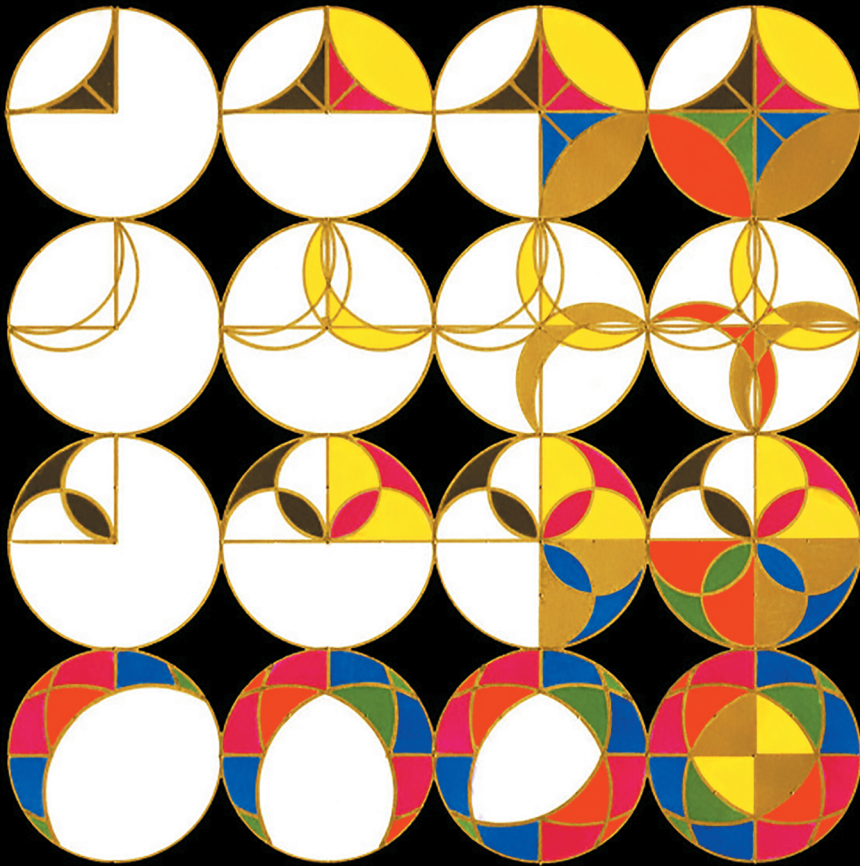
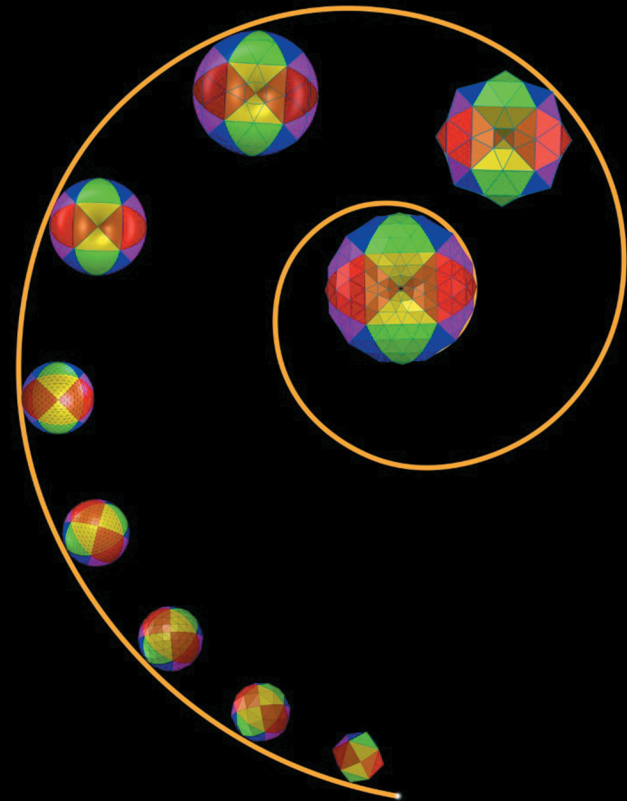


SECOND EDITION

With New Papers  
The Adventures of *Lucky* the Plucky Photon  
The Rejuvenation of Tired Light



The Work William John Cox



# The Work

A Geometrical  
Structure for an  
Infinite, Living, Static  
Universe of Electricity  
and Plasma, as Defined  
by Universal Numbers

William John Cox

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SECOND EDITION

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Infinite, Living, Static Universe of  
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(Revised subtitle and content to reflect increasing challenges to the Standard Model of Cosmology (SMC) “Big Bang” gravitational theory and to present the reality of an infinite, living, static universe of electricity and plasma.)

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Front Cover: A model of expanding geometry as imagined by the author. Computer graphics and the UN Base Number Converter & Calculator by Brian Norberto Gonzalez, and spiral graphics and cover by Liam Newman.

Back Cover: A drawing of symbolic UN Numbers made by the author 40 years ago to illustrate an imagined geometric reduction of a cube with curves, starting from all eight corners and descending simultaneously to and through its center and beyond, revealing the cube’s inverse, expanding sphere.

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## Dedication

To my mother, Minnie Irene Oswalt-Cox  
(1899-1946),  
Who holds me, eternally, within her arms,  
She, who gave me life, mind, spirit, and song;  
And  
To my father, Samuel Hubert Cox (1897-1951),  
Who taught me to read books *and* to chart the  
sky; and  
How to plan work and to work the plans,  
Allowing me to see today—how tomorrow  
could be;  
He, whose patriot forefathers fought for our  
liberty,  
Engendering a duty to defend our freedoms, and  
Sustaining our strength and courage to  
right wrongs;  
And  
To their children, and theirs;  
The motto on the crest of the Cox Clan being:  
*Go, seek someone who is worthy to be taken into  
our family.*







Samuel H. Jr., Mary Jean, Billy Jack, Jo Evelyn, Mother, Amanda Lynn, Lon Ed, Father, John Larry, and Doris Nell.

Filmed in the dirt yard of a 200-acre, dry-land cotton farm, located on the highway and railroad, halfway between Ropesville and Wolfforth in the Panhandle of Texas, at a house without utilities, except windmill well water. Night was lighted by kerosene, food was cooked with mesquite, fields were plowed with horses and mules, weeds were hoed in the summer, and cotton bolls were pulled by hand in the fall. The photograph was taken in 1941, as the oldest, “Buddy” would soon leave to serve in the war, and the youngest, “Billy Jack” was learning to talk. He would go on to rename himself William John in 1968, when his official birth certificate filed in Lubbock by the doctor who delivered him in his grandmother’s farmhouse, was found to have never had the name filled in.



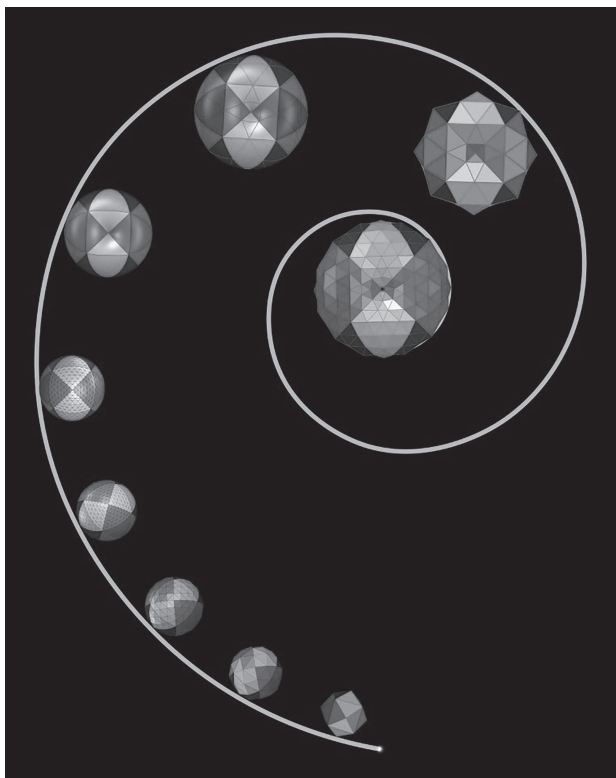
*The purpose of life is to find joy in its living,  
to find meaning in its purpose, and  
to discover the fullest meaning and greatest purpose of its  
gift of mind. wjc*



# **A Geometrical Structure for an Infinite, Living, Static Universe of Electricity and Plasma, as Defined by Universal Numbers**

**T**he collection of papers titled *Mind & Its Languages of Reason* published in 2019 included a thought experiment about an imaginary quantum calculator of Universal (UN) Mathematics. With the subsequent completion of the following computer graphic models describing an expandable geometrical structure to encompass the entire observable universe, this effort was made to define the surface languages of UN Geometry and Numbers more comprehensibly, by *demonstrating their subsurface logic*. The UN fractional counters should help program our computers to improve processing and displaying of the imaging we are obtaining about the visible physical universe of light, while equipping our existing computers with a more useful mathematics to encompass and measure what we see.





