

# FULCRUM<sup>©</sup>

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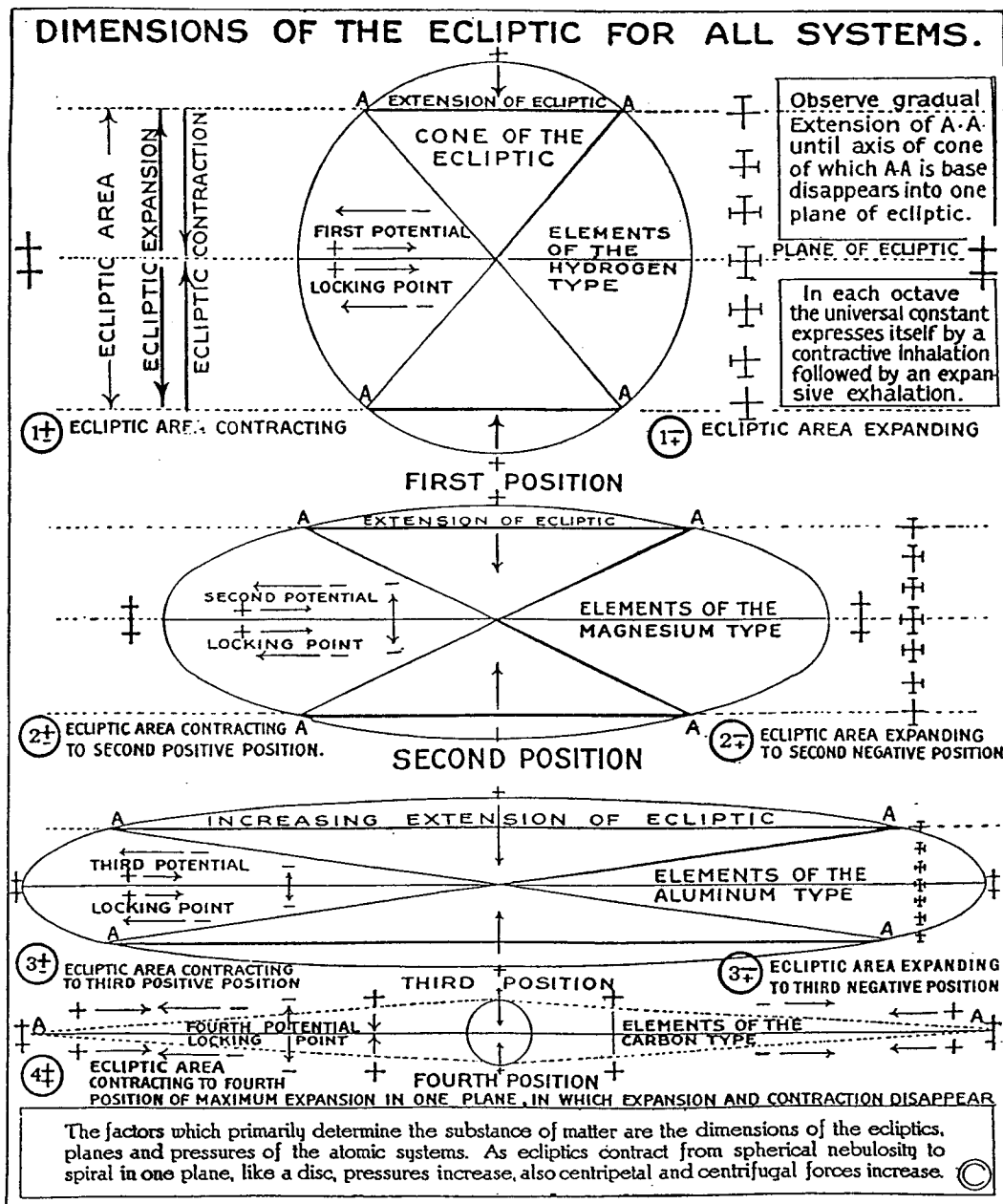


CHART NO. 3, STRUCTURE OF THE ATOM. DIAGRAM OF THE FOUR POSITIONS IN WHICH THE UNIVERSAL CONSTANT DISTRIBUTES ITS ENERGY INTO FOUR UNIT CONSTANTS OF SEVEN TONES, EACH ONE APPEARING TO BE A SEPARATE SUBSTANCE DUE SOLELY TO CHANGING DIMENSIONS.

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February, 1994

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## ANNOUNCEMENT

We are pleased to announce Laara Lindo, former Director of Student Affairs, has most graciously compiled an index for Walter Russell's science book *A New Concept of the Universe*. We are including this index as a supplement to this issue of **FULCRUM**. Thank you Laara for this valuable work!!!! Additional copies are available free upon request.

## QUESTIONS FOR NEXT ISSUE

(1) Why did Walter Russell change from 10 octaves in *The Universal One* to nine octaves in *The Secret of Light* (TSOL) and subsequent writings?

Ditto for the number of elements?

(2) Walter Russell in writings subsequent to *The Universal One* spoke with rare exception of Gravity as a push from without to within and that there was no such thing as a "pull" of gravity (see HSC pp. 726-727, TSOL pp. 153-158, AS pp.134-139, NCU pp. 16, 20, & 50). What did he mean by this?

Is it possible to have a push without a pull or vice - versa, in anything or anywhere?

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## QUESTIONS FROM PREVIOUS ISSUE

- (1) Are Walter Russell's Periodic Charts of the elements planar projections of a three dimensional spiral? If so, can we describe the spiral path mathematically and can we model it in order to work knowingly with the rhythmic, tonal nature of the elements?
- (2) What are everyday applications of the law of octave wave progression or rhythmic balance interchange that you can identify? Are there examples in natural phenomena or in your everyday experience that reflect, follow, or demonstrate this law in some way?

## ANSWERS

From Larry Tiegs:

Question #1

A) Yes, the Russell charts of the elements are planar projections of a three dimensional spiral.

B) Yes, you can probably describe anything mathematically. The diagrams on pages 3 & 4 of *FULCRUM, V.2,#2* do show formula for various planar spirals. But . . . these formula do not account for the fact that all motion in the Universe is three dimensional - not two dimensional drawings. Second, spirals are an effect. The cause is pressure. It would seem a better idea to understand cause, then calculate the pressures which cause the various spiral shapes.

C) Can the mathematics be applied to the tonal nature of the elements? I don't know. A related question would be: Can we come up with a formula to aid in the transformation/transmutation of the elements? Russell said, "Yes," in several of his writings. While he never did it, he stated it was possible, with the aid of computers which were just coming into existence in the mid 50's.

How do we do it? I don't know. With the computer technology of today, it should be easy. Probably start with a known elemental quality as melting points and find a relationship formula. Then, through experimentation, the pressure necessary to create one element must be found. Applying the relationship formula to this one known pressure should reveal the pressures of the other elements.

D) What is the evidence for a logarithmic/hyperbolic spiral motion in nature? There is lots of visual evidence. But remember, what we "see" is only a small part of "what is." Our senses deceive us. Ours is a two-way Universe. Current scientific text books that describe a one-way, visible-only Universe are based on an incomplete premise. Thus their conclusions must be inconclusive.

The visual evidence includes the tornado, curling ocean waves, the ram's horn and thousands of sea shells. Water in a stream creates visible whirlpool vortexes. The flow of water within the stream bed itself is also a vortex as it revolves from shore to shore while flowing downstream. Pour some water from a glass into the sink and watch the twisting spirals. Watch the water go down the drain from a filled sink. Watch smoke rise from incense or a cigarette. You'll see twisting spirals. Apply electricity to a liquid plasm as they do in Plasma Physics, and you will see spirals forming like miniature stellar systems. If you could look down a harp string as it moves in slow motion after being plucked, you would see increasing and decreasing spiral motion of the string as the motion seems to move from the center of the string toward each end and back through each other to the opposite ends in a rhythmic balanced interchange. A resonance is created by this back and forth flow of motion creating the tone of that particular string. The tone is literally a "loop of force" that looks like two joined rings spinning around the string, created by impact in the center of the string where two centripetal spirals collide. These two rings, colliding at wave amplitudes, compress together and create the "body" of the sound we hear as A, B or C.

E) What is the evidence for a logarithmic or hyperbolic spiral relationship for motion in the Universe? The evidence we have is Phi (the Golden Proportion), logarithmic scales and Nature's visual forms. You could also accumulate evidence for the frequency of other shapes as the egg or the hexagon and their corresponding formulas. You likewise could accumulate evidence and formulas for certain color patterns appearing more frequently within a kaleidoscope. What would all this prove? Nothing really, except nature is varied and some patterns evolve more frequently than others . . . on this planet in this particular solar system.

The above questions are good ones, and their underlying theme of, "How do we proceed toward the transmutation of the elements?" is worthwhile. With that in mind, the following brief discussion of Russell's Universal premises will attempt to clarify:

- that the Universe is of perfect order, harmony and pattern
- why the Golden Spiral/Rectangle is prominent in nature
- why Russell usually drew straight-sided Euclidean cones
- why Russell states on p. 118, Universal One, "A parabolic or hyperbolic orbit is impossible in this Universe of pressures."

-- and why Russell states on p. 119, Universal One, "Furthermore, the curve is never a circle." Which seems to contradict an oft repeated quote from the Divine Iliad, "God centers all things from within" . . . meaning all motion must move in equal distances, circles or rings around its center.

