any kind in Nature, whether atomic, solar or stellar which are not disintegrating systems. Matter integrates into single masses. It disintegrates into systems of mass units centered by single masses. Each of these mass units centers another disintegrating system as its nucleus. This process continues until solids become vapors, then gases of forever lowering potentials until their zero potential is reached.

BASIS FOR ATOMIC CHANGE AND STRUCTURE

In conformity with principles laid down in previous lessons we herewith present a diagram in three sections, which, including those in previous lessons, presents a basis for atomic

structure which, in every sense, conforms with Nature's polarized wave and her wave-field structure. See Figures 180, 181 and 182.



ATOMIC PLANETARY SYSTEMS EXTEND FROM THEIR ZERO INERT GASES BY WINDING SPIRALLY IN A SERIES OF FOUR TONAL VORTICES WHICH ARE RECORDED IN MATTER AS PROLATING SPHEROIDS. THESE BECOME TRUE SPHERES WHERE WAVE MEETS WAVE AT AMPLITUDES. ACCELERATION OF REVOLUTION WINDS SPHERES, ACCELERATION OF ROTATION UNWINDS THEM.

In Figure 180 is the wave axis and four pairs of tonal equators. Wherever these equators intersect with the wave axis that point becomes the fulcrum--or nucleus--of an octave tone system. These four pairs of focal points are determined by the six cube mirrors in each of two cube sections.

By referring to the cube diagrams you will note that the wave axis approached three mirrors in the cube "corners" where the wave reaches amplitude. Also the wave axis recedes from three mirrors behind it.

To diagram and explain exactly why those focal tonal points intersect at just those points would be to go deeply into orthographic projections, geometry and optics which is not necessary for you to delve into unless you intend to be a professional physicist or chemist.

To aid you to a sufficiently full comprehension of this question just imagine yourself walking diagonally up toward the corners of a room whose walls are mirrors. You would note that every step forward would be counterbalanced by two steps backward in the opposite mirrors.

Likewise, you would note all of the effects of centripetal force as your mirrored images drew together before you, and of centrifugal force as opposite effects became reflected in the mirrors behind you.

Also you can more fully comprehend this effect mathematically by reading the notes on mathematics in this lesson and studying the accompanying diagram. There is but one other characteristic which is necessary for you to complete your comprehension sufficiently for a layman's purpose, and that is the principle by means of which every state of motion of every growing body stands up from its zero plane of rest to its 90 degree plane of action.

This too we must simplify by calling your attention to the movements of a fast spinning top which seems to stand still when it is moving at great speed. As everybody knows who has watched a spinning top "die" and return to its plane of rest, the slowing top gradually leans away from its upright position of seeming stillness and wobbles spirally as centrifugal force gradually lowers it to the floor.

If you now reverse this process and imagine a top spinning faster and faster as it rises from the floor, instead of slower and slower as it falls, you will then understand the gyroscopic effect of two fast moving centripetal spirals such as you see in the pairs of gyroscopic wheels numbered 1, 2, 3, 4, 4, 3, 2, 1, in Figure 181 as their speed increases and gravity accumulates its potential at their fulcrum centers.

Each pair of those accelerating wheels will draw closer together as the indrawing compressive force of gravity compels them to unite at 90 degrees from their plane of rest. That effect is descriptive of the meaning of polarization. The opposite effect is descriptive of depolarization.

In each case the nucleus prolates gradually toward a true spherical form during the

polarization process of division into pairs, and oblates gradually into flatness during the depolarization process of returning to zero.

Likewise, all volumes contract as of the cube in reverse ratio as polarization increases and expand in direct ratio during depolarization. Naturally there are two foci to all forming spheres, and to the orbits of the systems they are throwing off from their equators. That necessitates elliptical orbits for all forming bodies and systems of bodies, for there is but one timeless passing moment when the transition from true sphere to spheroid actually takes place in the nucleus of any system, whether atomic or stellar.

A study of Figure 182 will be enlightening in this respect. In it you can plainly see how carbon gradually arises through its tonal stages from its zero in helium which is its seed.

When its equator has reached a 90 degree angle from that of its fulcrum seed it becomes a true sphere and is in perfect balance at the amplitude of its wave.

During this process you can readily see the gradual contraction and expansion of volume which takes place to create solids from gases and gases from solids as all of them unfold and refold from their seed patterns in their inert gases.

With this simple explanation of the greatest mystery of all mysteries which until now has never been solved in a manner consistent with Natural Law we close this series of lessons regarding God's ways of creating His universal body except for a concluding lesson respecting the answer to that also as yet unsolved mystery of the ages regarding the initial impulse which set this universe in motion, and keeps its heartbeat in operation.

Where did that initial impulse come from and what is it?

We shall answer that supreme question in the last lesson which has always been reserved in each unit of four as the answer to mystifying questions.