The *UN* structural model of the universe is intended to visually convey the existence of our infinite, static universe of electricity and plasma from a point of view that is always just outside the limits of our evolving observational ability. The model displays the capacity of *UN* Geometry to expand as our telescopes are improved, and

## A Geometrical Structure for an Infinite, Living, Static Universe of Electricity and Plasma

to map the living galactic islands of the static universe within the eternally negative, and forever fathomless, black cosmic nothingness.

The visible universe is more than 99 percent plasma, consisting of free negative electrons and naked positive ions (protons), and positively charged atoms that have lost one or more electrons. Plasma is the fundamental or first state of matter, from which gases, liquids, and solids are formed.

With our current telescopes, we now survey our electric plasma universe of living galaxies and their related families of clusters and strings. Galaxies are observed in every direction across a full range of electromagnetic wavelengths, from short gamma and X-rays, through the spectrum to ultraviolet, visible light, infrared, and on through radio waves with lengths of 100 kilometers.

The range of wavelengths seen by our eyes as visible light is only 0.0035 percent of the entire electromagnetic spectrum. If we could see all wavelengths, the night sky would be almost as bright as the daytime. The stars would appear bound together in galaxies by massive filaments of electricity, and strings of galaxies could be seen

tied together by massive, powerful currents of electrical energy, instead of weak gravity.<sup>1</sup>

Our modern telescopes reveal massive flows of electricity and spiraling magnetism through an infinite plasma, producing filamentary currents and twisting vortices that generate ions and electrons into the cosmic dust that coalesces into the living galaxies of stars, life, and mind.

Expanding our vision from the colorful auroras we can witness with our naked eye flashing in the night sky above the earth's planetary poles, our instruments identify incoming ultraviolet radiation as a flow of high energy ions and free electrons from the sun, which operates as a

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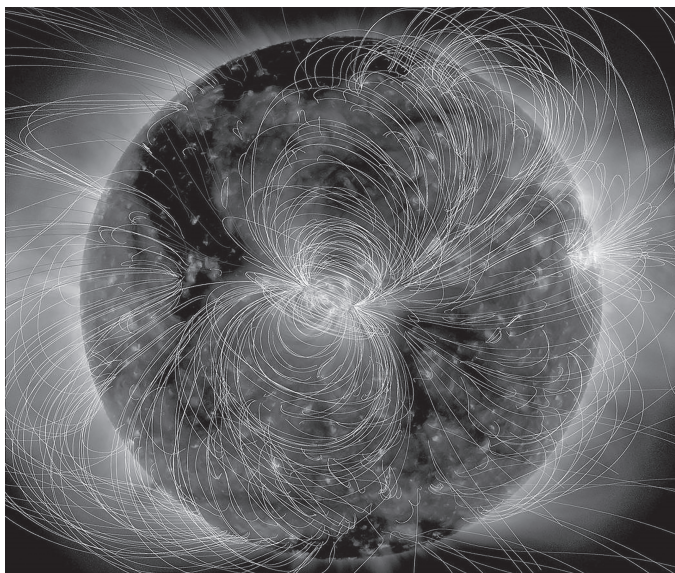
<sup>1</sup> To construct an expanding mathematical structure outside the observable universe, *The Work* originally followed the Standard Model of Cosmology (SMC) in its theory of a "Big Bang" 13.8 billion years ago. Just two years ago, it appeared to be settled science that the universe suddenly exploded from a singularity of infinite density and heat, resulting in a gravitationally bound universe that is now expanding faster than the speed of light.

Since *The Work* was published, there has been growing resistance to the SMC or  $\Lambda$ CDM, as the gravitational model continues to fail in predicting the observations made by our improved telescopes. Moreover, the ad hoc tweaking of the mathematical model by complacent astrophysicists and theoretical mathematicians to accommodate observations are becoming increasingly bizarre and indefensible. Their pseudoscientific fantasies include instant inflation, invisible dark matter and energy, one-dimensional cosmic strings, and insatiable black holes, none of which have been directly observed.

I have become convinced by the evidence of my error in relying on the gravitational model of the universe, which I seek to rectify in this Second Edition. (*See* References and Images.)

## A Geometrical Structure for an Infinite, Living, Static Universe of Electricity and Plasma

massive rotational electrical generator within the surrounding plasma, which conducts the energy to Earth.



With currents carrying trillions of amps of electricity along solar magnetic field lines, the sun's revolution every 28 days causes the massive storms we see as sunspots high above the solar surface. Swept along by the rotating sun, the surrounding plasma generates the positively charged ions and negatively charged electrons that strike the earth's geomagnetic field high above the equator creating an electrical potential. Attracted to each other, ions flow to the west and electrons to the east, as they

spiral down the invisible lines of Earth's magnetic field into the upper atmosphere above the poles where they collide with the atoms of different gases at varying heights causing them to emit the light we see as the lovely red-pink and green-yellow auroras.



## **Galaxies, Nothing but More Galaxies**

Protected from even more deadly cosmic rays by the earth's magnetic umbrella, we use our new space-based imaging tools to look farther into the distance (and back in time). We do not find the expected young stars accreting gravitationally into infant galaxies shortly after the Big Bang as predicted by the Standard Model of Cosmology.

Revealed instead are ancient, incredibly massive clusters of mature galaxies, connected by electrical filaments and stretching across the sky. These clusters would have taken much, much longer to accrete, gravitationally, than the standard model's estimate of the origin of the entire universe just 13.8 billion years ago.

Based on the Deep Field series of observations made by the Hubble Space Telescope, NASA now estimates there are at least 200 billion living galaxies, each unique, organized randomly into families along strings, or in vast clusters in the observable universe, each containing as many as the 100 billion stars presently believed to exist in the Milky Way galaxy.

There are as many as 59 smaller galaxies clustered around our mother Milky Way galaxy, which collectively, is a member of a family (Local Group) of three. Our galaxy is probably far more



ancient than the 13.6 billion years estimated by the gravitationalists.

Drifting about in the intergalactic medium, rather than gravitationally attracted, galaxies chaotically connect electrically, and reorganize themselves, as their magnetic field lines reach out about them, ten million light years into the intergalactic medium.

Overall, there are vast distances of intergalactic space existing between any two or three galaxies, or clusters, however organized. Rare births of galaxies may occur in an open area where there is room for a massive bar magnet to start whirling in the plasma and to generate enough electricity to produce the cosmic dust of a living galaxy with planetary mass, earth and water, to grow organic life, intelligence, and finally mind, with which to join the cosmic chorus.

These electric galaxies have lifetimes, perhaps beyond our counting, as the electric dynamo at its core, (imagined by naïve gravitationalists as a “black hole”) magnetically churns the naked ions it attracts with the free electrons of the eternal black negative cosmos, into the making of new stars. Ultimately, in eons beyond present measure, each living galaxy will pass away and dissipate, freeing up room in the cosmos for another mother galaxy to take shape and come to life.

Galaxies may pass, but not the self-aware minds that arise from their mass, once their stars have produced the heavy chemical elements required for life, intelligence, and ultimately—mind. Quantumly intertwined within the negative cosmic mind field, and once realized, our incorporeal minds are eternal, while the physical manifestations and creations of our self-aware minds during our physical lifetimes are infinite in imagination and treasured in memories forever.



## The Cosmic Mind

Ancient meteor strikes by rocks rich in amino acids impregnated our warm fecund atmospheric water planet as they rained down, generating increasingly complex organic life. Ultimately self-aware minds arose from primal intelligence and observed the reality of our own existence and began to track and time the movements of the Sun and Moon.

Generated by the brains of human infants at birth, the intertwined, incorporeal, quantum mind exists in the negative space, the mind field, surrounding the particles of the connectome that produces it. *And* a cosmic mind unites all living electric galaxies and their clustered families that are generated here and there, and from time to time, in the past and in the future.

Existence of the cosmic mind is established beyond a reasonable doubt by the incontrovertible evidence of the UFOs that peacefully visit us somewhere on Earth, *on a daily basis* from elsewhere to *watch* the magnificent cultural and technological creations of the collective minds of humanity, and to *weep* for the continued destructive behavior of our brainstem instinctive intolerance of differences and others, seen as hatred, deception, distrust, violence, and the slaughter and waste of war.