### **RUSSELL'S UNIVERSAL PREMISES**

(a partial, over-simplified and somewhat expanded summary)

1. STILLNESS IS ETERNAL
2. MOTION SEEKS STILLNESS
3. MOTION IS CAUSED BY PRESSURE DIFFERENCES
4. ALL MOTION IS TWO-WAY MOTION  
which simultaneously cancel each other and sequentially repeat the same canceling in the opposite polarity, creating the illusion of a multiplying/dividing Universe
5. ALL MOTION IS CURVED  
Resistance to two-way motion causes curvature.
6. ALL CURVATURE IS SPIRAL
7. ALL SPIRALS ARE THREE DIMENSIONAL VORTEXES
8. ALL VORTEXES ARE:  
EXPLODING/centrifugal/center fleeing/expanding/fission OR  
IMPLODING/centripetal/center seeking/contracting/fusion.  
Russell never used the word implode. He chose instead exploding inward as contrasted to exploding outward.
9. ALL VISIBLE VORTEXES LOOK LIKE "TWISTER TORNADOES"  
All "twisters" are trying to wind up into gyroscopes just as when you twist a string, it turns into a ball. Nature's creating gyroscopes are all centripetal. Man's metal gyroscopes are all centrifugal.
10. ALL VISIBLE VORTEXES HAVE A YIN-YANG MATE  
The Yin-Yang black and white symbol enclosed in a circle is a picture of creation. Nature creates all things in pairs, male/female, positive/negative, north/south hemispheres. No substance is created alone for "to divide" the stillness/nothingness, you must create more than one. For every sun, there is a black hole. For every planet, an invisible counter-balance on the other side of the sun. For each atomic speck of matter, an "anti-matter." For every positive film, a negative. For each visible substance created, there is a reflection of opposite polarity.

11. THE YIN-YANG DANCE TOGETHER

DIVIDED - INDIVIDUALLY - EACH

- a. Looks like twister vortexes - the threads of a screw
- b. Motion within the vortex is a whirlpool
- c. Orbital motion of vortex itself is elliptical
- d. Orbital motion appears to be off center

UNITED - JOINED - YIN-YANG MATED PAIR

- a. Looks like a cone - the screw is a cone
- b. United motion within vortexes is conal
- c. United orbits are circular
- d. United orbits are centered by a still gravity shaft

12. ALL ACCUMULATING/CREATING MASS IS AIMING TOWARD

GYROSCOPIC PERFECTION OF MOTION (SPHERE) AND PERFECTION OF CRYSTALLIZATION (CUBE)

Rectangles are Nature's attempt to create squares. Spheroids/eggs are Nature's attempt to create spheres. Ellipses are Nature's attempt to make circles.

The Golden Spiral and Rectangle are about as close as organic life on this planet comes to the perfection of the sphere and the corresponding invisible cubic wave field. The element carbon does succeed. Carbon is the mature point of all the elements. All of the 9 octaves of the elements are stages of growth toward carbon or stages of disintegration toward death away from carbon. Carbon is the element of perfection.

Carbon based organic life, which has been wound up/integrated into the appearance of form from the less tightly wound elements of nitrogen, oxygen, hydrogen and silicon, can not possibly achieve the perfect spherical form that carbon alone does. The Golden Spiral/egg shape is about as close as Nature comes.

13. THE UNIVERSAL FORMULA FOR THE PERFECTION OF THE SPHERE/CUBE

The implosive/centripetal spiral contracts and compresses in the inverse ratio of the square of the distance and the cube of the volume. The explosive/centrifugal spiral expands in the direct ratio of the square of the distance and the cube of the volume.

Look at the spiral in the figure on page 3 of the last **FULCRUM**. It is less tightly wound than this Universal formula for perfection because it uses rectangles instead of squares. However, think of the rectangles as three dimensional glass cubes, stacked on top of each other, the smallest on the bottom, getting larger toward you.

As the curved spiral contracts, descending in depth to the opposite corner of each new smaller three dimensional cube (compresses in the inverse ratio - meaning to get smaller - of the square of the distance - take the length the spiral travels and use that length to make a square), its volume decreases to the volume of that cube (compresses to the cube of the volume).

If it were an expanding/centrifugal spiral, starting from the smallest square and rising toward you, it would expand in direct ratio (getting bigger) of the square of the distance and the cube of the volume.

14. ALL NINE OCTAVES OF THE ELEMENTS ARE RINGS OF LIGHT

- - spinning/rotating on their curving axis in pairs of increasing/decreasing, visible/invisible elliptical spirals as they try to wind up into spherical gyroscopes.

- - the axis/gyroscope (earth) orbiting/revolving with its balancing mate in circles around its point of origin (sun).

LIGHT RINGS integrate/compress into gyroscopes of visible form (atoms) and disintegrate back into invisible florescent light rings (inert gases) from which they sprang.

15. TO MULTIPLY POWER AS NATURE DOES, USE CENTRIPETAL "TWISTER" VORTEXES

Look at figure 50, p. 783 of the Home Study Course (HSC), to see the octave wave principle in three dimensions. To step up an octave, cut the guitar string in half. This creates a square  $1/4$  the size in area and a cube  $1/8$  the volume. This doubles the frequency, reduces the spiral volume 8 times and increases the pressure 8 times. To step down an octave, lengthen the guitar string double. This halves the frequency, expands the spiral volume 8 times and reduces the pressure 8 times.

a. A water pipe, shaped like a "twister" vortex to the above formula, with an elliptical shaped cross section which becomes more circular as it compresses, will multiply the water pressure 8 times in one octave, 64 times in two and 512 in three octaves.

b. Electricity, of large amperage and low voltage, allowed to flow without wires in a tightly wound "twister" vacuum tube, should multiply voltage and decrease amperage from the large cathode to the small anode.

c. Resonance is rhythmic balanced interchange. Balanced centripetal/centrifugal motion within a tightly wound gyroscope will create tonal resonance and levitation.

d. On transmutation, Russell states: "The plane of gyration and the speed of revolution alone multiply and divide volume and density." To multiply/divide volume/density means to step up or down in tone, within or between octaves, be they musical or elemental. The plane of gyration is the number of degrees from its zero axis of origin it has compressed to on its way to the 90° of wave amplitude. The speed of revolution is the pressure, in electrical terms, the voltage.

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## ARTICLE

### HARMONIC TABLE OF THE ELEMENTS, PART I

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Material engineers are always interested in elements and their properties. After all, an odd property of a rare element may potentially secure an economic advantage in a manufacturing process, either now or in the future. This is a good illustration of the phenomenon of ephemeralization (doing more with less material), which is the driving force of positively evolving culture and science.

Readers of this journal are all relatively familiar with Walter Russell's spiral-form Table of the Elements. Also, we all have seen the conventional table constructed by Mendelyev. These two tables illustrate some cosmic truths about elements, but not all as yet. Of the two tables, Russell's comes closer to showing the true structure of relationships between elements. But we must not yet throw out the Mendelyev table, because it still contains valuable information which will help us find a true conception of the elements.

### THE FUNDAMENTAL OCTAVES

So let's look at the Mendelyev table and extract a few insights from it. We see the elements are ordered in rows according to electron shells. We also see a certain harmonic rhythm is found, which will be called the "octave harmonic." All elements in a column can be said to be harmonic in the same sense that two musical notes played in an octave interval are harmonic. The two notes are one but are at different pitches. It is vital to grasp this concept before continuing.

If you have a keyboard at hand, count up eight white keys from any starting point and hit both the bottom and top keys at once. On a harp, you simply count strings, as there is no equivalent for black



keys on that instrument. Octave intervals can be found on all musical instruments but only on these two are they readily visible. Once you have the experience of hearing an octave and know what it is, you will always remember it.

The octave is a fundamental harmonic in music. In fact, all scale systems developed on this planet have made use of it, because it is a natural law. Every musician knows that when one note is played, any string tuned an octave above or below that note will vibrate sympathetically. In fact, much of the music of India makes constant use of this phenomenon as incorporated into the design of the Sitar and the Vina. Now we will apply this musical experience to chemistry.

Octave harmonics among elements are a vital concept. Any good inorganic chemistry textbook will show several illustrations. Most people are aware of the "noble gases" which do not tend to react with other elements. Their similarities are the most obvious demonstration of the octave harmonic. A more subtle illustration is the "weak metal" line beginning with zinc. Each metal in that column typically exists in Nature in several stable isotopes, while most elements tend to fall into only one stable isotope.

Now, when we examine the Russell table of the elements, we see that both printed configurations are flat representations of a spiral, which is the natural formational sequence of elements. Remember how Russell always stressed the importance of spirals in Nature. When the spiral is extended properly in three dimensions, we must then make sure the octave harmonics of the elements from the Mendelyev table are properly aligned. Once this happens, we can start conceptualizing other powerful natural relationships between elements.

At this point, conventional material chemists have stopped and rested. In doing so, certain chemical mysteries are left unexplained. An important mystery in our present civilization is catalysis. We don't really know much about why the presence of a trace amount of a certain element is essential to many reactions. A good example is the controversial "cold fusion" reaction, where apparently deuterium, tritium, and heat are produced at low temperatures. All other fusion has been found at prohibitively high temperatures. Cold fusion is experimentally dependent on the presence of a particular crystalline form of the element Palladium in the electrode. Nothing else has worked. In conventional material chemistry, no explanation for this phenomenon can be given.

Harmonic chemistry may contribute to an explanation. Let's go back to music, which is a template for the operation of the Universe.

From the ancient Vedas on, many written works have commented on this fact. Now, physicists are beginning to see how music forms a much better analogy for the structure of the Universe than anything else we know. The same will hold true for chemistry, as we explore these ideas.

### **FIFTH RATIO OF POWER**

The fifth can also be detected in sympathetic string vibrations to strong fundamental notes. We all have heard the fifth ratio in Gregorian chants. It invokes a sense of power wherever it is used. It is also fundamental to most other musical systems in the world. Mendelyev's table of the elements cannot expose fifth ratios easily because of its boxy shape. By properly calibrating Russell's spiral, we may be able to find these fifth relationships soon. Cold fusion has already given us a clue, telling us to look at palladium and see where it falls. It may be in a fifth relationship to the family which includes hydrogen and may have an important relationship to deuterium as well.

Other key elements to use for finding fifth relationships are gold, lead, and molybdenum. Gold's importance as a catalyst is legendary. Subtle electronic circuits yet to be developed (including inert gas globes -- the most effective employ gold in the input/output electrode) will depend on gold's harmonic properties. Lead is a harmonic point involving several radioactive isotopes and is beginning to be understood in that context. Imagine radioactive decay sequences spiraling into lead from several different directions. Molybdenum has the odd property, observed by hard-rock miners, of attracting large amounts of water. These phenomena need to be investigated within the context of harmonic chemistry.

We also may find harmonics among the pre-hydrogen elements proposed by Russell. The so-called "Brown's Gas" reaction, as demonstrated by Yul Brown, seems to involve pre-hydrogen elements because of its odd characteristics. Some of the researchers who have seen parts of Brown's demonstrations have speculated on this possible connection.