UNIVERSAL LAW, NATURAL SCIENCE AND PHILOSOPHY

By

Walter Russell, Sc. D., and Lao Russell

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THE SUPREME QUESTION AND THE SUPREME MYSTERY OF CREATION

From whence and what cometh energy for the initial impulse of power and speed which is given to any creating body and multiplies it for a time before withdrawing all of it for another period between eternal cycles of beginnings and endings in an eternity which has no beginnings and endings?

A mighty star is moving across the heavens at many thousand miles per minute. It has been moving like that for countless ages, and will continue to do so for more countless ages. It did not always have that speed. It began at zero and will end where it began.

Where did that energy come from? Why does it continue? Why must it discontinue?
WHAT IS THAT ENERGY?

A majestic ship of the ocean moves its huge mass very slowly. Its mighty engines strain heavily to give it its initial impulse. Its slowness multiplies into speed, and its speed multiplies as the great ship moves very fast with much less power extended from its engines.

From whence came that impetus of greater speed of momentum with less work? What is momentum? What is its secret?

A strong man who desires to be a rich and powerful merchant sells neckties on the city streets with but little reward. His effort to gain an initial impetus is great but the years multiply it into power to sell many thousand items with less effort, and greater reward, than to sell one item in the beginning of his desire to express effort.

What is the secret of a man's power to multiply himself in such a manner that he becomes as a thousand men with more ease than when he was but one? Can it be that he multiplied

some other power than that which man calls ENERGY?"

Do you really know the meaning of ENERGY? Do you really know why you attain greater momentum with less energy?

Across the valley you see the quick, silent flash from a revolver. Two seconds later you hear the report of the explosion. Twelve thousand miles away an Arab hears that shot in his desert tent long before you have heard it across your valley. And if a man on the moon had that Arab's radio he also could hear that shot across that vast gap of space before you heard it across your two mile valley.

Are there two energies, one within the other, or two kinds of energy to give two speeds to every action and reaction of everything of earth and heaven? Or is there some as yet unknown mystery in Nature which we know not of because we have only been concerned with moving matter and the energy of its moving?

How can this be? We are told that one of these velocities is the speed of sound which is 1100 feet per second, and the other velocity is the speed of light which is 186,000 miles per second. Yet they are both sound. You hear them from both speeds. Are both of them, likewise, light?

We are told that both are waves--sound-waves and light-waves. If so what is the mystery of their incredibly different speeds? And what is the relation of such slow sound waves to such fast light-waves?

And why is it that these two speeds remain constant and never vary for greater or less intensity of either light or sound? This mystery we must clarify.

We must know HOW it is--and WHY--that pistol shot can girdle the world fourteen times before it reaches us. We must know how that little voltage of energy--which is exploded from that powder--multiplies itself by the millions of voltage power needed to reach the antipodes of Earth and passes beyond them to the farthestmost star in its traverse of this universe.

If that sound reaches the moon to be recorded there it, likewise, reaches Mars--and Arcturus--and every nebulae of the far heavens e'en those which are a million light years away in forward time-- which means that the little pistol shot of today on Earth is still resounding in this universe long ages after Earth has disappeared and our Sun has become the vacuous dark of space.

Has man so great an ego as to think that the little energy he created made such a vast effort possible? Or does his ego permit him to think that he alone could have made that little effort of energy expression unaided by that vast voltage of power which is extended to him from the Cosmos to make that effort possible?

Or is man so local that he could think that the effort which he believed to begin and end in

him ever did begin or ever could end?

It has been said by the mystics that motion once started never can end. If man could but become universal instead of local he might have a different conception of his place in God's universe and the mighty power which is back of his every effort for every man to use when he knows that power, and knows that it is his to use.

Again we say that if that little sound, or even that of the loudest thunder, can touch the farthest star in the firmament of heaven, so, likewise, can the feeble cry of a babe, or the whisperings of Earth's winds, or even the fluttering of a butterfly's wings reach also to the other ends of space.

Likewise, the simplest of actions, as well as sound, girdles the universe to be recorded in every particle of matter. Every star in the heavens must readjust itself to so slight an action as that of a man walking across a room.

To him whose ego leads him to believe that energy begins and ends in him, instead of knowing that the vast energy of the universe is his to use when he knows his universality, that is his stumbling blocks--his brake to success set against himself.

This is the mystery which must be clarified. Our last words to you are for this supreme purpose.

The energy which man uses does not begin in man--it ends in him. It does not extend from him, nor does he extend it. It is extended TO him and he receives it as his Cosmic gift in the measure of his desire to be given--WHICH HE MUST REGIVE in order that he be again regiven.

Until man becomes the fulcrum of his Self, through Cosmic knowing, he is but an extension of the fulcrum which moves the universe, but when his Self becomes the fulcrum of his Self through knowing the Light of universal Self, he then moves the universe.