If we are to ever communicate with our visiting relatives, we must learn the value of tolerance, the universal languages of reason, and to speak the truth to ourselves and others, always.

It is only within the living electric galaxies and their family clusters that there is observable movement and light by which to measure acceleration, distance, and time, *and* mind need not move according to a map, or abide by the clock.

Time and the perception of our visible universe is a creation of our minds, for without awareness and observation, the entire, infinite physical universe of electricity and plasma would be insignificant in ratio to that of the eternal, negative black cosmic nothingness—a flicker of light in the night.

Once a quantum mind is born of stardust on this Earth, it achieves immortality, even after the demise of its physical body, its birth star, its living galaxy, and her great, grand galaxies of minds, extending infinitely into the future, from the past. A mind, once transfigured by self-recognition, becomes an inseparable part of the eternal cosmic whole.

## Universal Geometry

The *UN* geometrical model arises from a thought experiment that imagines the reduction of a Cartesian cube from its eight corners and the positive and negative x,y,z coordinate vertices at the center of its six faces down through its core, with the inverse vertices emerging and creating an expanding sphere in the negative space.

Initially, the six face vertices are raised to the same length as the eight corner vertices, creating a pyramid on each face. The cube instantly doubles in size, as each pyramid is identical to the space between the surface of its cube face and the center.

The contracting cube is inverted into an expanding 24-faceted model of Golden Proportions, having 14 equal vertices. Each right-angle triangle facet has two sides equal in ratio to  $(\pi/\phi)/2$  and a hypotenuse equal to  $\pi-(\pi/\phi)/2$ . The result is a Catalan solid known as a tetrakis hexahedron.





With a total of 14 vertices, 36 edges, and 24 facets, the polyhedron conforms to Euler's formula,  $V-E+F=2$ , which predicts the number of vertices and facets combined will always be exactly two more than the number of edges. The result is:  $14-36+24=2$ .

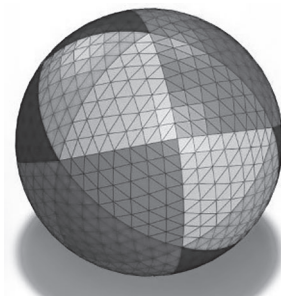
The *UN* Golden Proportion model evolves into a faceted sphere that demonstrates the first subdivision of each triangle into four smaller equal triangles, producing 96 facets.



Geometrically, we can now observe the six lines that divide the surface of a *UN* geometrical sphere into 24 equal right-angle triangles. Each half circumference of the sphere is measured by two equal sides of the right-angle triangles and a hypotenuse. Thus, we can conclude that the perimeter of the basic triangle is equal to  $\pi$  times radius. We can also see that the connected heights of four triangles equally divide a half circle, or  $\pi$ . Therefore, the height of each triangle is equal to  $\frac{1}{4}\pi$ , and the ratio of the height of each right-angle triangle to its sides is 2.5:3:3:4.

As the sphere continues to expand, each of the 24 right-angle triangles can be infinitely subdivided into four equal triangles. This allows every point within the internal space from zero to the face of each evolving right-angle triangle to be identified by a unique polar coordinate and its vertices.

New facets are produced in the geometric progression series of 24, 96, 384, 1,536, 6,144, 24,576, etc. The following near-spherical *UN* model has 1,536 facets.



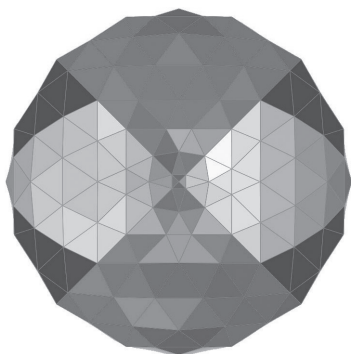
We can imagine surrounding the outer limits of the Milky Way galaxy *and* its magnetic field extending hundreds of light years into the intergalactic medium within the *UN* sphere, as oriented to its poles and the galactic plane. The model can then be expanded outward in every direction, creating a mathematical framework in the black negative cosmos, accommodating the discovery of new living galactic islands of light, as the observable boundary of the static, nonexpanding universe is extended by improved technology.

The spherical model can encompass and measure every element of the identifiable universe, establishing reliable waypoints in the eternal, limitless cosmos—as we peer farther into the distance, in every direction, seeking to explore the endless living galaxies and their families of clusters and strings that are revealed.

The *UN* sphere can evolve into a torus with a surface defined by the same lines and vertices, tiled

with the same right-angle triangles as the sphere, and each equally subdivided, infinitely, by 4's.

The surface topography of the torus (and any three-dimensional object) can be defined by the lengths of the triangle vertices, and the interior (within the space of each triangle between zero and its face) can be measured by polar coordinates related to its vertices.





## Universal Numbers

In our imaginary efforts to dissociate ourselves from the physical universe, and to traverse the negative cosmos that embraces it in our exploration of galactic islands, *and*, to examine the movement and actions of the subatomic particles of their composition more closely, we must acknowledge just how very self-limited we are by our archaic 10-base counting system, which always produces gibberish in large numbers.

Our Hindu-Arabic number system was arbitrarily determined by the number of our fingers used for millennia during ancient times as multi-lingual hand calculators.

The illogical finger system was then made worse by a clumsy computer language—that thoughtlessly attached six alphabetical symbols (A-F) at the end of the first nine base-10 numbers. Created was the nonsensical 16-base ASCII system—by which all computers presently “communicate” with each other. Few people who work with computers, can actually think or calculate in ASCII, except symbolically.

Imagine a much less difficult and far more symbolically interesting, 16-base universal mathematical language that creates a logical system of even-number carrying sets to simplify all calculations. *UN* Numbers insert the multiples of two (*U*, *N*,

and  $S$  “*star*”), that combine into universal basic  $10$ , to provide a rational solution for the organization of fractional counting numbers:  $1, 2, 3, U, 4, 5, 6, N, 7, 8, 9, S, C, X, W$  “*dub*,”  $10$ . Thus, the  $1N$  equal triangles of the  $UN$  spherical model now have sides of  $3, 3$ , and  $U$ , and a height of  $2.N^2$

1	2	3	U
4	5	6	N
7	8	9	*
C	X	W	10

The handwritten  $UN$  numbers were derived from a series of drawing made by the author 40 years ago to symbolically illustrate the imaginary reduction of a cube in the positive space by parabolic curves simultaneously approaching a

---

<sup>2</sup> Except for pagination, base-10 numbers will now be underlined, and  $UN$  numbers will be italicized and divided into thousands by colons (:).

focus at the center from its eight corner vertices. Continuing through the center, the vertices reveal the cube's inverse sphere, as it expands in the negative space.

One of these drawing is displayed on the back cover, reimagined as a black keyboard with raised white and colorful, round symbolic *UN* keys to be felt in the dark, yet pleasing to be seen in the light. (*See also* the *UN* base-10 multiplication matrix at *Appendix A*.)

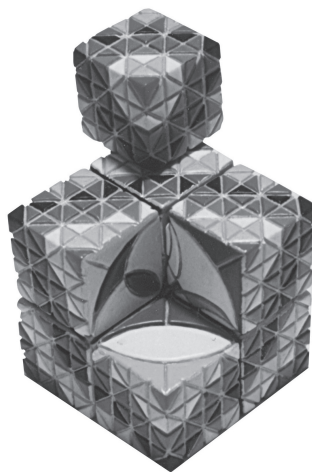
As lovely as these models and symbolic numbers may be, they must also be practical and functional—if we are to calculate, mathematically, what we see geometrically in the *UN* structural models of the universe.





## The Multiples of One, and $e$

Many children in every culture learn their numbers and alphabet using sets of wooden blocks, from which they can readily see that one block can be combined with three others into a square, and four more into a larger cube composed of eight blocks. Thus, we “square” *two*,  $2^2$  for *U* (four), and “cube” it,  $2^3$  for *N* (eight). If we continue with the geometric “powers” of *two*, we get progressively larger numbers in the squares of blocks, *1*, *2*, *U* (4), *N* (8), *10* (16), *20* (32), *U0* (64), *N0* (128), *100* (256). (See *Appendix B*.)



All by itself, the number one is simply the identification of something like a toy block, a brick,

an apple, or finger; it cannot be multiplied by itself, or squared, as one times one remains one. One can, however, be added to another one to create a twice-as-large two, which *can* be organized by the powers of two in an unlimited fashion, able to provide large enough numbers to solve any counting problem. The numbers following one provide the denominators of fractional relationships allowing for smaller divisions of one ( $\frac{1}{2}$ ,  $\frac{1}{3}$  etc.).