### **CENTER OF THE ELEMENTS**

One of the most interesting harmonic phenomena which should help us properly calibrate the Russell spiral model is the position of technetium among the elements. If you were to take the 92 natural elements and put them in a straight line, technetium would be about in the middle. It could be termed a "null point" or a "fulcrum" of the elements. (Ed. note: Russell's periodic charts show carbon as th

"fulcrum" of the elements.) Note how it also harmonizes with promethium and neptunium in the Lanthanide and Actinide series respectively, both of which do not exist in nature and have short lives as artificial isotopes. This gives us another clue for calibrating the spiral.

In order to accomplish the calibration of the spiral table of the elements, it must be set up in a flexible three-dimensional form. Only then will we be able to accurately visualize the proper forms of harmonic relationships. This three-dimensional model could be made with bits of metal, wood, and strings, and might be best expressed using the principles of tensegrity as found in the Synergetics work of Buckminster Fuller. A more effective way to generate the model would be to use computers to generate a hologram in free space. Then, pathways could be lit up and dimmed instantaneously as needed. Someday, every classroom may have a computer equipped with such software.

## **OTHER MUSICAL RATIOS**

We also need to look at other musical ratios as metaphors for elemental and chemical relationships. Briefly, let's consider a few as they exist in our system of music, with notes on their possible chemical effectiveness. These notes can be used as rough guidelines as we work through the calibration process and attempt to explain or discover catalytic reactions.

### **Minor Second**

Look to Bulgarian music to find a lot of examples of this. It is best done by vocalists, as instruments tend to create too harsh a sound. Vocalists make subtle adjustments in this ratio to fit the situation. It could create catalytic reactions and may also cause outer electron shells to resonate without necessarily forming compounds. Here we may find an explanation as to why boron is poisonous to lower life forms, while higher life forms can temporarily compensate for its presence.

### **Major Second**

Here we experience a particularly dissonant ratio. It might be used to cause a benign dissolving of toxic compounds.

### **Major Third**

Usually, this ratio is more harmonic when combined with a fifth. Chemically, it may be used to facilitate complex reactions or control polymerization.

### **Fourth**

Some musicians have long recognized that a fourth is essentially an inverted fifth. Only in certain cases does it sound

harmonic. We thus have an indication that a direct fourth relationship between elements would not be particularly effective in helping them react with each other but may be useful in other ways.

#### **Sixth**

This could be called the "navigational interval" since it exists profusely in traditional chants used by Polynesian sailors. Chemically, we could expect it to cause elements to form in higher-order crystallization and matrix structures.

#### **Minor Seventh**

Most people regard this ratio, which is found in the Mixolydian mode as having an informal character. It may not be chemically useful.

#### **Major Seventh**

Pure dissonance is the experience generated by this ratio. It may explain why most halogen compounds are detrimental to life when not balanced according to natural laws. Also, we may find it among certain toxic radioactive isotopes.

### **CONCLUSION AND CONTINUATION**

Obviously, this essay is primitive and speculative. It merely gives us some working guidelines towards building our practically useful models. Hopefully, other researchers, perhaps with funding and laboratory facilities, will find this information useful. In any event, the author welcomes news of your results.

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## ARTICLE

# COLOR AND THE TRIGRAMS

## The Masculine and Feminine Colors

bt Constance Achilles

Electricity is the servant of the God-Mind.  
Electricity expresses the desire  
in the God-Mind for creative expression  
by seemingly dividing the One still light  
into transient waves of spectrum divided  
positive-negative colors of light. (TSOL p. 50)

In school, you might have learned that there are three primary colors—red, yellow, and blue, and three secondary colors—orange, green, and violet. That's what I learned, and it has taken me fifty years to find out that it is not true. There are six primary colors: red, yellow, green, cyan, blue, and magenta. Technically, these are the six primary *chromatic* colors. Add these to the two primary *achromatic* colors—black and white—and together we get a total of eight primary colors. I am using the term cyan for blue and the term blue for violet. These are the terms used by artists working with color on a daily basis. When I use the word "cyan," I specifically mean the lighter blue color you see when looking through a prism; when I use the term "blue," I specifically mean the darker blue color you see when looking through a prism.

The chromatic colors fall into two groups of three colors each. Red, green, and blue are often called the "additive" primary colors, and they refer to light. We can think of these as the generative masculine colors. Cyan, magenta, and yellow are often called the "subtractive" primary colors, and they refer to inks or pigments. We can think of these as the radiative feminine colors.

Let's look first at red, green, and blue.

Our eyes are sensitive to three areas of lightnesses\*. These areas are termed long-range waves, medium-range waves, and short-range waves. The length of these waves runs from 400 to 700 nanometers—the range of the visible light spectrum. In other words, the visible light spectrum is made of those waves that our eye-brain computers translate into what we see.

\*Lightnesses is a term used by Dr. Edwin Land in his research on color vision.

Our eye-brain computers translate the long-range waves into the color red, the medium-range waves into the color green, and the short-range waves into the color blue. If we see red, this means that the long-range waves are "on" and the medium and short waves are "off." If we see the color green, medium waves are "on" and short and long waves are "off." If we see blue, short waves are "on" and long and medium waves are "off." But "on" and "off" are primary words of the binary code, so our brains are really making binary calculations over a three-range area (the long-, medium-, and short-range waves).

Figure 1, p.18 is a little diagram to show how it works. We will use a solid white line for "on" and an open white line for "off." We will use a white line here because when red, green, and blue light are combined, they create white light. We will put long-range waves at the bottom, medium-range waves in the middle, and short-range waves at the top.

In fact, we don't even have to identify the colors with words. We can just fill in the white solid lines (the lines that are "on") with the color that fits for that wave length, as shown in Figure 2, p.18.

What we have so far is a binary code (using the solid and open lines as "on" or "off"), overlaid onto a trinary code (the long-, medium-, and short-range waves). When we combine the code of two and the code of three, we get color. But that's not all. Our end result also happens to be four of the eight trigrams of the *I Ching*, the 5,000-year-old Chinese book of divination.

King Wen, who lived around 1100 BC. and was one of the great sages of the *I Ching*, called these four trigrams the masculine trigrams. He labeled the red trigram as eldest son, the green trigram as middle son, and the blue trigram as youngest son. Solid lines are yang (masculine) lines. Open lines are yin (feminine) lines. A masculine trigram has only one masculine line and two feminine lines—otherwise it would be out of balance, with too much yang. As we shall see, the feminine trigrams are just the reverse, with two masculine lines and one feminine line.

King Wen called the white trigram (the trigram with three solid lines) father. Just as a father is in different relationship to his sons than the sons are to one another, so white, as an achromatic color, is different from the three chromatic colors of red, green, and blue.

Now let's look at the three primary ink or pigment colors—cyan, magenta, and yellow.

We will still use our trinary code of long-, medium-, and short-range waves, but this time in our binary code a yin line will

indicate "on" and a yang line "off." Also we will use black instead of white to color the lines, because when cyan, magenta, and yellow pigments are combined, they create black pigment. This is just the opposite of combining red, green, and blue light, creating white light.

Figure 3, p.18 shows the trigrams with color words, and Figure 4, p.18 shows how the pigment colors look when the yin lines are filled in with the appropriate colors.

Again, by combining a code of two and a code of three, we get color. Our friend and sage King Wen labeled these four trigrams feminine. He labeled the cyan trigram eldest daughter; magenta, middle daughter; and yellow, youngest daughter. A feminine trigram has two yang (masculine) lines and only one yin (feminine) line—otherwise it would be out of balance with too much yin. King Wen called the black trigram (the trigram with three open lines) the mother. Just as a mother is in different relationship to her daughters than the daughters are to one another, black, as an achromatic color, is different from the three chromatic colors of cyan, magenta, and yellow.

We're not finished yet because obviously we see light in more colors than red, green, and blue, and obviously we see pigments in more colors than cyan, magenta, and yellow. It turns out that the secondary light colors are the primary pigment colors, and the secondary pigment colors are the primary light colors. This is where the additive and subtractive processes come into play. Figure 5, p.18 shows the additive process. If we add green light to blue light, we get cyan light, as shown in the example on the left. If we add red light to blue light, we get magenta light, as shown in the middle. If we add red light to green light, we get yellow light, as shown on the right. This *additive* process uses emitted light, creating all the colors we see when we watch color television.

With pigments, if magenta and yellow are overlaid together as they are in color separations, the medium- (green) and short- (blue) range waves are absorbed or subtracted, leaving only the long-range waves, which we perceive as red, as shown on the left in Figure 6, p.18. The overlay of cyan and yellow absorbs the long- (red) and short- (blue) range waves, leaving green, as shown in the middle. The overlay of cyan and magenta absorbs the long- (red) and medium- (green) range waves, leaving blue, as shown on the right. This *subtractive* process uses reflected light to create all the colors we see in printed materials.

In Figure 7, p.18, all eight trigrams are combined in color with the familial relationships King Wen assigned to them. We can use

the trigrams as a sort of universal scaffolding to describe the symmetry in these sex-mated polar complements, whether we are talking about relationships between men and women, relationships between yang and yin lines, or relationships between “masculine” and “feminine” colors. This system or pattern of relationships is so universal that it is even used to describe the relationships between subatomic particles.

We can see from Figure 9, p.18 that the “color force” of quarks and antiquarks follows exactly the laws of color theory. We can also intuitively sense from Figure 9 a wonderful interweaving of the numbers two and three. There are *three* combinations of *two* (the quark/antiquark combinations of red and cyan, blue and yellow, green and magenta), and each of these *three pairs* creates white light. There are also *two* combinations of *three* (the quarks of red, green, and blue, and the antiquarks of cyan, magenta, and yellow), and each of these *two triplets* creates white light.

For behold, My imaged universe is mirrored to infinity;  
it is repeated to the endless end;  
yet there are but multiples of three in all My universe.  
And again I say to thee,  
two of those very three are naught but My imaginings,  
for My Trinity is but One. (TSOL p.138)

A union is formed between male and female polar complements. White light is created by the pairing of a masculine and a feminine color. Each masculine trigram finds its feminine complement by the exact interchange of yang and yin lines. Eldest son marries eldest daughter—red and cyan are complementary colors and together create white light. Middle son marries middle daughter—green and magenta are complementary colors and together create white light. Youngest son marries youngest daughter—blue and yellow are complementary colors and together create white light.