THE PISTOL SHOT

The sound of the pistol shot which reverberates upon the moon as well as upon this Earth is not man's little energy multiplied into the mighty Cosmic [voltage] of this universal body--it is that mighty voltage divided into the little measure of man's desire for use of it.

That which he asks is extended to him in the measure of his desire to use it for Self-manifestation or to manifest God in him, in accord with his awareness of his Self as either Mind or body. Man has no limitations other than those which he sets for himself in the measure of his knowing, and the measure of his desire to work with God as God works with him, for desire alone will gain him nothing.

THE GREAT MERCHANT

The merchant who thought that his energy alone gained him his chain of stores probably does not know how little his own initial impetus contributed to his multiplied power, and how much power the Mind Cosmos gave to him as the result of his Mind desire. Without desire in him, however, and without a vision of that altitude which he desired to reach, he never would have gained the momentum which increased his power and reduced his effort, but would have continued the hard labor of expressing the energy which he himself was content to express while working alone without vision or desire.

THE MIGHTY SHIP

The fully gained momentum of the great ship of the sea is not alone the product of man's power to express energy by converting one form of it into another. The ship's engines strained hard to give the ship its initial impetus from which but little speed resulted.

Much coal was burned but as the speed of momentum increased less coal was burned and the strain on the ship's engines lessened. Neither the coal, nor the power of the ship's engines gave the ship its increased momentum. They gave the ship its initial impulse at great effort but DESIRE of the Will of Mind gave the ship its momentum with lessened effort.

Energy is Cosmic. Desire is also Cosmic. Desire of man for power and speed gave to him the power and speed of his desire. It was extended to him from the Cosmos by that Cosmic power which fulfills all desire of all creating things which has no name for it is not yet known. We shall give it a name nearest to that which is appropriate to its meaning. For want of a better one we will call it INERTIA and further unfold its meaning in the few pages which remain unwritten.

To exemplify the power of extended Cosmic energy to man from the universal fulcrum of power consider the laborer who can shovel twenty tons of coal in a day because of his desire to do so. The food he eats replaces his body waste but does not lift that twenty tons of coal. Even if his food were entirely converted to the so-called energy which motion is presumed to be, it would not lift twenty pounds, let alone twenty tons.

This is the mystery which must still be clarified in these last few pages.

Such understanding will give new meaning to our Father-Mother's words as given to this age of man in The Message of The Divine Iliad which says: "Desire ye what ye will, and behold it standeth before thee. All down the aeons it has been thine, though thou has but just asked for it. Sit thou not and ask, acting not, for unless thou reach out for thy desire, it shall not walk thy way to thee, unaided by thy strong arms".

NEW CONCEPTS FOR COSMIC MAN

Many thousands of people in many countries have fully accepted the idea that MIND is the basis of this universe, and that Mind created matter and controls it--but few there are who know that God's creative Mind thinks--as you and I think--or that the matter and motion of this universe are the electric records of Mind thinking.

Science does not unanimously accept the universality of Mind. To most men of science each man has his own individual Mind, and to many modern psychological and psychiatric thinkers, Mind is an evolutionary growth which arises from the experiences of the senses.

Likewise, science conceives Creation to be some cataclysmic accident of Nature which assumed an orderliness of form out of a chaos which demanded orderliness so that the processes of Nature could continue during that long interval between its chaotic birth and certain death.

Many have been aware of the Cosmos as a WAVE UNIVERSE, but few beyond the mystics have conceived it to be a THOUGHT-WAVE UNIVERSE, and no one as yet, to our knowledge, has ever conceived it to be What it really is--an ELECTRIC THOUGHT-WAVE UNIVERSE.

Science has conceived a universe of light-waves, but never has there been the slightest suggestion from science that Creation might be an octave wave universe in which the elements of matter are created by the opposing pressures of octave waves.

An indication of this lack of understanding of the entire universal body by science is the suggestion that matter is emerging from space and may be swallowed up by it. No such timid suggestion would ever be made by any one person or group who understood the electric nature of the universe, or understood the workings of electricity as a two-way reciprocating effect.

The mystics of past ages have told of the divided and the undivided universes. The Book of Genesis has told the world that God divided day from night, light from dark, male from female, and the earth from the firmament of heaven, but never has it occurred to layman, churchman or man of science that such a division into pairs of opposites meant electric polarization. Furthermore such an idea as that of connecting God's thought processes of concentrative and decentrative thinking with compressed matter and expanded space, or of the male and female of species, was unthinkable.

The connection between POLARITY and UNIVERSAL THINKING MIND has not yet entered into the Consciousness of man, for if it had there would have been no mystery regarding the relation of matter and space, nor of growth and decay, nor of life and death cycles.

To clarify all this confusion we will again restate the essentials of God's principles and processes of Creation one simple step at a time as an artist paints his picture, one

enlightening brushstroke at a time.