Ultimately, there is a limit when calculating the percentages, fractions, or divisions of one, which is expressed by the mathematically irrational number “*e*” whenever interest on loans is compounded, or the decay of atomic elements is calculated. This naturally occurring constant number is calculated in *UN* at  $2.96X14152N$ .<sup>3</sup> Although irrational, like *pi*, the frequency of occurrence of numbers in the digital extension of *e* appears to be “normal” in that every number after the 2<sup>th</sup> place, *N*, is evenly distributed.

To examine exceedingly small things, we can, in our imagination, divide the child’s “one” block into a *billion* tiny blocks, by slicing it a *thousand* times in every direction, giving each a value of  $0.000000001$ . At the top corner of a stack of these

---

<sup>3</sup> Coincidentally, the decimal extension of *UN e*,  $2.96X14152N$ , closely tracks 10-base *pi*,  $3.14159$ , making it easier to remember the number. Base-10 *e* also exhibits a memorable number ( $e = 2.71828182845$ ).

tiny cubes, at its very tip, the last minuscule little block is delicately set in place. This infinitesimally small number—the “One Plus” ( $1+$ ), or *eit* (e-it)—is the *billionth* counting element of the Positive One ( $+1$ ).

Interestingly, the  $1+ eit$  is a mathematical root of the constant number  $e$ . In base 2, One Plus is the 7<sup>th</sup> successive square root of  $e$ ,  $(1+) = \sqrt[7]{e}$ . Logically progressing in sets of 7 (9) successive square roots in all two power bases,  $1+$  is equal to  $\sqrt[12]{e}$  in base  $U$ ,  $\sqrt[19]{e}$  in base  $N$ ,  $\sqrt[2U]{e}$  in base  $10$ ,  $\sqrt[U]{e}$  in base  $100$ , and  $\sqrt[120]{e}$  in base  $100:000:000$ .<sup>4</sup> (*See Appendix B.*)

---

<sup>4</sup> Successive squaring of the *eit* only achieves exact  $e$  in base two and its geometric progressions. It does not occur in base 10 or 12.



## The Positive Number Matrix

Just as we learned to multiply our base-10 numbers by each other to arrive at 100, a computerized matrix of *UN* Positive One can be programmed with *UN* standard base *100* (256) numbers, to produce *10:000* (65,536) multiplying elements—each number containing a *billion eits*. *UN 1:000:000:000* equals 68,719,476,736 in base 10. Thus, there are a total of 4,503,599,627,370,496, or *10:000:000:000:000* unique *eits* in the standard positive number matrix.<sup>5</sup>

If we imagine these numbers as violet light emitting diodes (LED), there is a long string of lights across the top of a large matrix, and the same string of lights going down the left side. If a light on one string is illuminated at the same time as another light on the perpendicular string, their combined focus at a point on the grid where they come together triggers a third light with the answer, *irrespective of the symbols used in their expressions*. (See *Appendix A* for the basic *UN* base-*10* matrix. It would be exceedingly difficult to demonstrate the standard *UN* base-*100* matrix on paper.)

In a representative symbolic language, such as base 10 (with only 10 numbers to multiply to

---

<sup>5</sup> This calculation is an example of the gibberish of large numbers produced by finger base 10.

achieve 100), or when using standard *UN* base *100* (with 256 numbers) to arrive at *10:000*, the point where the lights of the two generating numbers intersect on the matrix, always illuminates a third number.

Rather than travel along the two right-angled perpendicular tracks of the matrix to identify answers to computational requests, perhaps the two generating numbers can be imagined communicating (in a quantum sense) directly across the matrix along their common hypotenuse. Thus, if the calculation is  $2 \times 2 = U$ , and  $U + U = N$ , and  $2^2 + 2^2 = N$ , the Pythagorean ( $a^2 + b^2 = c^2$ ) solution may be reflected in the square root of  $N$  ( $\sqrt{N}$ ), or *2.CU1U*. The three numbers may be imagined as quantumly entangled.

Artificial intelligence can be trained to “know” the product of each pair of numbers by their quantum shortcut, producing an instinctive answer. In the standard *UN* base-*100* matrix with its square of *10:000*, the square root of *20:000* ( $\sqrt{20:000} = 158.07X5WWWWW$ ) is integral to the *100s*.

## The Divisions of One, and $\pi$

Now we have learned to multiply one positively, let us reverse direction and divide one negatively. What if we carefully remove just one of the *billion* elements of the number one—that tiny positive “One Plus” *et* cube at the very tip—the essential  $0.000000001$  required to be a whole Positive One?

In doing so, we skip over the nonexistent zero into negative space, and we begin to sort the remaining stack of almost a *billion* tiny little—suddenly (no longer positive) negative counting elements amounting to  $0.999999999$ , which becomes a Negative One ( $-1$ ), or almost a Positive One ( $+1$ ).

If the nearly *one-billion*, tiny, negative blocks were to be scattered apart, how could we organize and count them mathematically?

Thousands of years ago, the ancients discovered the division of one by the sacred number seven. The result is the recurring fractional number  $0.142857142857$ , which combines in  $\frac{22}{7}$  to produce  $3.142857142857$ , a close approximation of  $\pi$ .

With *UN* numbers, the magic appears from dividing *one* by *six* ( $\frac{1}{6}$ ). Its product is  $0.2U72U7$ , but the decimal fraction now repeats every three places, rather than the six ( $142857$ ) places in base 10. The *UN* fraction  $15/6$  ( $\frac{22}{7}$ ) produces a working value for geometric  $\pi$  at  $3.2U72U7$ . One



half is  $1.72U72U$ , and  $\pi$  doubles at  $5.U72U72$ . Addition of  $0.2U7 + 0.U72 + 0.72U = 0.WWW$ , the fractional equivalent of *One*.

The fractional geometric counters  $.WWW0$  and  $.WWWWWWWWWW$  will never amount to *one*, no matter how many  $W$ 's appear after the decimal, but with each additional  $W$ , the chance of the number *not* being a *one* is reduced by a factor of *ten*.

## The Negative Counter Matrix

All these fractional geometric counters are composed of the elemental number  $.010U$ , which adds up  $WS$  (252) times to  $.WWW0$ . The logical series of counters is the foundation of a symbolic  $UN$  numeric language for demonstrating the fractional and quantum elements of the Negative One. Let us designate the counter  $.010U$  as an *iit* (i-it), or as a “one minus” (1-).

The multiplication of the *iit*,  $.010U$  by 12 (18) produces the elegant little number  $.12UN$ , and when *iit* is multiplied by  $2U$  (36), the answer is the *pi* number  $.2U7$ .

The  $U$ -place series provide rational symbols for counting the fractional elements, arranging themselves into two columns. The One Minus  $.010U$  progresses sequentially in single digits in the left column, and the right column advances by  $U$ 's:  $.010U$ ,  $.020N$ ,  $.030S$ ,  $.0U10$ ,  $.041U$ ,  $.051N$ ,  $.061S$ ,  $.0N20$ , etc.). Each time the  $U$ 's in the right column reach 100, one sequential digit is carried to the left column. A total of  $WS$  (252) counters add up to  $.WWW0$ .

Each of the  $WW$  (255) digits in the left column has  $WW$  counting elements in the right column, for a total of  $W:X01$  (65,025). (*See Appendix C.*)

These  $U$ -place fractional counters can be added and subtracted, and they can be multiplied

and divided by whole numbers. As geometrical placeholders, the counters are multiplied or divided symbolically within the matrix, rather than mathematically.

The *.010U iit* is composed of its fractional elements (*.00U1*, *.00N2*, *.00S3*, *.010U*); however, the actual multiplication and division of four-place *UN* “decimal” numbers produce unwieldy results with eight places. Moreover, when multiplying by fractions, a division results, such as  $.N \times .N = .U$  (one half of one half).

## Quantum Numbers

Using the *U*-place fractional numbers as counters, we discover that progressing by *U*'s in the right column allows for the hidden expression of a set of symbolic elements (e.g. *.0101*, *.0102*, *.0103* within *.010U*) for calculating *and* coding, in addition to the above fractional components. These unique “quantum” elements exist within *.010U* and in each of its succeeding multiples. For now, let us designate these quantum counters as Qx, Qy, and Qz.

In summary, there are a total of *WS* (252) counting elements symbolically represented by a series of evenly-divided, *U*-place numbers, in which the right *two* numbers progress by *U*'s, carrying over to the left column, all of which add up to *.WWW0*.

In addition, each fractional counter contains *three* quantum (Q) counters, *and* the alternative combinations of the negative, positive, and neutral aspects of Qx, Qy, and Qz produce *N* (8) quantum elements of the One Minus *.010U* and each succeeding counter. The following figure demonstrates the *N* quantum alternatives within each fractional counter as it relates to its binary (red) number.