I would have to say that I think it is easier and clearer if the six chromatic colors are primarily thought of as masculine and feminine—a masculine color being a color that peaks in *one* of the three lightness areas, and a feminine color as a color that peaks in *any two* of the three lightness areas. Then, very simply, the combination of any two masculine colors creates a feminine color, and the combining of any two feminine colors creates a masculine color. (See Figure 16, p.23)



## The Cool and Warm Colors

All patterned thought creations of God or man  
are the interweavings of the spectrum colors  
of the two electric opposites of light-waves  
into the patterned designs of those thoughts. (TSOL p.51)

Our first pair of sets was based on masculine and feminine, and we found that this related directly to the way we see color. Color is divided into three areas of waves—long (red), medium (green), and short (blue). The receptors in our eyes are generally of three types--those sensitive to red, those sensitive to green, and those sensitive to blue. In each of these three areas, we compare light and dark. What is outside of us and what is inside of us are reciprocals of each other—a binary relationship of light and dark combined with a trinary relationship of red, green, and blue.

There are other examples of this combination of two and three, one of the most prominent being the genetic code, which expresses life itself with the two purines and pyrimidines set into the three codon positions—bottom, middle, and top. In the I Ching itself, yang and yin provide the twoness of the light and the dark, which combine with the threeness of earth, man, and heaven in the three trigram positions of bottom, middle, and top, respectively.

The trigrams themselves form the structural underpinning of the relationship of two and three. We have the essence of two possibilities--two polar complements, whatever they may be: yang and yin, 0 and 1, on and off, compression and expansion, north and south, hot and cold, centripetal and centrifugal, left and right.

God is Light. God is Love.

God's creating universe is founded on Love.

It is creating with Light.

The symbol of love is the wave of dual light

which gives and regives equally and rhythmically.

This is a dual electric wave universe of interchanging light. (TSOL p. 218)

We begin to see how we can look at everything in terms of its binary and trinary essence. North and south, east and west, and zenith and nadir—each is a binary pair, and together they make up the x, y, z (trinary) axes of a cube.

Figure 1

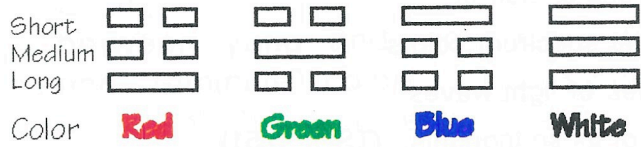


Figure 2



Figure 3



Figure 4

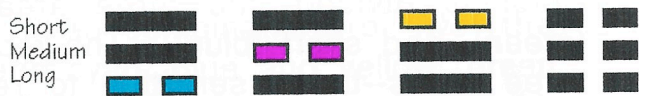


Figure 5

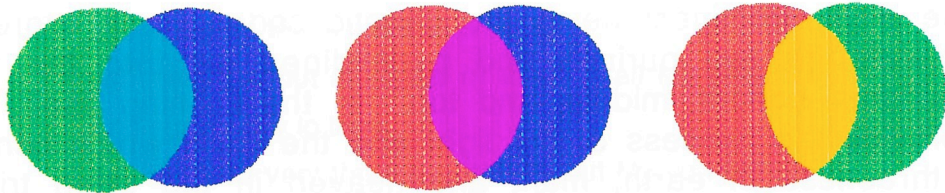


Figure 6

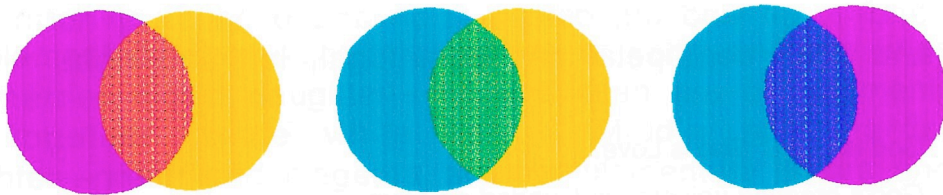
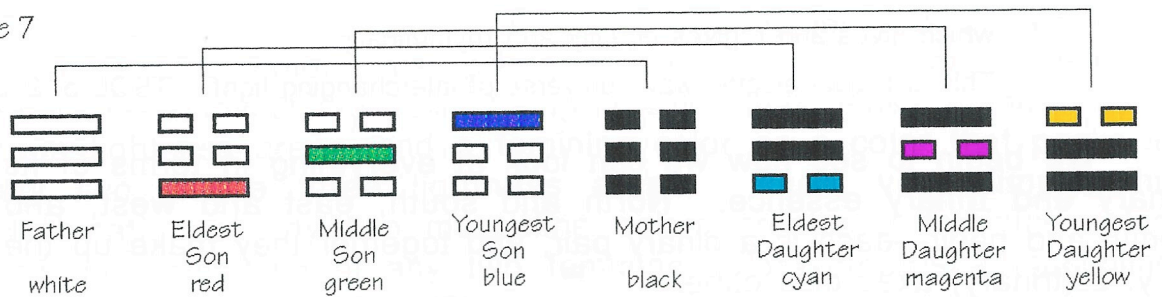


Figure 7



Points of rest, further extended to other points of rest  
 form three reflecting planes of still magnetic Light  
 which are at right angles to each other.

From the center of these three mirror planes of zero curvature,  
 God's givings are radially projected to six opposed mirror planes  
 for reprojection as regivings,  
 (to unfold and refold the forms of God's imaginings  
 in the curved electric universe of His desiring). (TSOL p.219)

Let's look more closely now at the trigrams, not in terms of masculine and feminine but in terms of numbers. Altogether, there are eight possibilities of yang and yin lines in three positions. This is two (yang and yin) three times (three positions—bottom, middle, and top), which is  $2 \times 2 \times 2 = 8$  or two to the third power ( $2^3 = 8$ ).

If we want to express the same information using algebra, it looks like this:  $(a + b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$ . I never really understood algebra until I started looking carefully at the trigram patterns in the *I Ching*. Now I see that *a* and *b* could be referring to the yang and yin lines, as shown in the new trigram pattern in Figure 8, p.19. That whole algebraic expression (called a binomial cube) is saying that there is one group of three lines that is all *a*. There are three groups of three lines that have two *a* lines and one *b* line. There are three groups of three lines that have one *a* line and two *b* lines. And there is one group of three lines that is all *b* lines. The algebraic expression is longer than  $2^3 = 8$ --that is, it takes up more space, but it gives us more specific information. Using the yang and yin lines in the eight trigrams is the longest possible expression of  $2^3 = 8$ , but it also give us the most specific details. If I loosely translate between the algebraic symbols and the family assignments of the *I Ching*, I can say that  $3a^2b$  means three sons, and  $3ab^2$  means three daughters, assuming that *a* translates to a yin line and *b* to a yang line.

Figure 8

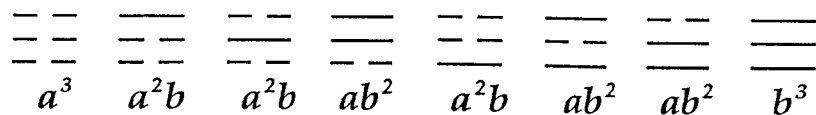
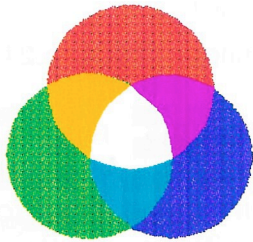


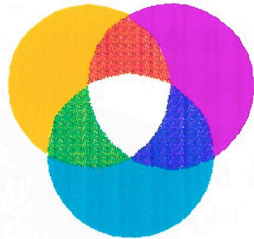
Figure 9

### Color force / color light analogy

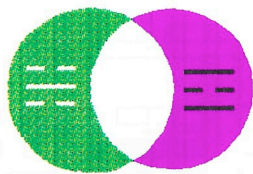
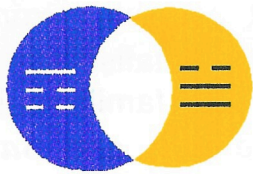
Mixing colored lights



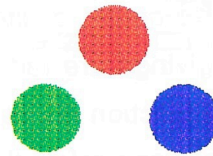
Mixing anti-colored lights



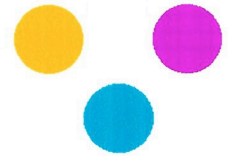
Mixing colors and anticolors



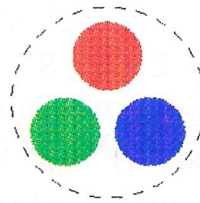
colors



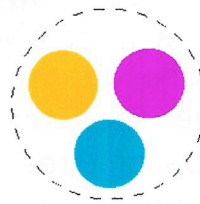
anti-colors



'White' composite particles



proton and its relatives  
(three-quark combinations)



anti-proton and its relatives  
(three-antiquark combinations)



mesons  
(quark/antiquark combinations)

The permitted combinations of quarks match the laws of colour-mixing precisely. The quarks are not really colored.