1. God is the all-knowing, all-powerful Mind of undivided, unconditioned, formless, motionless, changeless and dimensionless Light.

2. In the Light of all-knowing is DESIRE for the expression of the IDEA of all-knowing in three dimensional form by creating a universal body of divided lights which will extend from the undivided ONE as a lever extends from a fulcrum to manifest IDEA through motion.

3. DESIRE to create is electrically expressed by polarized extensions from the fulcrum of MIND DESIRE. The energy of the universe is in the stillness of its fulcrum which divides its extensions of expressed energy as an equator divides the poles of a bar magnet. There is no energy in the polarized extensions of the universal Mind fulcrum. The power to express energy is extended from the Mind of the universe, but the power thus extended is a property of the Mind-fulcrum and not of its extensions.

THE ENERGY OF THE COSMOS LIES WITHIN THE FULCRUM EQUATOR WHICH DIVIDES AND SEPARATES THE TWO POLES OF THE UNIVERSAL BODY. THE MEASURE OF THAT MIGHTY POWER IS THE MEASURE IN WHICH THE TWO POLES CAN BE SEPARATED, DIVIDED AND EXTENDED. THE FARTHER APART THEY CAN BE EXTENDED, THE GREATER IS THE ENERGY OF POLARIZATION. ANY WEAKENING OF THE POWER TO DIVIDE AND SEPARATE ONE POLE FROM ANOTHER IS AN EVIDENCE OF DEPOLARIZATION AS THE STRAIN OF ELECTRIC DIVISION SEEKS RELEASE FROM STRAIN IN REST.

4. DESIRE of Mind-knowing is expressed by thinking the divided ONE IDEA of Mind into countless pairs of conditioned unit forms of Mind Idea.

5. ELECTRIC THINKING IS THE DIVIDED ONE CHANGELESS LIGHT OF KNOWING MIND INTO THE TWO INTERCHANGING LIGHTS OF THINKING MIND.

6. Electric thinking is the polarizer which equally divides the Light of universal equilibrium into male and female, light and dark, day and night, matter and space, compression and expansion, positive and negative and all other pairs of opposite conditions which electric polarization has made possible.

7. Electric thinking is expressed by polarized waves.

8. God's universal polarized body is an electric thought wave universe.

9. Electric thought-waves have a frequency of repetition which measures 186,000 miles per second. This velocity is misnamed "the speed of light". It is not the speed of light, however, but the speed of polarization. This means the speed in which electricity can divide the one Light of equilibrium into light and dark sequences, and reproduce those sequences in wave-fields.

10. Electric thought-waves which equally divide the One still Light into two moving lights, likewise, keep the equally divided pairs of opposite conditions in balance with each other. Not one milligram of weight in the whole universe can outbalance one polarized condition with its mate condition.

11. Electric thought-waves are the recorders of all thought actions and all patterns of unfolding idea. Every thought and action of every unfolding unit of Creation is recorded within every other unfolding unit at the polarization speed of 186, 400 miles per second.

12. This constant speed of polarized thought-waves indicates the unchanging and ecstatic condition of our Father-Mother's thinking. When God's ecstatic thinking is extended to inspired man, man's knowing is reflected in his thinking in the timeless flashes in which the Creator extends His knowing to His thinking.

13. This unfolding universe is the result of thought followed by action. Every action-reaction in Nature is a division of stillness into two-way motion. In other words it is the polarization of an equilibrium in which two opposite conditions extend from a dividing equator.

14. Every polarizing action-reaction is an outward explosion followed by an inner one, or its reverse. Action-reactions make wave-fields and reproduce them at the rate of 1100 feet per second. While these reproductions of wave-fields are extending from their source of polarization at 1100 feet per second, they are also being simultaneously reproduced in the thought-waves from which those action-reactions extended at 186,000 miles per second.

A thunder clap, for example, will reach nearly five hundred thousand miles into space before it reaches a man who is but in the next valley.

This velocity is called the speed of sound. It really is the speed of sound, but whether there is audible sound or not, this speed is reproduction of polarized action-reactions.

The polarization of a harp string, for example, will emit an audible sound as the string vibrates to manifest its division, but a drop of water, when polarized into opposing conditions cannot be heard, but the waves of its division will reproduce themselves at that velocity as inexorably as the sound of an earthquake also would.

SUMMARY AND CONCLUSION

From whence cometh man's help?

You should now fully comprehend why it is that God answers your prayers and gives you that which you desire when you work with Him to manifest your Self in Him.

You should, likewise, more fully comprehend what we have before stated, that God works WITH you but not FOR you. When you know that He fulfills your desire as surely as you

know that your car will run when you turn on the switch, or that you will be illumined with electric light when you plug into the generator at the power house, you will also as fully know that when you plug into the universal generator of that inconceivably vast power house which God has created, His power will be extended to you in the measure of your desire.