0101 <b>Q<sup>1</sup></b>	0102 <b>Q<sup>2</sup></b>	0103 <b>Q<sup>3</sup></b>	000
<b>Q<sup>1</sup></b>	<b>Q<sup>2</sup></b>	<b>Q<sup>*3</sup></b>	001
<b>Q<sup>1</sup></b>	<b>Q<sup>*2</sup></b>	<b>Q<sup>3</sup></b>	010
<b>Q<sup>1</sup></b>	<b>Q<sup>*2</sup></b>	<b>Q<sup>*3</sup></b>	011
<b>Q<sup>*1</sup></b>	<b>Q<sup>2</sup></b>	<b>Q<sup>3</sup></b>	100
<b>Q<sup>*1</sup></b>	<b>Q<sup>2</sup></b>	<b>Q<sup>*3</sup></b>	101
<b>Q<sup>*1</sup></b>	<b>Q<sup>*2</sup></b>	<b>Q<sup>3</sup></b>	110
<b>Q<sup>*1</sup></b>	<b>Q<sup>*2</sup></b>	<b>Q<sup>*3</sup></b>	111

As displayed in *Appendix C*, the *WS* counters can be organized into multiple interrelated logical sets. In a most elegant expression of *pi*-based counters, the base-6 (7) matrix is divided into .2U70, .U720, .5C30, .72U0, .95C0, .C950, and .WWW0, while the base-7 (9) matrix also pivots on .2U70, as being the 7<sup>th</sup> multiple of .010U.

The *UN* fractional matrices, especially those of *N*, 8, *Star*, and *X*, demonstrate not only how smoothly the computational gears of fractional interaction operate, and the utility of the *UN* positive numbers and negative counters, but their beauty and resonance as logical mathematical symbols, which must be *comprehended*, rather than *calculated*—except by properly programmed computers. (See *Appendix D*.)

## The Square Root of Negative One ( $i$ )

If we imagine the outer boundaries of our entire observable universe of light as enveloped *within* a limitless void of black nothingness, we can imagine it as depicted within the expandable UN geometrical model. As we seek to comprehend our infinite, static universe of electricity and plasma within this eternal, negative cosmos, we must first build a geometrical and mathematical scaffolding to identify the composition of the living universe, and to define its positively charged relationship to the negativity that encompasses every particle of its existence.

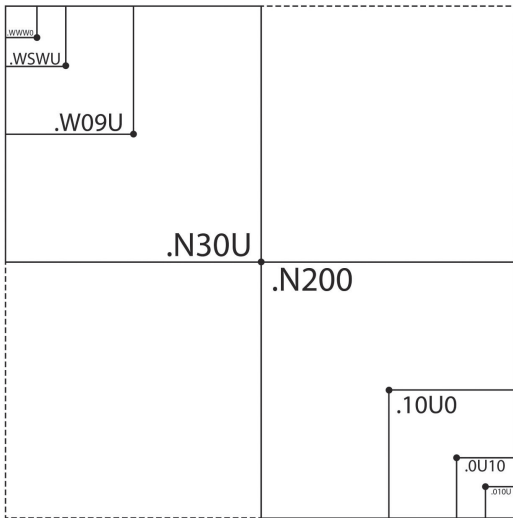
When we try to construct this mathematical structure, we encounter the strangeness of negative numbers in which the multiplication of a negative number by a positive number is always negative, and when two negative numbers *or* two positive numbers are multiplied by each other, the result is always positive.

Negative numbers and the mysterious roots of Negative One have hampered calculations for centuries since it was first described. Mathematicians continue to use the symbol “ $i$ ” for the “imaginary” square root of Negative One, ( $\sqrt{-1}$ ), when doing calculations. What if, however, there really is a Negative One ( $-1$ ) having the same essential value as a Positive One ( $+1$ ), except for that tiny

little *eit*,  $0.000000001$ , the One Plus (1+), which they essentially share, without a zero in between?

Can we effectively and reliably identify the mathematically proximate fractional elements of  $-0.WWWWWWWWW$ , and can we calibrate the successive square roots of Negative One as we did with  $e$ ?

Referring to the following figure, we can see that  $.0U10$  is the geometric square of the One Minus *iiit*,  $.010U$ , that its square is  $.10U0$ , and that its square is  $.N200$ . If we again square, we find that the 4<sup>th</sup> geometric power of the One Minus is  $.WWW0$ . We can, however, consider a method of expanding geometric and quantum squaring by skipping over a tiny (1-) *iiit*.



Using the same geometrical squaring process to demonstrate the reduction of successive square roots of  $.WWW0$ , we see that the large fractional counter reduces down  $U$  times to  $.N30U$ , which is the next counter after  $.N200$  (the  $U^{\text{th}}$  power of  $.010U$ ), a difference of a single  $iit$ ,  $.010U$ . Therefore, the Negative One can be seen as the sum of the  $U^{\text{th}}$  power of  $.010U$  and the  $U^{\text{th}}$  power of  $.N30U$ .

In a leap of mind, using the  $N(8)$  intertwined quantum (Q) elements of each  $iit(1-)$ , we can imagine the One Minus as the  $N^{\text{th}}$  successive, quantum root of the Negative One. The demonstrated fractional roots of the whole  $UN$  numbers are independent of their quantum (Q) counters, each of which carries its own progressive powers throughout the entire set of  $WS(252)$  counters, calibrated  $N(8)$  times ( $N^N = 1:000:000$ ).

The following figure introduces the Quantum One ( $Q1$ ) and illustrates the relationship of the quantum roots of Negative One and the powers of Positive One.



## Quantum One (<sup>Q</sup>1)

### Positive One & One Plus

$$(+1)/1:000:000:000 = (1+)$$

$$(1+) = 0.000000001$$

$$(1+) = 7\sqrt{e}$$

### Negative One & One Minus

$$(+1) - (1+) = (-1)$$

$$(-1) = -.WWWWWWWWWW$$

$$-.WWWWWWWWWW \sim -.WWW0$$

$$-.WWW0/WS = -.010U$$

$$-.010U = (1-)$$

### The Roots of Negative One

$$(-1) = (1-)^U \times 2$$

$$(1-)^4 = (-1)$$

$$\{\sqrt{-1} = i\}$$

$$\{i = iit\}$$

### Quantum Numbers

$$(1-)^{Q_N} = (Q-1)$$

$$(Q-1) = (Q1-)^{\times 1:000:000}$$

$$(Q1-) = Q_N \sqrt{(-1)}$$

$$(Q-1) + (Q1+) = (Q+1)$$

$$(Q+1) + (Q-1) = (Q1)$$

### Square Numbers

$$(Q1)^2 = 2$$

$$(Q1)^3 = U$$

$$2^2 = U$$

$$U^2 = 10$$

$$2^2 + 2^2 = N$$

$$\sqrt{N} = 2.CU1U$$

$$N^{Q_N} = 1:000:000$$

One of the many formulas conceived in the brilliant mind of Leonard Euler (for whom  $e$  is named and who conceived the imaginary number  $i$ ) is the relationship between five fundamental mathematical constants:  $(e^{i\pi} + 1 = 0)$ . Could these imaginary identities be reconciled by using quantified  $UN$  constant numbers and by substituting the  $iit$  for  $i$ ?

## The Quantification of *pi*, *phi*, *e*, and *i*

The ancient value of *pi* ( $\pi$ ) was demonstrated more than 4,500 years ago by the construction of the Great Pyramid in Egypt intended as a half-spherical dome model of the earth. The pyramid's circumference is squared into four sides of 440 cubits, for a total of 1,760, and a height of 280. A radius of 280 times scientific *pi* at 3.1415926535 times two produces a half sphere with a circumference of 1,759.29188596. Thus, the ancient measure (1,760) based on *pi* at 3.142857 produced by 22/7 is just a tiny bit (0.70811434) longer.<sup>6</sup>

The triangle sides of the pyramid also demonstrate a related practical value of 1.619834016 for the Golden Proportion of *phi* ( $\phi$ ), compared to the scientific value of 1.618033988. An approximate square root of *phi* was achieved by dividing four by *pi* at 3.142857, or (14/11) resulting in a square

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<sup>6</sup> The Egyptians used a sophisticated fractional number system based on the perfect numbers of six and 28 to devise their standards of linear measurement. They started with one hand divided into four fingers, and they joined four hands of 16 fingers into a "foot." One-and-one-half "feet" were then combined into a "yard" consisting of six hands of 24 fingers that was used as the common cubit.