Figure 10

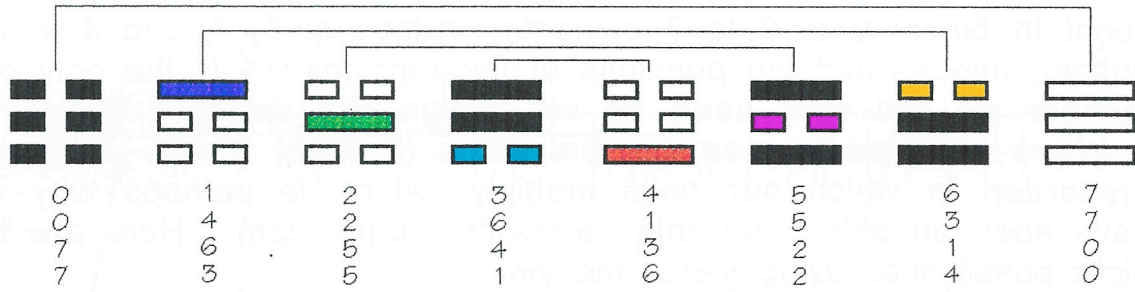


Figure 11



Figure 12

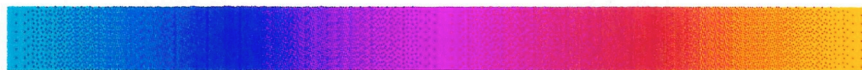


Figure 13



Figure 14

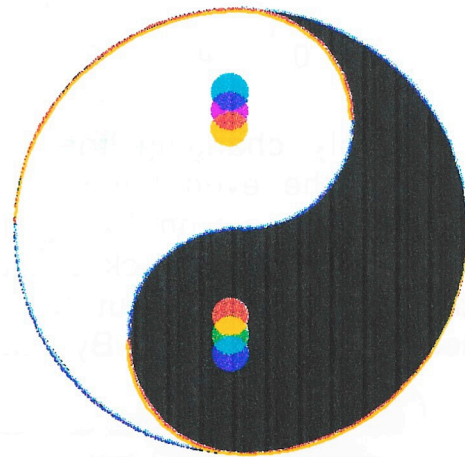
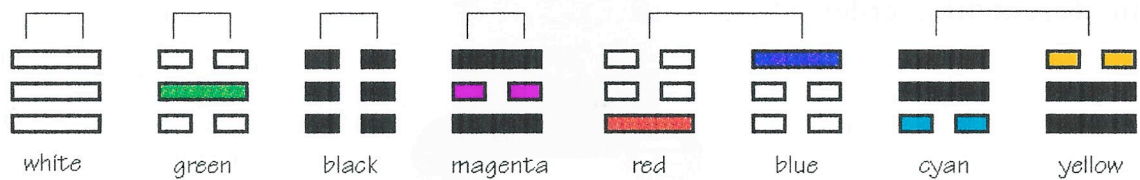
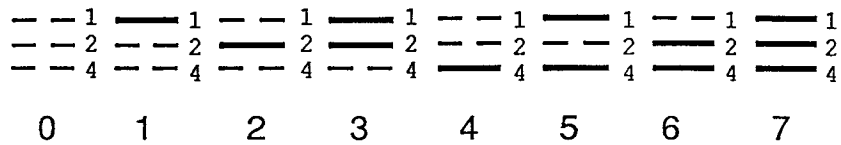


Figure 15

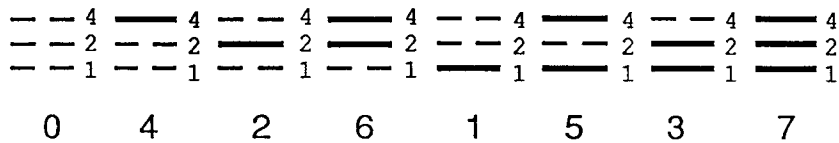


Just in terms of numbers, we can use this same pattern to count in binary from 0 to 7 using the values of 1, 2, and 4 in the bottom, middle, and top positions of the trigrams. 1 is the only odd number we will ever need as we assign the values. The even numbers will grow in geometric proportion (2, 4, 8, 16, 32—the same proportion in which our cells multiply, which is perhaps why we have such an affinity for this particular progression). Here are the eight possibilities using yang and yin lines:

First we'll increase values from the top down and say that a yang line is "on" and add up the "on" values in each trigram.

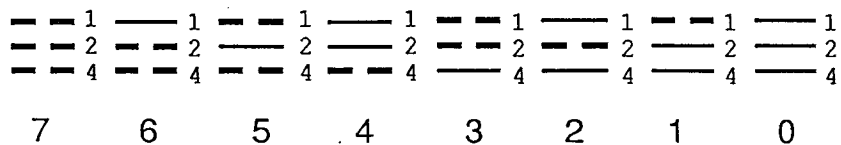


The numbers go very nicely in ascending order. Next we'll increase the values from the bottom up, still saying that a yang line is "on."



Simply changing the direction in which the values increase makes all the even numbers come out on the left and all the odd numbers come out on the right.

Next we'll go back to values increasing from top to bottom, as in the first example, but this time we'll say that a yin line is "on," rather than a yang line. By adding "on" values in each trigram, we get:



Like our first example, this is very neat, only now our numbers are in descending order from 7 to 0.

Figure 16

# IDEALIZED PRIMARY COLOR SPECTRUM CHART

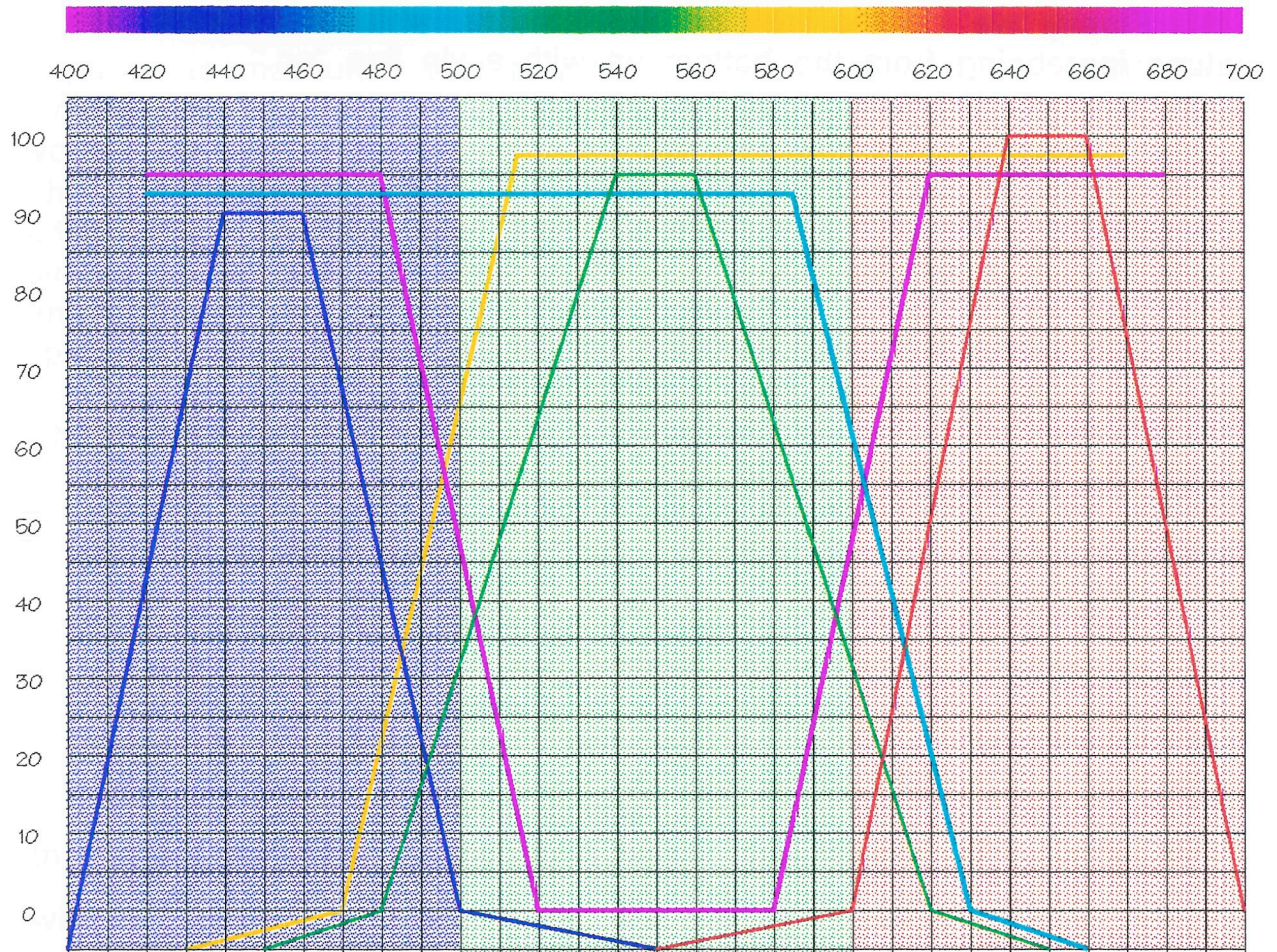
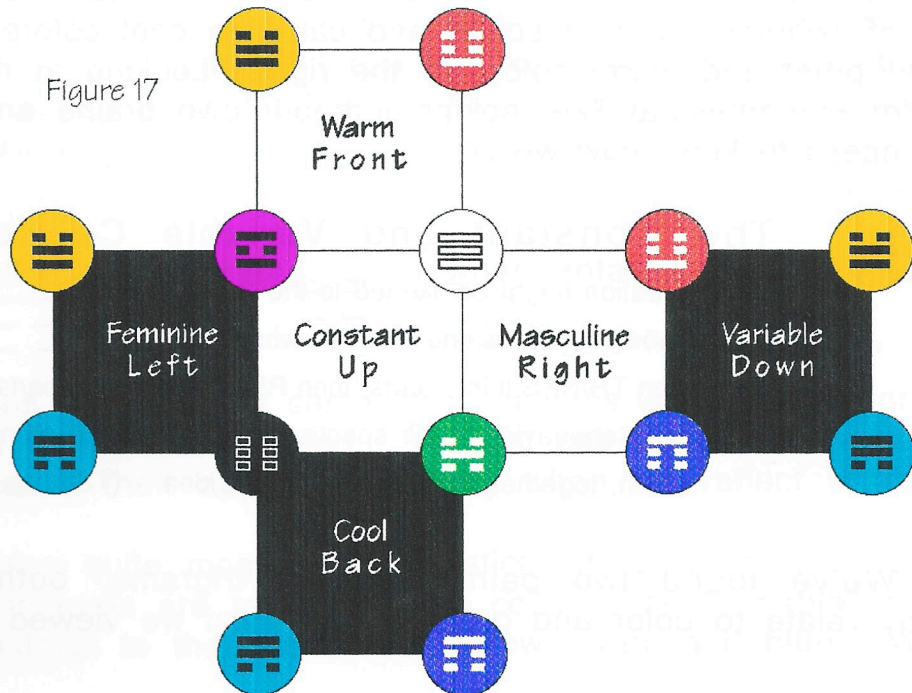
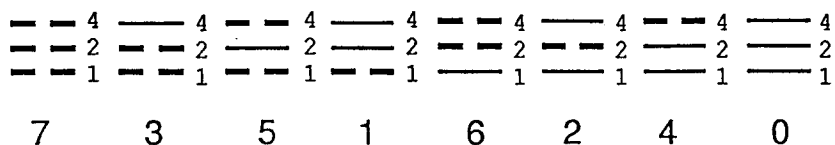


Figure 17



Finally we do the last possible choice, which will be to use values increasing from the bottom up with a yin line “on.”