Niagara generates great power and you know that it is dependable if you plug into it. Every star in the firmament is an uncountable trillion Niagaras, and the stars in the firmament are uncountable trillions.

It is impossible to even conceive the vastness of power which this polarized storage battery of matter and space is. Now you must realize that Cosmic Mind created this vast incalculable voltage by dividing the earths from the heavens so that the interchange between the two expresses the mighty power which moves the countless trillions of stars of the firmament at inconceivable speeds.

The wonderful part of it is that all of it is extended to you to use in the measure of your desire to use it, and the Measure of the effort you put forth in working with that universal power to be worthy of your desire.

This fact you must understand. You must always remember that DESIRE is of the Mind. Desire is expressed in thought-waves at the universal speed of thought polarity, which is 186,000 miles per second, and the knowledge, inspiration and conception which patterns your desire will come back to you at the same speed.

If that is all you want out of life, however, you may sit at ease and commune with God with inspiring thought exchange, and be uplifted by it until your very body falls apart from inaction, which it would soon do.

You want more out of life than that, however. You wish to give form to your desires. You wish power to achieve. You wish to grow in physical and mental stature, build your body and other bodies, and manifest your thoughts and conceptions. This you can only do through physical action.

It is right here that man fails to obtain his desire through not knowing his Mind relation to the Mind fulcrum of universal power, which God is, and the polarized extension from that fulcrum, which God's universal body is. The frustrations and failures of men who ask much from God and perform no service in working with God to be worthy of their desire are many.

Such is the belief of many that they allow their bodies to die from lack of willingness to give the attention of right action through right knowing that is demanded of all bodies, whether of men or machines.

Countless husbands, and wives, and children are allowed to suffer untold agonies of pain which the Mind of one who KNOWS, followed by right action through right knowing

would alleviate or cure.

Instead of extending desire for Mind healing to a Mind who knows CAUSE, and a skilled hand trained by KNOWING to remove ill EFFECTS of CAUSE, many appeal to Minds who do not know and who have no skilled hands, and these many advisers who are called in to treat unbalanced bodies beset with many ills, deceive those who appeal to them into working against Universal Law instead of with it.

These are the ones who teach man to expect God to perform the physical action that is expected of physical man for his physical body as well as giving him the mental balance which lies in the Mind of our Father-Mother.

These many who thus deny suffering mankind the Mind-healings of skilled doctors and surgeons who KNOW, become unskilled doctors who do not KNOW, and thus work incalculable injury to the bodies of man through their not knowing of the body, and to the Mind of man, through their misinterpretation of the teachings of Jesus who lawfully healed through KNOWING the LAW which these many Mind-doctors have not yet begun to know.

Jesus was a master scientist. He was illumined with all-knowing in the Light of Cosmic Consciousness. Any man can do what He did when he has the Cosmic knowing which Jesus had, and any man can heal himself or others to the extent of his knowing, but the many metaphysical schools, which instruct their too many graduates to go out into the world and do what Jesus did, forget that Cosmic Minds like that of Jesus cannot be trained in schools of any kind. Such men as Jesus receive their illumining in the Light of Cosmic Consciousness from God alone.

It is quite true that Jesus said "What I do ye can also do", to which we add, "when you are what I am and know what I know". That which we have added to His meaning is what the thousands forget who believe that they can do what Jesus did.

God Will give the greater part of man's desire to him who asks it because God has that mighty universal power to give, but man must give his little power for multiplication by the universe.

Man must give the initial impulse. God gives the momentum of inertia to multiply that little to the measure of man's effort.

We will be specific by citing working examples. A farmer who desires potatoes sends out his desire from the fulcrum of his Mind to the fulcrum of the universal Mind. He sends out a mental image--a patterned mental image of his desire--and that is what he receives--only THAT--until he does what God has done, which is to polarize his thought images through action.

The farmer gives the initial impulse for the fulfillment of his desire by preparing the ground, placing his seed in it, and the small sprouts come from the ground in response to the

farmer's initial impulse, but the momentum of growth is extended from that mighty generator which is God's body. Man had no part in the actions of growth.

Potatoes are bodies made in the image of Mind imaginings. The farmer wanted the bodies, not the Mind images. All material bodies desired by man must be extended from the one body from which all bodies are regenerated into birth.

Consider the initial impulse given by man to the mighty ship heretofore exemplified, and compare it with the planting of the seed by the farmer and the growth of the potato bodies which was the major part of the work performed by God alone while man sat at ease.

Recall to your memory that we said that every action-reaction might be likened to an explosion.

Never lose sight of that fact. Remember also that we said that every explosive action-reaction divides the universal equilibrium of rest to produce polarized wave-fields.