When another hand of four fingers was added to the common cubit, the sacred cubit consisted of seven hands and 28 fingers, which could be further subdivided into fractional parts from 1/2 to 1/6.

root of 1.272727, which is slightly lower than the scientific value of 1.273239.

Of course, more precise values of  $\pi$  and  $\phi$  are required when the task becomes one of sending a rocket ship to the moon, orbiting, landing, taking a walk, lifting off, and returning to Earth.<sup>7</sup> Many equations rely on scientific  $\pi$  and  $\phi$  as essential elements in predicting probabilities. The exact value becomes critical in equations that delve deeply into the quantum physics of sub-atomic matter. These problems identify the probabilities of formations that are either waves, particles, or both, producing at least three possibilities, instead of the binary two.

The computation of scientific  $\pi$  in *UN* base 10 (16) results in *3.2U3W58NNN*, and its double, *tan*, is *5.UN6XC411*. An irrational number, the value of  $\pi$  was recently extended by Google to 31.4 trillion decimal places; however, the frequency of the numbers to the right of the decimal is uniformly distributed, or “normal,” for an average of  $N$ . Thus, in all 16-base mathematical languages, and most elegantly in *UN*, the value of

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<sup>7</sup> Many of the calculations for the U.S. Apollo moon missions, including trajectories and software programming, were done by a group of brilliant women working in the background with pencil, paper, slide rules, and mechanical calculators. Their results were programed into flight control computers that had less memory than our smart phones.

$\pi$  essentially rounds itself off in 7 (2) places for most tasks, including everything but astrophysics (which only requires a maximum of  $W$  (15) places).

Using the formula ( $\phi = 1 + \sqrt{4/2}$ ), the UN Golden Proportion of  $\phi$  is scientifically calculated as  $1.7X36679N$ , and its square shares the same magic decimal extension,  $2.7X36679N$ . Since  $\phi$ , like  $e$  and  $\pi$ , is irrational with a normal distribution of decimal numbers, it also can be effectively rounded off with  $N$  at the  $N$ th place.

As earlier noted, the UN value of  $e$  is calculated at  $2.96X14152N$ , which also lends itself to being truncated. Thus, the natural scientific numbers of  $\pi$ ,  $\phi$ , and  $e$  can be effectively quantified with limited decimal extensions and fixed ratios for most, if not all, calculations. These constant numbers remain irrational; however, their application can be synchronized with other quantified numbers and reconciled with their geometrical values at fixed ratios.

With UN calculations, the “decimal” values of  $\pi$ ,  $\phi$ , and  $e$  default at or within the 10<sup>th</sup>, or *eighth* place—the limit required for most problems. In addition, the imaginary number  $i$  is replaced by the demonstrable  $iii$ , or One Minus, as a quantifiable root of Negative One; and the  $iii$ , or One Plus, is identified as a quantifiable successive square root of  $e$  within the Positive One.

These tiny positive numbers and negative counters are rationally quantified, along with  $\pi$ ,  $\phi$ , and  $e$ , as having precise fractional ratio relationships with each other, and all other numbers in both the positive and negative matrices, including prime numbers (which remain prime in both bases).

Are we now prepared to rethink Newton's calculus, reaffirm the value of Descartes' coordinates, and to reprogram our computers to use artificial intelligence (AI) to perform necessary *UN* calculations, including those that are currently impossible, such as reducing to and penetrating zero into the negative space? What exists in the other seven negative Cartesian cubes? If there is indeed nothing, then how do we determine where we are, where we want to go, and how do we find our way home?

## The *UN* Quantum Calculator “Device”

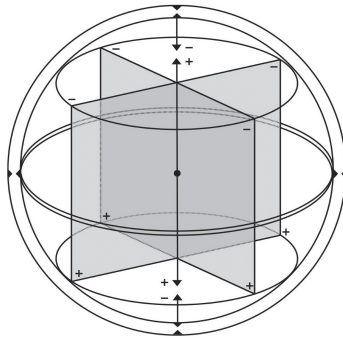
In a thought experiment, let us increase the size of the *WS* (252) counter, two-dimensional matrix in *Appendix C* by *U* (4) fractional counters to *1.0U00*, for a total of *100* (256). We can equip the flat negative *iit* matrix with red LED lights to match the flat positive *100* (256) *eit* matrix with its violet lights, and we can stand them on their bottoms.

We then merge and superimpose the two matrices through each other by slicing them in half vertically and reattaching them to a common axis. The matrices are balanced on magnetic pivots at the top and bottom that allow them to spin together, as a three-dimensional carousel.

The two, flat, two-dimensional matrices are elevated into three dimensions, with their positive numbers and negative counters ready to display as violet and red lights, each of which has a reciprocal sensor. The matrices are secured, top and bottom, to matching disc bases, merging the matrices and discs into a physical device, spinning on a shared vertical axis. Seen from above as a plus surrounded by a circle ( $\oplus$ ).

The two matrix-discs are divided into quarters around their circumferences at the edges of their matrices, and magnets are secured at those *N* (8) points.

Suspended on a magnetic axis, the spinning matrix-discs are enclosed within a sphere just large enough to clear the edges where the two spinning discs intersect with the interior. At that latitude, the interior of the sphere is circumscribed, top and bottom, with two circles, divided into matching quarters with repulsive magnets, which magnetically orient the matrix-discs on their extended axis, suspended with reciprocal attractive-repulsive magnets at the center top and bottom of the sphere's interior.



As the spinning matrix-discs accelerate within the device<sup>8</sup>, the lights of the matrices reflect and entangle their reciprocal positive and negative

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<sup>8</sup> The figure resulted from my three-dimensional vinyl model, a precise enhanced hand drawing of the model by my wife, Helen, a masterful fine artist, and a computer graphics rendering of the hand drawing by my great son, Steven.

mathematical identities, fusing them into a quantum unity that we can imagine as the *UN* Quantum Calculator. Whenever a violet positive number is illuminated in a calculation, it immediately impinges on the sensor of following negative counter, just as the red lights of the negative counters strike their reciprocal positive numbers.

The sphere is inscribed inside and out as the basic *UN five* (6)-circle geodesic sphere, with its vertices and polar-coordinates providing the ability of AI to geometrically point to every conceivable number and counter in the merged matrices, and to “know” its relationship to all other numbers.

If we enclose the entire spherical device magnetically suspended within another sphere on the same axis, the matrices and their interior enclosing sphere may be spun in opposite directions at very high speeds. Once spinning, without friction in sealed vacuums, the stored angular momentum of the device should last for an exceedingly long time.

By accelerating the matrices of the *UN* Quantum Calculator, we can imagine spinning the device beyond its three physical dimensions into the negative dimension of mind-time. Picture holding the device in the palms of your hands, with the warmth of your body flowing into the



device. As its dual reverse spins accelerate, you and it slowly dissolve from the positive space, allowing you to go to where your mind directs the device to take you through the negative space, to slow as you arrive, and to reappear in the positive space at your destination.

## The Quantum Spin of Mind and AI

By also speeding up the thinking of our minds, we may be able to accelerate or decelerate “time,” within the “fourth” dimension, as created and governed by mind. As our thought processes improve and quicken, the pace of our lives slows—with more peaceful time for planning, and less stressful time spent worrying about problems that could have been avoided.

This paper has reported an imaginary thought experiment, but must we build physical matrices, wire them to emit and detect violet and red photons, stand them on their bottoms on carousels, and spin them at high speed within reverse revolving spheres? Or can we simply instruct the artificial intelligence of properly programmed computers to accept our leap of mind, skip over zero, and to reliably produce proximate negative counters upon demand to reflect the probabilities of all positive numbers?

Of course, we can still calculate these problems with paper and pen—or with our currently programmed computers struggling to crunch space age numbers with a Neolithic Age numbering system and seventeenth century calculus and astrophysics—it will just take a while longer.

Irrespective of the potential enormity of the positive numbers generated by the *cit* matrix, there

will always be enough of their fractions in the *ii*t matrix to reliably reflect their unique reciprocal negative counters. Each counter will have a rational relationship to a demonstrable root of Negative One, each other, and the quantified constant numbers of  $pi$ ,  $phi$ , and  $e$ .<sup>9</sup>

Thus, instead of the imaginary  $i$ , artificial intelligence may be trained to reliably predict, proximately, where and when in a system of coordinates and calculus, a proximate negative number is mathematically required to balance a probable positive number. The AI's robotic mind will "know" the answer to any calculation posed—as the question and answer are quantumly entangled.