This puts all the odd numbers on the left and the even numbers on the right. Notice that our pattern has stayed the same throughout—it is only *our assignment of values* that has changed. However, there is no doubt that this pattern is a coherent one, whether we consider it as numbers in ascending order, as numbers in descending order, as odd numbers on the left and even on the right, or as even numbers on the left and odd on the right.

Just as King Wen discovered a coherent pattern of the trigrams and connected them to a very logical pattern of family relationships, so another legendary sage, Fu Hsi, is credited with the discovery of this particular pattern of trigrams, called the “Pre-Heaven sequence.” Fu Hsi and his wife Nu Kwa lived about 3300 BC and according to Chinese legend were the first married couple.

What happens when we add the masculine and feminine colors to this trigram pattern? Amazingly, we get all the cool colors on the left and the warm colors on the right, as they are shown in Figure 10, p.20. Again we come back to how we perceive color. Dr. Edwin Land and others found in their research on color vision that when we view any scene, our eye-brain computers find a balance point of lightness in that scene and calculate cool colors to the left of that point and warm colors to the right. Looking at the trigrams in color is somewhat like looking into our own brains and watching the process to learn how we see.

### The Constant and Variable Colors

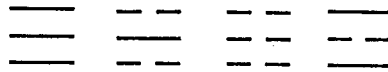
Creation might be likened to the tapestry weaver  
 who KNOWS the one idea as a whole,  
 then THINKS it into parts, then RECORDS those parts  
 by interweaving their spectrum colors into the many forms  
 which, together, manifest the whole idea. (TSOL p. 51)

We’ve found two paired sets of trigrams, both of which directly relate to color and color vision. First we viewed the

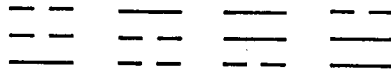


trigrams as masculine and feminine, which we then found translate directly into the RGB and CMY colors used by artists all over the world. These are the trigrams as King Wen perhaps perceived them. Then we saw that counting in binary relates to the trigram pattern attributed to Fu Hsi, and that this trigram arrangement translates directly to the cool and warm colors. Now we will create a third and final pair of sets, which again translates directly into color—specifically how we see color when we look through a prism.

If you look at the group of four trigrams below, can you tell what they all have in common?



What about these four?



One of the things that makes ☰ ☷ ☱ ☲ a set is that each of these four trigrams when rotated 180° about any axis will still look exactly the same. If we rotate ☰ 180°, it still looks like ☰. The same holds true for ☷, ☱, and ☲.

We can also reflect these trigrams rather than rotate them, and they will still have the same appearance. (By *reflect*, I mean *flip* them vertically as though I were looking at their reflection in a lake or mirror.) We will call these the “constant” trigrams because they do not change when rotated or reflected, but remain constant in their appearance.

If we take ☳ ☶ ☴ ☵ and rotate each of them, something different happens. ☳ when rotated becomes ☶. Similarly, ☶ becomes ☳, ☴ becomes ☵, and ☵ becomes ☴. The same thing happens when these trigrams are reflected rather than rotated. We will call these the “variable” trigrams because their appearances vary when we reflect or rotate them.

Something quite magical and mystical is revealed when these two sets of trigrams are translated into color. The “variable” set of trigrams translates to the colors red, yellow, cyan, and blue. When

you look through a prism at any scene, you will always see either red and yellow or cyan and blue on the edges of objects. These are exactly the colors of the variable trigrams!

What is even more interesting is that these four colors are the colors that are common to both light spectra— the “forward” spectrum of Newton and the “reverse” spectrum of Goethe. The “forward” spectrum (Figure 11, p.21) of red, yellow, green, cyan, blue is the one we are most familiar with. The “reverse” spectrum (Figure 12, p.21) of yellow, red, magenta, blue, cyan is less familiar. Notice that green occurs only in the forward spectrum, and magenta only in the reverse spectrum. Red, yellow, green, cyan, blue is more commonly known as red, yellow, green, blue, violet.

Almost everyone is familiar with the Tai Chi symbol—the famous symbol of yang and yin shown in Figure 13, p.21. If you look through a prism at the Tai Chi symbol you will see a little bit of green in the middle of the small white circle against the black background and a little bit of magenta in the small black circle against the white background. From the bottom up, the colors in the small black circle are yellow, red, magenta, blue, and cyan—the reverse spectral colors. From the top down, the colors in the small white circle are red, yellow, green, cyan, and blue—the colors of the forward spectrum. Around the edges you will see either red and yellow or cyan and blue. You may also see magenta at the top and green at the bottom of the symbol where black and white or white and black intersect.

Figure 14, p.21 shows an impression of what you see when you look at the Tai Chi symbol through a prism. Again, red and yellow, and cyan and blue are the four colors common to both light spectra, while magenta and green are special in that each occurs in only one spectrum. The eight colors arranged as constant and variable trigrams are shown in Figure 15, p.21.

Our ideas about color and the words we use to distinguish colors have been greatly affected by our linear thinking. Newton said the spectral colors were the colors of the rainbow. He labeled them red, orange, yellow, green, blue, indigo, and violet. There are seven chromatic colors in this list, but we know from our study of the trigrams and color that there are only six primary chromatic colors. Not only are there seven chromatic colors in this list, but magenta isn't one of them, and we know from our study of the trigrams and color that magenta is a primary chromatic color!

As we learned in distinguishing the masculine and feminine colors, the masculine colors peak in just *one* area of waves—long- (red), medium- (green), or short- (blue). (Also red, green, and blue

distinguish the three kinds of cones or receptors in our eye-brain computers to which these three ranges of waves are receptive.) Each of the feminine colors, on the other hand, peak in *two* of the masculine color areas at the same time—yellow peaks in red & green, cyan peaks in green & blue, or magenta peaks in red & blue. You can see a visual picture of how this works in Figure 16, p.23. Red and green are the long- and medium-range waves—they move nicely from one area to the next, and their peaks are roughly 650 and 550 nanometers. Green and blue are the medium- and short-range waves and their peaks are roughly 550 and 450 nanometers, so they too move nicely from one area to the next. Magenta, though, combines the short- and the long range-waves covering the 450- and the 650-range waves, but not the middle.

Magenta is a unique primary color. It is the only primary chromatic color that demands a circular rather than a linear view of color because it embraces both the long and the short ends of the light spectrum simultaneously. Since Newton's list of spectral colors is linear, it does not include magenta. Just contemplate the implications of this when emotional qualities are associated with color. In most of the books I have seen that relate color to emotional qualities, red is associated with aggression, anger, basic instinct, the root chakra of survival and the will to live. Magenta, on the other hand, is associated with love, spiritual fire, and the brow or crown chakra. (The word "violet" is most often used to describe either the brow or the crown chakra, but I think that the actual wave vibration or color is probably magenta, and the words have become confused, as they have with blue and cyan.)

Much if not all of healing has to do with balancing the forces of yang and yin, whether we are talking of the physical, emotional, or spiritual level. Leaving magenta out of the lists of primary spectral colors creates a terrific imbalance that can only be rectified by restoring it to its proper place in consciousness and in physicalness. Without magenta, we try to balance red with green, which can't be effective because red and green are both *masculine* colors. Red's balancing color (its complement) is cyan, a *feminine* color. Green's balancing color is magenta, a *feminine* color.

I have long thought of color as a carrier of information. In terms of evolution, when our eye-brain computers developed color vision, our capacity for holding information took a quantum leap. Imagine trying to see a vermilion flycatcher half hidden in a leafy green tree, when both the bird and the branch are shades of gray, and movement is our best way of bringing him into our awareness. But

the minute color is turned on, the red bird leaps out from the green tree. We can't miss him even if he is perfectly still.

What gives us the information that there is a bird in the tree? Color! It is so much a part of the information we are receiving all the time, it is hard to lift ourselves high enough to get the perspective to see that color is perhaps our most spectacular expression of divine intelligence.

In *The Universal One*, p.202, Walter Russell speaks of color as the fifteenth dimension of the elements.

Light is the universal language.

The colors of light are the letters of the alphabet.

When man invented the spectroscope, he made the greatest stride toward solving the mysteries of nature by thus being able to write down the language in letters of light.

By connecting color to the trigrams, we open a new door between eastern contemplative wisdom and western scientific inquiry. Figure 17, p.23 shows the trigrams in color on the eight vertices of a cube. Our three paired sets of colored trigrams—masculine and feminine, cool and warm, and constant and variable—fit perfectly on opposing faces of the cube. Masculine and feminine are on the right and left faces, cool and warm on the back and front, and constant and variable on the up and down faces. These are merely different viewpoints of Walter Russell's sex-mated pairs.

When any two of our eight trigrams are paired, they form a hexagram. All possible pairings of trigrams are  $8^2 = 64$ . The sixty-four hexagrams of the *I Ching* are said to encompass all of human experience, but I think they can also be used as a scaffold for our understanding of nature. I don't think it is a coincidence that there are sixty-three full toned elements in nature according to the Russell cosmogony (Editors note: 9 octaves x 7 full tonal elements = 63) and sixty-four triplet codons in the genetic code. The subtitle of the *I Ching* is *The Book of Changes*. I think that by using some of the ancient *I Ching* techniques, we can enhance our knowledge of how to transmute (*change*) elements, and get a better understanding of the folding structure of proteins in the DNA double helix. I am speaking of very specific *I Ching* techniques such as nuclear hexagrams, lines in natural position and corresponding lines, all of which have their basis in the *rhythmic balanced interchange* of yang and yin. I think these tools are so universal mathematically, that they can act as a laser of truth wherever that light is projected.

I would love to communicate with others interested in exploring any of these ideas, and I hope to have the opportunity to write another article that investigates the hexagrams more closely. I can be contacted at 2228 S. El Camino Real, Suite 275, San Mateo, CA, 94403-1853.