Now imagine that ship at rest. The desire of its owners for speed has not yet been expressed. The first powerful stroke of the ship's engines divides that equilibrium. Polarity has begun. A positive pole has been developed just slightly in front of the ship's engines, and a negative pole just behind them. Right in the balanced middle of those engines an equator of zero curvature appears.

To better visualize this all important fact imagine an invisible bar magnet extending two-directionally from those engines and pointing in the direction of travel, which is 90 degrees from the equator of the very small wave-field now formed.

The second powerful stroke extends both poles farther from their fulcrum and enlarges the wave-field of measured power just a little. Stroke after powerful stroke, each straining to the engine's utmost, increases the intensity of polarization. The north pole extends forward toward the bow of the boat. The south pole moves toward the stern as both of these poles register the intensity of electric potential extended to them from their dividing equator.

The very first stroke of the ship's generator brought back to it another stroke from the universal generator. That slightly increased speed came from the universal Source of power—not from the coal in the ship's furnace.

Gradually the givings of impulses by man are more than counterbalanced by regivings from the universe. The ship gains momentum. **MOMENTUM IS GROWTH EXTENDED FROM THE UNIVERSAL BODY. IT IS THE UNIVERSAL INERTIA WHICH CARRIES ONE EFFORT INTO THE NEXT.**

The growth of the farmer's potatoes is **MOMENTUM** extended from the generator of earth to carry on, and multiply, the initial impulse of desire by any creating thing.

Momentum is the result of desire. The measure of momentum, or the growth of anything, is the result of desire, plus knowledge. The deer may desire speed in his legs to protect him

from his enemies. That desire will give him speed in his body, for that is where his desire is centered. Speed for his body means work for his legs from which he will soon tire.

When man desires speed for his body he does not ask for longer legs, for his knowledge prompts him to ask for another extension to his body. His little knowledge is enough for him to extend his body by adding a wheel, and a cart--and a horse to pull the cart--while he attains greater speed with ever lessened effort until his body attains a speed of hundreds of miles per hour without effort, due to the extensions to his body which knowledge and desire gave to him.

You who are the head of a great business, know full well the hard work of the initial impetus you gave to it, and the desire which was ever with you, night and day, to reach the goal of your vision. And you also know that for every effort you made in working WITH God's law, God met you more than half way and multiplied your effort so that you could ease it. And you have seen countless men whose desires were unlawful fall by the wayside, ill, and broken of body, as they received from the universe the like of that which they gave unto it.

Set no limitation to your desire, therefore, for its greatest measure cannot in any wise effect the balance of the universal supply.

No matter how little or great is your desire, however, the speed of your thought in asking for it is the same. A small wire, extending from a small battery, will send a message from you at 186,000 miles per second to a little bell which you desire to ring just as surely as a large wire will carry a high voltage current to ring a great bronze bell in the church steeple.

The little wire and weak current will not, however, ring the big bell, nor will the little wire carry the high voltage current. It would burn up with so much current.

It is important that your desires and actions should grow together. To work knowingly with God do not expect the terrific momentum immediately which you know the universe will give you when you are ready for it.

Should the huge supply of your desire come to you the moment of your expression of desire, it would as surely destroy you as the big current destroys the little wire.

The concert pianist arrived at his high goal by working knowingly with God for many years, beginning with his first initial impulse which God multiplied over and over, time after time, as each renewed effort for mastery was balanced with equal giving of the momentum of growth from Mind and body of the Cosmos.

We are not here on Earth to manifest ourselves alone. He who so thinks never passes beyond the boundaries of action-reaction of this material world of illusion.

We are here to manifest God and thus find that we are manifesting our Selves.

Man is forever in search for the door to the Light through which he can enter into the

kingdom of heaven for the sole purpose of leading his neighbor to that door of Light.

Man is forever in search for happiness. Happiness lies alone in the Light of Love.

Man is divine when he knows that he is divine. And he is omnipotent, omnipresent and omniscient when he knows that he is omnipotent, omnipresent and omniscient.

The journey of life is to find that awareness of divinity, knowledge and power.

To live life gloriously is to forever transcend one's Self during the whole journey of life.

To KNOW life thoroughly is to forever feel the ecstasy and joyousness of the pulsations of the universal heartbeat as they are always reflected in our bodies by the universal thought-waves at their constant universal speed.

To live with Mind and body of man so thoroughly attuned to Mind and body of God that their balance is absolute is to know the glory of being ONE with the ONE Being whom we are to the extent of our knowing.

If you would ask of God the supreme question, He would say unto you:

"ALL QUESTIONS ARE ANSWERABLE IN THE LIGHT. THOU ART LIGHT. THOU CANST ANSWER THEM".

From THE DIVINE ILIAD



Beloved friends and students:

For twelve wonderful months a great part of us has come to your home and the glorious regivings through your letters have told us that we have entered your hearts and become ONE with your souls.