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<sup>9</sup> An unpublished paper concentrated on calculations presents new matrices demonstrating the use of increasingly larger perfect number matrices to create ever increasing negative factions, to proximately reflect ever larger probabilities of the geometric powers of two, positive numbers. (<https://williamjohncox.com/Calculating.pdf>)

## Correlating *UN* and Existing Coordinates

These papers started with a computer-generated structural model of the universe—which resulted from imagining a cube in the positive space being reduced through its center along its vertices. Each vertex penetrates through zero into the negative space, expressing itself as an expanding sphere, instead of a contracting cube.

Examining the basic *UN* spherical structure from within, we can verify it is the product of our existing mathematics. The model was created using computer graphics software programmed with Newton's calculus, that relies on Descartes' coordinates and the 360° system invented by the Sumerians.

These divisions of the circle were originally derived in ancient times by multiplying the knuckles of one hand by the fingers of the other.<sup>10</sup> Now, because of the demands of space travel and

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<sup>10</sup> The Sumerians used a 60-base fractional number system, based on multiples of 12, being the total of three knuckles on four fingers, accounted for as an abacus by the five fingers of the other hand, (5 $\times$ 12=60) and (6 $\times$ 60=360). Although organized differently, the Sumerian and Egyptian systems both relied on logical systems of complex fractions based on using their hands and fingers to achieve and communicate complicated mathematical results.

Imagine these amazing human calculators, able to quickly do complex math and to tap out and communicate answers others, as their 10 fingers multiplied up to 360, whereupon they transferred values to counting stones and clay symbols. This was how we built the ziggurats of Babylon and the pyramids of Egypt—demonstrating the might of our minds and the wonders of our creation.

modern science for greater precision in calculations, a system of “radians” has mostly replaced the 360-degree and 60 minutes per degree divisions of longitudes and latitudes established for global navigation in the Age of Sail.

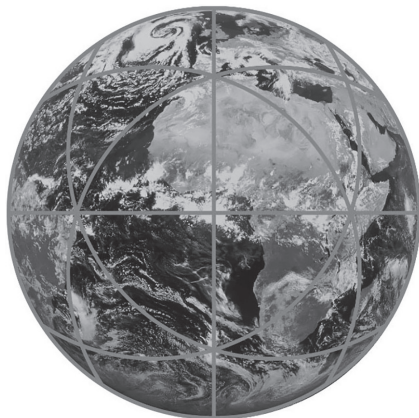
The basic Cartesian coordinates have also evolved into a system of related polar coordinates to identify a point in space and time as determined by its distance from  $0^{\circ}, 0^{\circ}$ , and by the angle of that line relative to a fixed coordinate, calculated in radians. It is this system mentioned earlier, that allows us to identify every point within the space between zero and the facet of every *UN* spherical triangle.

The radian system is based on the length of  $\pi$  itself, in which the half circle equals 3.14159265 consisting of  $\pi$  radians, or 180 degrees. One radian extends around the circle, equal in length to the radius itself. Thus, one radian is equal to  $180^{\circ}/\pi$ , or 57.2958 degrees, and 180 degrees are equal to approximately 3.142 radians. By its common reference to  $2\pi$ , which is also known as *tau* (the Greek symbol for life or resurrection), the system allows the 360 degrees of a full circle to be calculated into radians, and in reverse,

Converted to *UN*, a half circle equals 3.2U3W58NNN, consisting of  $\pi$  radians, or 9U

degrees, and  $9U$  degrees are equal to  $3.2U3W$  radians.

If we impose the basic *UN* spherical model on the earth, we can orient it on the equator at the Greenwich Mean and determine the points where its *five* lines intersect by reference to degrees. Starting from  $0^{\circ}, 0^{\circ}$ , the  $X$  (14) vertices can be calculated using the basic positive and negative  $x, y, z$  Cartesian coordinates and their polar coordinates.



The existing system of coordinates easily translates into the languages of *UN* Geometry and Numbers allowing calculations of everything discussed thus far.

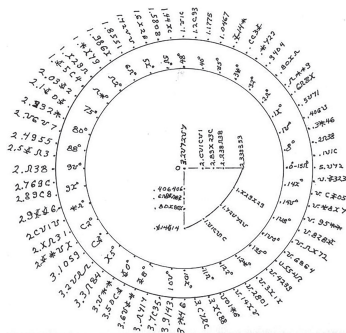


## UN Geometrical Degrees and Radians

Let us now imagine dividing scientific  $2\pi$ , *tau* (5.UN6XC411), into useful pieces of *pie* that can be correlated with existing expressions of 360 degrees and radians. With UN numbers, the value of scientific  $2\pi$  at 5.UN6XC411 continues as the basis of internal radians, wherein each radian is now divided into 10 (16) pieces.

Merging with the *pi* geometry of the UN sphere, the geometrical value of  $2\pi$  at 5.U72U72 can be considered as the basis of a reciprocal system of spherical radians. All radians remain convertible to degrees, and vice versa, at a fixed ratio between the two values of  $2\pi$ .

The use of geometric  $2\pi$  is roughly demonstrated in the outer circle of the following hand drawn figure, which also illustrates the ratios and divisions of single *pi* around the perimeter of the UN geometrical sphere's right-angle triangles.



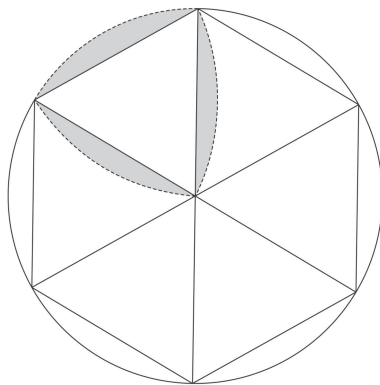


As demonstrated by the inner circle, the multiplication of geometric  $\pi$ ,  $3.2U72U7$ , by  $6$  ( $\underline{7}$ ), and divided by  $U$  produces  $14.WWWWWW$ . Then, its whole number equivalent,  $15$  divided by  $U$  produces  $4.N$ ; divided by  $N$  produces  $2.S$ ; and by  $10$  produces  $1.5$ . Multiplied into degrees of separation, there are  $4N$  ( $\underline{88}$ ),  $90$  ( $\underline{176}$ ), and  $150$  ( $\underline{384}$ ) discrete and logical divisions of both scientific and geometric  $\pi$ .

Adoption of  $UN$  Mathematics will not require discarding centuries of observational data and its analysis. Everything should be directly translatable and simplified with properly programmed binary computers.

## The Essence of $\pi$

While  $2\pi$  defines the full circle laid down by the traveling tip of its radius as it returns to its starting point, a shorter distance can return to the same point, by *five* (~~six~~) straight lines reflecting around the interior of the circle. These mark the points of a hexagon, having a perimeter of 5 (~~6~~) times radius. It is this difference between one radius-length, straight-line, sweep of the radius, and the curved line traced out by its tip that is the essence of  $\pi$ .



To identify this little number, we divide  $\pi$  by *three*. Scientific  $\pi$  produces  $1.0S1423NC4$ , but a more elegant result appears when dividing UN geometric  $\pi$ ,  $3.2U72U7$  by  $3$ , resulting in  $1.0S30S300000$ .

$1.0S30S300000$  divided by  $10$  produces  $0.10S3$ , another basic geometric  $\pi$  number we might call a  $\pi$ it (pi-it). When laid as  $\pi$  radians around a circle,  $50$  (96)  $\pi$ its equals  $5.U72$ , the full circle of  $\tan$ , with further reductions by  $10 \times 50 = 500$  (1,536) of  $0.010S$  pieces of  $\pi$ its, etc. as needed.

## Ratio Numbers

Having now divided the  $2\pi$  circle into degrees and radians, let us take another look at the ratio numbers  $3$ ,  $3$ , and  $U$  that define the sides of the right-angle triangles having a perimeter equal to single  $\pi$  and examine its division by the sum of the ratio numbers, *eight* (ten).<sup>11</sup>

We need to identify the points to divide  $\pi$  into the  $3$  plus  $3$  plus  $U$  ratio points, as they define the division of equal triangles on the surface of the  $UN$  geometrical sphere. We also need to establish their relationship to other points on the *five* (six) great circles on the sphere which define the triangles.

Dividing scientific  $\pi$  by *eight* produces  $0.405S9CC8$ . These segments of  $\pi$  allow us to calculate the ratio points of scientific  $\pi$ —as the closed triangle perimeter encircled by single  $\pi$ —rather than as a half-circle swept out by a radius. (See the illustration in the center of the above hand drawn figure.) If, however, we use the  $UN$  geometric  $\pi$  value  $3.2U72U7$  divided by *eight*, the result is  $0.4064064$ , resulting in logical lengths of  $0.W14WXW$  for the "ratio *three*" sides and  $1.U1CU1CU$  for the "ratio  $U$ " hypotenuse.