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Thank you Connie for this excellent article. The colors prints in this issue of **FULCRUM** are the result of your hand feeding 600 11"x 17" sheets of paper through your color printer!! Thanks to you, **FULCRUM** is given the dimension of color!

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## ARTICLE

The following is the prepared paper Chester A. Hatstat, Jr. presented at the World Foundation for Natural Science's "New Scientific Outlook Conference" held in Lindeau, Germany Oct. 28 - Nov. 1, 1993. I hope you enjoy it and can draw from it a few insights into Walter Russell's Science of Creation.

### **THE RUSSELL COSMOGONY: CONCEPTS FOR A NEW SCIENCE PARADIGM by Chester A. Hatstat, Jr.**

Dr. Hans U. Hertel in his address to this 1992 conference quoted Sir Isaac Newton, famed mathematician and physicist, as saying: "Nature is regulated from Heaven." Newton qualified that statement by adding: "I consider neither mankind nor the time ready for me to talk publicly about this matter."<sup>1</sup>

So in response to Hans Hertel's quote of Isaac Newton, I submit the time is right for humankind to know and implement the science of Creation, to know how our four-dimensional time and space, creating Universe is generated and regulated from Heaven.

Quoting the first item from Dr. Russell's list of science's misconceptions:

"1. The cardinal error of science lies in shutting the Creator out of His Creation."<sup>2</sup>

I am here to tell you about the scientific concepts given to us by Dr. Walter Russell, painter, sculptor, architect, musician, philosopher, author, and scientist. In May of 1921, Dr. Russell had a 39 day Illumination experience in which, to quote him:

"Severed from my senses, . . . . I instantly, and timelessly knew the still undivided Divine Light of God which is the fulcrum of life and power, . . . that Mind -- and Soul -- and God -- were One, . . . that the undivided cosmic Light of the God of Love was what God is -- and that the sensed electric-wave universe of motion which simulates love, life, and power had no reality whatsoever. I knew it for what it was -- God's thinking -- God's imagining -- pure illusion -- simulation -- self-voiding forms thrown on the screen of space to manifest changeless idea by setting it in motion to produce the effect of change."<sup>3</sup>

What is this Russell Cosmogony, this new science paradigm? It is the marriage of science and Spirit. It is the ways and processes of the Creator, Universal Law, Natural Science and a Living Philosophy. It is the one process used by God to manifest the One Idea of Creation. It is the science of Idea expressing into form via God's two-way thinking and two-way desire for expression and rest. It is the Tao appearing to divide into the two of yin and yang in order to born the thousand things. It is cyclic thinking, cyclic generation, cyclic degeneration controlled and powered by desire to express from, and desire to return to, the equilibrium from which all seeming light and matter spring.

The Russell Cosmogony unifies the so-called electro-magnetic, gravitational, weak, and nuclear fields into one whole concept. There is but one process at work in Nature within this eternally-creating, electric universe of effects. The difference between atoms, solar systems, and galaxies is only a dimensional one. The one process of apparent division of the One substance into two for multiplication and division into the many is the only process Nature uses.

Polarity is this one process, and it is mirrored in our physical, mental, emotional, economic, societal, political, and religious activities and systems. Russell cited different examples of polarity at work: compression/expansion, positive/negative, male/female, generating/radiating, centripetal/centrifugal, low potential/high potential, density/vacuity, birth/death. All are expressions of the One. Each half of the pair defines and gives birth to the other half, and each half occurs simultaneously with and in opposition to the

other half. Alternately, each half dominates the other. But being expressions of the One, they are not the One, they are illusions, imaginings of Mind projected onto the screen of space.

Quoting Dr. Russell:

*"The basis of Creation is the Light of Mind which created it.*

God is the Light of Mind. God's thinking Mind is all there is. Mind is universal. Mind of God and Mind of man are ONE.

This eternally-creating universe, which is God's eternally-renewing body, is the product of Mind-knowing expressed through Mind-thinking."<sup>4</sup>

"There is but One universe, One Mind, One force, One substance. . . . all knowledge exists within man and is subject to his desire to recall it from within his inner Mind. . . . There is no power in this universe other than the energy of thinking Mind. Thinking is the cause of motion and the periodicities, or states of motion, caused by thinking Mind are registered in light which man calls matter. *Matter is light. Nothing is which is not light.*"<sup>5</sup>

God's Mind is in a state of unchanging equilibrium, of Oneness, of stillness, described by Walter Russell as magnetic White Light. In the One Mind is the One Idea for our creating universe. This One Idea is manifested by God's thinking. Thinking sets an apparent motion to the One substance of Mind, two-way thinking or cyclic thinking sets up an apparent polarity within the Oneness which controls motion. Repetitive thinking causes repetitive action. God's thinking is registered in our Universe as light. What we term electro-magnetic (EM) light is a simulation of the still White Light of Omnipresent, Omnipotent, and Omniscient Mind or God. Waves of light spiral around centering shafts of stillness which control, direct, and imprint information from Idea into seeming motion, light.

EM light and matter are the recording devices for thinking Mind.

From his understanding of Cause within Mind and the subsequent electric effects of motion, Dr. Russell endeavored to enlighten the scientific establishment of his day. Having received only a 5th grade education, he spent 5 years after his Illumination in 1921 studying physics and chemistry texts in order to talk the language of existing science and to know what misconceptions he needed to address in his charts and writings. During the 1920's, his discussions with leading scientists in New York universities were published in the New York Times newspaper. Scientists of his day

elected to disregard his concepts of a Creator within the creation and continued to pursue the study of parts to determine truth. Dr. Russell tirelessly and painstakingly continued to give his message that the underlying truths or basic principles of creation cannot be found in matter but only in *"the zero Light of the universal equilibrium, which is the fulcrum of the sex-divided electric universe of thought-waves of two-way motion."*<sup>6</sup>

Dr. Russell spent the remaining 40 years of his life writing books, making charts, performing experiments, and disseminating his literature to the scientific community. His efforts eventually won him an honorary Doctorate of Science from the American Academy of Science in 1941.

Be advised that Walter Russell primarily spoke and wrote from the perspective of the transcendental Cause. He endeavored to leave us with an understanding of concept, of Cause and did not describe in detail the many varied shapes and forms of effects. So, for the most part, Russell's charts use sine waves, spheres, cubes, and simple conical vortices instead of the hyperbolic shapes seen in Nature. Remember, our universe of electric effects only simulates the Idea of it. Russell was intent on giving us the Idea, to empower us to know Cause, to know Mind, to know God, and to know ourselves as one with Mind.

I will endeavor to give some small view of his science by relating his postulates, his work, and the efforts of the University of Science and Philosophy, which his illustrious and illumined wife, Lao Russell, founded in order to disseminate their message of Love and Light.

To continue with the science discussion, Dr. Russell describes our physical universe as thought-wave generated motion. As such, all motion is wave-like, wave fields are everywhere present and are acting within each other. Waves are generated from points of Stillness and move outward towards points and planes of Stillness. Planes of Stillness behave as wave-field boundaries to mirror the explosive action into an implosive reaction. Please remember this "mirroring" occurs simultaneously to the initial impulse. Wave field boundaries also act to repeat the wave but reverse the wave's condition, i.e., a discharging wave is repeated as a charging wave into the next wave-field.

Russell observes that light does not travel but is repeated from one wave field to the next. The light we receive on planet earth is a reproduction or simulation of the condition on the surface of the sun. He uses the analogy of a pebble dropped in a lake, the water transfers the wave action outward, having crest and trough



repeated sequentially. Waves repeated from one wave-field to another create the illusion of wave travel. It is my understanding that the "cosmic gases," the elements preceding hydrogen in the Russell octave wave periodic chart, permeate space and create the wave fields which allow light to reproduce from one point to another.

Each wave is centered by a still shaft of White Light, every body (which of itself is an accumulation of waves of light or matter) is centered by a point of Stillness, and every body has planes of Stillness surrounding itself. Thus a picture is painted of transcendental points, shafts, and planes which generate and control waves of motion. Interestingly, Russell makes the point that these still points, planes, and shafts of White Light are all Oneness seemingly divided and separated. The Oneness is in total equilibrium, is Total, and is not separated. At the center of every creating form, be it atom, sun, planet, galaxy, etc., which is expressing a part of the whole One Idea of Mind is Mind and contains the whole One Idea. Russell described a holographic universe long before the term or concept was coined by scientists. Through the Oneness of its center, every expressing piece of matter is thereby connected to every other piece of matter. Russell was fond of saying that a butterfly could not flutter its wings without it being felt across the entire universe.

It is no wonder to me that science failed to embrace the Russell Cosmogony as our human ego cannot yet accept this fundamental principle of Oneness and the responsibility inherent in this concept. Every thought and action is felt throughout the entire universe!! Thoughts create and we all have a common Divine heritage that each of us can access. We are each and every one connected via the centering points of Stillness which Russell goes on to say is the essence of our Soul.

Allow me to give you some of Dr. Russell's postulates and a brief discussion of their implications to science and technology.

On atomic structure:

"The elements of matter are not different substances, or different things. They are different pressure conditions of light-waves. The light units of the elements are all alike but are differently conditioned by the electric pressures exerted upon them during the inward or outward spiral journey from zero to zero."<sup>7</sup>

". . . the many different substances of matter are but *different states of motion*."<sup>8</sup>

Russell arranged the elements into a 9 octave periodic chart, describing elements as having tonal relationships within the octave. Each elemental tone "is a transmutation from the preceding element in its cycle, from its beginning in zero to the ending of the entire nine octaves in the zero of its beginning."<sup>9</sup>

*"The age of transmutation of the elements by man begins when he has full knowledge of the manner in which Nature transmutes one element into another."*<sup>10</sup>

Transmutation can be accomplished through an understanding of the gyroscopic nature of the atom and the knowledge that there is only One substance conditioned to appear as different forms. All of creation is performing this gyroscopic, polarity dance on one scale or another. Still White Light points of North and South polarity generate two centripetal vortices, facing apex to apex, which wind light from their bases to their apices, manifesting as spheres, discs, or toroids depending on the conditions of pressure and charge, thus atoms appear by centripetal accumulation of light from curved spiral motion.