If the teachings in these 48 lessons have enriched you, we also are greatly enriched by knowing that life has become more glorious for you by your new understanding of God and His Universe and YOUR relationship to Him and to each other.

After you have studied and absorbed this last tremendous unit, start from the beginning and SLOWLY study all of the lessons again. You will be amazed at your own knowledge, and as you put this knowledge into operation in your daily lives, you will frequently marvel how seeming obstacles will melt away and problems be worked out for the good and happiness of all concerned.

In the Cosmic world of tomorrow when man has "discovered" his dynamic oneness with his fellow man, he will know that all happiness is born through SHARING, or, in the words of the great DIVINE ILIAD MESSAGE -- RHYTHMIC BALANCED INTERCHANGE.

All through these lessons you have been learning the application of this one great inviolate LAW which God commanded my husband to give to mankind in this vital day of his great transition from past ages of SENSING to this NEW AGE of KNOWING.

Should these last units seem too scientific for you to comprehend do not put them to one side believing them to be beyond you, for in time you will find they will become more and more clear to you, Remember it IS new knowledge. As a rose unfolds petal by petal, so likewise, does your understanding unfold -- petal by petal.

Slowly, but surely, your comprehension will increase and one day you will feel like holding your arms out to encircle the whole universe. As your understanding reaches full bloom you will know the desire to embrace and cherish the whole universe, for you will KNOW it and all mankind as YOURSELF.

That is why we want you to understand the science of God's great universe, for YOU are the Universe and the Universe is YOU. Without the knowledge of what man IS, how can man understand man? It is like trying to form words without knowing the alphabet. Therefore, learn the "secrets" of the universe and then command thyself to LIVE knowingly WITH God in all thy ways.

In these lessons we have endeavored to make clear to you what LOVE really means -- not just abstractly but dynamically. RHYTHMIC BALANCED INTERCHANGE IS LOVE dynamically expressed. The many of you who have absorbed and understood these lessons now hold the KEY to all that is glorious and wonderful in life, AND NO SEEMING

WORLD CATASTROPHE CAN TAKE THAT KEY FROM YOU.

YOU now have the greatest SECURITY man can have - KNOWLEDGE of the long hidden secrets of Creation. Your constant letters prove this fact in your every field of endeavor. They have been and always will be our greatest stimulus, for the proof of any teaching lies in practical demonstration by its students. We have little doubt that in the coming months and years the world will hear of many priceless contributions made by students of this great teaching.

The more you comprehend God's great laws the more you will be able to extend your knowing to reverse the downward trend of thinking of the last half century. The upward trend is necessary for bringing into being the Cosmic Age for which THE DIVINE ILIAD MESSAGE was written.

Many of you have been to SWANNANOVA and have seen the glorious record of my husband's life in painting, sculpture, literature, drawings, photographs of his buildings and models of his architecture, which manifested his leadership in the arts and sciences. Visitors seeing all these material manifestations are speechless at such versatility, for not since the days of Leonardo da Vinci has anyone demonstrated so much in one lifetime. As you all know my husband has been internationally recognized as a master creator in all of the five fine arts.

NOW the time has come when the world must know of Walter Russell the master scientist! It is my deepest desire to bring to the attention of the world, while my husband is still alive, the fact that he is the first man in history who has been able to see the universe as a whole and put it into scientific words and diagrams which, together, make a complete, consistent, balanced and provable Cosmogony which will endure, and replace the inconsistent Cosmogony for which textbooks must be constantly rewritten to keep pace with its ever changing theories.

He has already given to the scientific world priceless gifts -- the discovery of which have been ignored and credit given for their "discovery" to others who have made use of his copyrighted charts for their own credit, completely ignoring the discoverer. In 1926 he gave to the world two periodic charts of the elements which completed and corrected the incomplete and utterly incorrect table of the elements as compiled by Mendeleef. These copyrighted charts were mailed to about 1,000 scientists and were followed by lectures and newspaper interviews to tell that untold atomic energy was bound-up in two isotopes of actinium which lay beyond uranium, named urium and uridium in his charts, and that hydrogen was not the number one element but was number 22 in the table. Also that six other full tone elements existed in the hydrogen octave.

Stimulated by these lectures researchers isolated what they incorrectly called isotopes of hydrogen which led to the discovery of heavy water. Twenty years later the atom bomb elements were found in the positions given in his copyrighted charts of 1926 and named by him, yet they were given other names.

Acting upon the advice of a noted science writer he withdrew from making any further announcements of his discoveries in order to so convincingly set down his complete cosmogony in writing and in diagrams that it could be announced as a whole without fear of others taking credit for themselves for his discoveries. This has now been done.

For these charts and other work in science, he was, however, awarded a Doctor of Science Degree in 1941 by The American Academy of Sciences which was chartered as a university with power to give degrees earned by work performed of a nature which would benefit mankind.