Two centrifugal vortices simultaneously are generated and work to unwind the light or matter back into the tenuous space from which it came. Conditions of density/vacuity, charge/discharge, and generation/radiation are established. The unwinding, discharge, radiation is manifested along the equatorial plane of rotation of the atom.

The relationship of the equatorial plane of rotation with the North-South polar axis and pressure resulting from intensity of North/South polarity conditions the atom to appear as one element or another within any given octave of elements. Dr. Russell's Cosmogony states that by repositioning these axes and/or changing the pressure condition, an element can be made to change physical properties and finally to 'jump' to another tonal elemental position in the octave wave. Voila!! Nitrogen becomes oxygen, or hydrogen, or carbon, etc.

In 1927 at the Westinghouse Lamp Co. laboratories in Bloomfield, New Jersey, Walter Russell successfully transmuted pure water into 15% oxygen, 16% hydrogen, and 69% nitrogen or inert gases. Experimenting with various temperatures, pressures, time, and plane of rotation relationships, he submitted 17 different tests samples for analysis with the lab reporting in every case the resultant gases differed.<sup>11</sup>

In 1992, Dr. Timothy Binder, N.D., D.C., president of the University of Science and Philosophy, along with Toby Grotz, Elec. Eng., and Ron Kovac, analytical chemist were able to produce a percentage of fluorine in a water sample in an attempt to reproduce Russell's 1927 experiments.<sup>12</sup> Their second generation transmutator is expected to be operational by the spring of 1994. These experiments involve the use of electrically generated magnetic fields and have thus far only dealt with gases. Although Russell experimented with temperatures approaching 300°C, Dr. Binder's group has been using 30°C and standard atmospheric pressure.

I refer you to the works of Louis Kervran, Georges Ohsawa, and Rudolph Hauschka, whose investigations into biological transmutation processes prove that Nature does not need the intense heat and pressures of suns to transmute elements.<sup>13,14</sup> Kervran and Ohsawa also jointly transmuted sodium to magnesium, manganese to iron, potassium to calcium, and phosphorous to sulfur with counter-top lab equipment, all performed at room temperatures and pressures.<sup>15</sup>

We are tantalizingly close, ladies and gentlemen, to entering the age of transmutation predicted by Walter Russell and his contemporary Nikola Tesla.

The benefits to humankind are impossible to completely catalog. Ultimately, Russell predicted we can produce elements out of seeming thin air, just as Nature does. I leave it to your imaginations to ponder the possibilities of radioactive waste cleanup, toxic waste elimination, energy production, desalination, and of the applications to our metals mining and refining processes!!!!

You might ask is humankind ready for such technology, I would ask can we survive without it!!

On Newton's Laws of Motion:

About Newton's first Law which states: "Every body tends to continue in its state of rest or uniform motion in a straight line unless it is acted upon by an outside force." Dr. Russell says:

*"A body cannot continue in its state of rest because bodies at rest do not exist in Nature. Bodies are but waves of motion. When motion ceases, bodies cease to exist."*<sup>16</sup>

Bodies perpetually seek rest but never find it for they are continually acted upon by two opposed forces, two opposed polarities. Waves interact in spiral vortexian manner within wave

fields to create pressure gradients of electric potential. Bodies are conditioned by electric pressures and relative amounts of charge or discharge, their respective electric potential. Bodies seek areas within wave fields of equal pressure conditions. Like conditions seeks like conditions.

Gases of low density will seek conditions within our planet's wave field of similar potential. Helium and other low potential, expanded gases seek the low potential conditions of the earth's wave field which exist far from its surface. Weight is defined as the difference between a body's pressure condition and the electric potential condition of the volume it occupies in a wave field. Weight is also the measure of the force which a body exerts in seeking its true potential. This is the basis for planetary orbital positions and path. Pressure conditions within any wave field are constantly changing, therefore, moons, planets, suns, galaxies, atoms, etc. are in constant and, thankfully, predictable motion.

I would say quantum physics comes closest to describing this concept of bodies being motion. When the pendulum swings to its farthest point and reaches the point of change in direction, quantum mechanics tells us a point of absolute rest is reached and the pendulum is shifted into a state of being simultaneously in all places and all times. This is the transcendental state of Stillness which Russell describes as the origin of idea and motion and therefore bodies. Of course, Russell would add that any pendulum on this planet is moving with respect to the earth's axis of rotation and its orbital revolution and further with respect to our galaxy's rotation and movement within the heavens, so it could not be still.

Again, quoting Dr. Russell:

"All direction is curved. All motion is spiral. Resistance to motion is the cause of curvature of space. Resistance to motion is the cause of Nature's second greatest characteristic attribute, repetitiveness.

Opposition is the first, but both are simultaneous. Nature desires action but demands an equilibrium.

Action can only be obtained through opposition."<sup>17</sup>

According to Russell, there is a constant interchange of form between the ideal shapes of the sphere and the cube. The sphere is an extension of the point, while the cube consists of 6, non-curved, wave field boundary planes which surround each point of Stillness and define wave-fields. Motion or action from the point of Stillness must travel further to reach the corners of the cube than to boundary

planes. Waves, moving as spherical wave fronts from the initial point of Stillness, meet the wave field boundary planes and begin to reflect back, yet are still expanding in the direction of the corners of the cubic wave field. Unequal distances create unequal resistances within the wave-field; curved spiral motion results.

Taken together, we have the cause and mechanics of curvature within our universe. Ours is an imploding/exploding radial universe of action/reaction in constant, simultaneous opposition and repetition. Curvature is caused by 1. resistance to motion and 2. unequal distances motion must travel within cubic wave fields. Spiral centripetal motion winds light into discs, toroids, and spheres which we call atoms. Spiral centripetal motion winds light and atoms into moons, planets, suns, and galaxies. Spiral centrifugal motion unwinds form into the tenuous space from which it was born. Low potential light and tenuous space are wound into high potential spheres and spheroids of matter, to be unwound again into low potential.

Russell offers his own rewrite of Newton's First Law:

**"1. All motion in this polarized, radial universe is curved, and all curvature is spiral.**

**2. Every body is the result of the exertion of two opposing strains which thrust away from each other in opposite radial directions to condition its attributes and determine its motion.**

**3. Every body is perpetually in motion until the strains of opposition which keep it in motion void each other in the universal zero of rest, into which all bodies disappear for appearance in reverse polarity."<sup>18</sup>**

Newton's Third Law states: "To every action, there is an equal and opposite reaction."

Russell rewrites this as:

**"Every action is simultaneously balanced by an equal and opposite reaction, and is sequentially repeated in reverse polarity."<sup>18</sup>**

Walter Russell was at work in 1960 and 1961 with Raytheon Corp. and the United State Defense Department to investigate his ideas to multiply electricity. He repeatedly admonished us to copy Nature's vortexian windings in our electrical and electronic industries. The closer we simulate Nature's tools of creation, the

more efficient, clean, and safe would our technologies become. In 1961 shortly before his death, he wrote interested observers to proclaim an over unity device was working, he produced more energy out of his device than was put into it. We have the letter but neither the plans, equipment used in this experiment, nor lab notes necessary to reproduce his experiments.

I am working with Toby Grotz and Kevin Mitchell of the University of Science and Philosophy to conduct experiments of our own to reproduce his claims of 1961. We will build what Dr. Russell termed the Optical Dynamo Generator, what Kevin has named a kinetic transducer. We believe by pairing clockwise-wise and counter clock-wise wire coils, wound in shapes of vortices, intertwined with apex of one pointing opposite to apex of the other, it is possible to tap into what is now termed "Zero Point Energy" or as Russell might say, the creative desire of the still magnetic White Light. Literally, the energy of creation will be at our disposal.

Ladies and gentlemen, this science paradigm espoused by Walter Russell and mirrored to us in the teachings of Rudolph Steiner, Nikola Tesla, Victor Schauburger, and others is most certainly in its infancy. Many questions and avenues for research await us. I suppose many new theories will evolve to explain these transmutation and over unity phenomenon when they are proven conclusively to the scientific community. I certainly pray the tireless and inspired work of researchers previously cited will not be forgotten.

I will close by reading two selections from Dr. Russell's scientific writings. The first is the opening page of Part III, Omnipresence - The Universe of Being in Dr. Russell's book, *The Secret of Light* :

"God is Light. God is Love.

God's creating universe is founded on Love. It is creating with Light.

*The principle of love is desire to give. God gives love by extending His Light. God's love is a mirror of Light which reflects His giving of love by the regiving of love.*

*The law of love is rhythmic balanced interchange between all givings and regivings.*

*The symbol of love is the wave of dual light which gives and regives equally and rhythmically. This is a dual electric wave universe of interchanging light.*

God's love is everywhere, His Light is everywhere. There is naught but good in God's omniscient universe. Evil is a product of man's thinking.

God extends His love, His power, and His knowing, radially, from zero points of omnipresent stillness to other zero points in the measure of His desire to give form to His imaginings. The intensity of desire extended from centering points of rest to extended points of rest determines the dimension of desire."

And finally, from Russell's book *A New Concept of the Universe*, pp. 85-86:

"Even though this treatise is for the purpose of explaining the mechanics and processes made use of by Mind to create matter, *we must not for a moment forget the reality of Mind nor the illusion of matter.*"

I extend my heart felt thanks to you the audience and to the World Foundation for Natural Science for providing for my attendance at this marvelous conference. God Bless one and all!!

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## ANNOUNCING

The Institute for New Energy (INE) is holding its 2nd annual **International Symposium on New Energy** at the Denver Hilton on May 13-15, 1994. The INE believes the time is now for alternative energy research, technology development, and usage by the public and industry in order to save our planet from environmental destruction. Speakers include researchers and inventors. Working Space Energy Generators (SEG) will be demonstrated!! SEG's tap what is known as zero point energy, vacuum energy, or the energy of the space-time fabric (ether) to produce more energy out than is put in!

Please contact the INE at 1304 South College Ave., Fort Collins, CO, 80524, (303) 482-3731.

## COMING ATTRACTIONS

**Harmonic Table of the Elements, Part II**, by Michael Riversong. **Toby Grotz** reports on his world fact finding trip to document **Space Power Generators**, working over unity devices, to be presented at the May 1994 International Symposium on New Energy.

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