For seven years he was President of The Society of Arts and Sciences during which time he conferred medals of honor to such men in the sciences as Thomas Edison, Robert A. Millikan, A. A. Michaelson, Harlow Shapley and many others.

Being conversant with these further details of my husband's work in science I know you will agree that the time has now come when the world should be made aware of this great scientific knowledge that God gave to the world through him.

God gave this new scientific knowledge for the comfort and uplift of man, but man in his greed is using it to kill and spread agony in the form of atom bombs and other destructive uses instead of to ease his labors and bless him.

YOU, who are the seed for God's great Message of THE DIVINE ILIAD, will help to bring fulfillment to my desire in bringing to the attention of the world the fact that Dr. Russell is the only living man who has the knowledge that will give to man the powers of control over matter and energy which man has never yet known. You can add your "strong arm" by spreading this great new knowledge among the world of men. Thus will a New Age come into being and Cosmic Man unfold in his full glory.

Remember that all you are seeking and working for LOVE, HAPPINESS, HEALTH, FRIENDSHIP, BUSINESS SUCCESS, fame as INVENTOR, DISCOVERER, AUTHOR, ARTIST or STATESMAN -- lies in your control of that one principle -- BALANCE. In the measure of your ability to control BALANCE in yourself and in your creations, so will you express it in your works and ways, by which you will be known.

This last unit of lessons in NOT "Good-bye", for YOU will ever be a part of our great Cosmic Plan. You have but to rest your thoughts on us and we shall be ONE with you now and forever more.

Know that Swannanoa's great doors on God's Sacred Mountain will ever be open to you whom we treasure and love as ourselves through the knowledge of our universality which makes all men ONE.

Yours with deepest love in the service of all mankind, I am

Sincerely, Lao Russell

Dear friends and students:

Now that these lessons are finished I have a great desire to interject the personal and human element into our wonderfully intimate relations during this whole glorious year of close communion with you and tell you the lesson these lessons taught me thus adding to the glory which new discoveries always bring into life.

That great lesson is the discovery of how much more powerful either a husband or wife can become when they unite their powers and work together as one. Any man who thinks he is complete in himself and who has not made that great discovery that I have, is unfortunate indeed, for there is not one on earth who can share a man's work and problems better than his wife, or vice versa.

I have worked indefatigably for thirty-one years to give The Message of The Divine Iliad to the world in simple, understandable language. For twenty-six of those years I worked alone. Then came my Lao right out of the Cosmos. God knew that I needed another Cosmic Mind to make the pendulum of my own Mind swing truly in balance while doing this great work, thus He added Lao's knowledge and inspiration to mine so that we could together find the kind of words which would appeal to the world, and present it in a human and sympathetic manner, without having the taint of "textbookishness" in it.

In five years of working moment to moment, and so closely that we got to thinking as one, I have advanced farther than in the whole previous twenty-six years. Besides making my work infinitely better, it made work more joyous and less fatiguing. Hours of conferences, writing and rewriting, destroying and joyously beginning all over again with the two of us in it instead of just the one. All of these lessons would not have been half what they are with just me in them.

They are what they are because Lao is in every line of them, every thought of them, from the zero of beginning to the zero of rest at which we almost sadly have arrived. I say "sadly" because you have all been very close to us during that wonderful period. Perhaps, though, I should not have let that thought come to us because you are not being the less a part of our lives than you were during that period.

Many, many times we have found husbands and wives making the discovery of multiplied power that we have made, and we have rejoiced in each new one who thus wrote us. Likewise, we have been overjoyed to hear that the children of the family are joining in the family readings and discussions which this new knowledge is bringing to them. Over and over again we have heard the delightful news that the lessons have brought greater unity to already united families, and still more often have we heard of business and domestic problems being dissolved because of husband and wife making that discovery which has its scientific explanation in the fact that the need of every one is on the other side of his own equator, and cannot be filled by that which is on just one side alone.

It seems to us that every Government should make this discovery as well as every

individual. Perhaps what is the matter with the world today is that it is only a man's world. Men alone are running it as badly as women alone would run it. Perhaps we are still too close to the jungle to have discovered the Cosmic value of the unity between mates which is Nature's intent.

At any rate I have discovered the greater power it gives to me as a human, and the greater masterliness it gives to my work as a creator of idea, and the joy of it is so great that I want to tell you about it and set you to thinking and wondering until you think as we think, and work with the multiplied power and joy which is our delightful lot in doing everything we both do as ONE PERSON.

And now just the last word of joyous anticipation in seeing you all here upon our wonderful mountain to share with us its wondrous beauty and to exchange with us our mutual thoughts in this lovely place where people, like all of us, are drawn together for mutual enrichment.

With our love always, I am

Sincerely yours,

Walter Russell