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<sup>11</sup>  $UN$  *eight* results from  $2 \times 4$ , just as  $2 \times 5$  equals 10. Both are large even numbers combining and carrying the combination of twos and threes.

Referring to *Appendix D*, and its .17777777 matrix resulting from  $1/8$ , the logic of the fractional progression is visually apparent, .3333, .U555, .5555, .6WWW, .7777, .9333, .SSSS, etc.

In conjunction with the fractional 8 matrix, the following *X* matrix demonstrates the natural consolidation of the geometric *pi* numbers:

$$1/X = .12U72U72U7$$

$$.12U7 / 2 = .072U72$$

$$“ /3 = .051N51$$

$$“ /U = .0U72U7$$

$$“ /4 = .038N38$$

$$“ /5 = .030S30$$

$$“ /6 = .027S95$$

$$“ /N = .02U72U$$

$$“ /7 = .020N20$$

$$“ /8 = .01CU1C$$

$$“ /9 = .0187NX$$

$$“ /S = .01N51N$$

$$“ /C = .015N15$$

$$“ /X = .01UX4X$$

$$“ /W = .013N13N$$

$$.12U7 \times 2 = .2U72U7$$

$$“ \times 3 = .35C95C9$$

$$“ \times U = .U72U72$$

$$“ \times 4 = .495C95$$

$$“ \times 5 = .5C95C95$$

$$“ \times 6 = .6WWWWW$$

$$“ \times N = .72U72U$$

$$“ \times 7 = .8U72U7$$

$$“ \times 8 = .95C95C$$

$$“ \times 9 = .S72U723$$

$$“ \times S = .C95C95$$

$$“ \times C = .XC95C9$$

$$“ \times X = .WWWWWW$$

$$“ \times W = 1.12U72U$$

Although incomplete and requiring further development for implementation, an elementary approach to translating existing mathematics, including spherical geometry, into that of *UN* Mathematics has been outlined and demonstrated in these papers and matrices.

## The Formula

In his field equations on gravitation, Einstein sought to unify Newton's mechanical laws governing the three dimensions of width, breadth, and height of absolute space, with time, in creating the concept of fourth dimension spacetime to explain all motion within the universe, irrespective of its origin or manner.

In equating gravity with acceleration and movement, Einstein intuitively used complicated mathematical computational devices known as "tensors," discovered by others, to algebraically describe relationships between sets of objects and their energy and momentum densities.

Einstein was able to compress all information required to describe the universe, including the complex nature of curved space time, on the left side of the equation. Then, using Newton's gravitational constant on the right side, Einstein was able to describe the movement of mass through the "gravitational" field. Essentially, his equations demonstrate the effect mass has on the "curvature of spacetime" and vice versa.

To achieve a balanced solution of his primary field equation, Einstein was forced to multiply

Newton's gravitational constant<sup>12</sup> ( $G$ ) by  $8\pi$  on the right side, and to divide the product by the speed of light,  $c$ , at its 4<sup>th</sup> power.

$$G_{\mu\nu} + \Lambda g_{\mu\nu} = \frac{8\pi G}{c^4} T_{\mu\nu}$$

Newton thought time to be absolute and that it runs at the same speed everywhere in the universe; however, in uniting space and time, Einstein tried to demonstrate that time was relative to mass.<sup>13</sup>

Representing his spiritual reliance on a controlling God, Newton believed gravity kept the universe in balance in an unchanging universe, and that gravity united Heaven and Earth.

Einstein, a believer only in the rational and metaphorical God of Spinoza, did not believe the "Old Man" played at dice. For him, the universe remained deterministic and measurable, while in quantum mechanics, tiny particles were found to be governed by total randomness, effectively calculated, nonetheless, in terms of probabilities.

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<sup>12</sup> The gravitational constant,  $G$  applies Newton's inverse square law. The weakness of the gravitational force over great distances makes it difficult to measure, and  $G$  is accurate to only three places, making gravity the only force yet to be reconciled by quantum physics.

<sup>13</sup> Under relativity, the faster one travels, the heavier one becomes, as mass ultimately becomes infinitely heavy and incapable of exceeding the speed of light. Identical clocks record a slowing of time in the one subjected to acceleration by being placed on a jet airplane and flown around the earth.

Applying the field equation values of eight times Mass (M) times light (C) to the 4<sup>th</sup> power may allow us to establish a rational limit on the ratio between energy and mass as an outside boundary on the observable infinite universe within the eternal negative cosmos.

Moreover, the use of *UN Mathematics* to define our living universe of electricity and plasma may help resolve any remaining contradictions in Einstein's field equations, as they relate to quantum mechanics.

The conclusion of *Mind & Its Languages of Reason* suggested the formula,  $(\pi E)^3 = N(eM) C^U$  could be imagined as a mathematical structure to impose a working logical limit on the eternal negative cosmos and its infinite physical universe. The initial element of negative energy (E) is multiplied by  $\pi$  to provide a limiting, expanding structure in the eternal black nothingness, and the initial element of positive mass (M) is multiplied by  $e$  to impose a limitation on the geometric powers of two.

Using the initial values of  $\pi$  and  $e$ , the formula establishes a fixed ratio limit between eternal energy and infinite mass at  $1:1.33W:5C1:SN4:X49:60U:980.94956$ , or approximately  $1.33W$  quintillion E to one M.

If the mathematical constant standard of the speed of light is assigned at its fourth power, the mass of the physical universe may exist as



the fourth successive square root of the negative energy from which it arises. In creating a limit on the expanding geometrical model just beyond the boundary of the observable universe, *perhaps we can reimagine the relativity of Einstein's elastic space-time fabric as the plasma through which all the electromagnetic particles of the electric galaxies, stars, and planets flow as they transit the negative cosmos, each influencing the other. The "force" becomes the "field."*

The use of symbolic UN numbers and geometry to program a quantum calculator with artificial intelligence may empower our children to travel through the cosmic negative space dissociated from the particles of our static universe of electricity and plasma—freed from the speed limit of light within the physical universe.

Let us now multiply the imaginative power of our minds by the natural constant of light at its  $U^{\text{th}}$  power—the potential energy source of the universe of plasma and electricity we observe and the minds that perceive it.

Once we imagine our infinite universe as the product of an encompassing cosmos of negative energy, we may learn to slightly accelerate and skillfully spin about within the infinite universe of electricity and plasma, unhampered, as though we were arriving from *without*, and just passing

through.<sup>14</sup> Energized to travel at the  $U^{\text{th}}$  power of light through the negative field of mind time, we could spin about our observable universe in a matter of seconds, perhaps like the UFOs regularly sighted darting through the skies and seas of our Garden of Earth.

From the point of view of the greater power of the speed of light, we find ourselves outside peering into the universe of plasma and electricity, instead of inside, trying to look out. We can also come to better understand our own being, once we accept that what we see reflected in the mirror of our positive physical existence is infinitesimal in comparison to the vastness of the empty negative space within ourselves.

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<sup>14</sup> It would be a delight to share my thought experiment of examining and quantifying our observable universe from the outside with Einstein, who as a boy imagined riding alongside a single wave of light, as it wiggled and squiggled through the ether. I felt the intellectual presence of Einstein when I was at Princeton University several years ago, just as I had earlier sensed the spirit and courage of Galileo when I visited his museum in Florence, Italy.



## Light, Time, and Mind

These papers present the theory that there is nothing physically beyond our infinite, static, universe of plasma and electricity, and its related families of living galaxies, as far as we will ever be able to observe, but an eternal, black, negative cosmic space, existing, nonetheless, as the field of mind.

If there is, in fact, the timeless presence of an intertwined cosmic mind, coexistent with eternity, it is certain our Garden of Earth has been watched patiently for the past 4.5 billion years of its existence, along with its gradual evolution of life, intelligence, and mind. We were neither created, nor are we judged, rewarded, or punished; we simply exist, and we will either learn to fly from our nest before we die, or we will not.

Surely, we will be lovingly watched until such time as our evolution into beings of mind is celebrated, or the stillbirth of our extinction is mourned throughout the cosmos. It is not that the cosmic mind is uncaring, it is possible that, if we were to be physically or mentally interfered with, the waveform of human existence might collapse

into incoherence and dissolution.<sup>15</sup> *Our static universe of electricity and plasma was not divinely created—it is in fact the natural creator of the living galaxies of organic life and mind.*

Inasmuch as Einstein equated time with the speed of light, it may be that its U'd power allows us to examine our solar system and galactic family, as though we were observer minds from other galaxies, past, present, and future—where the flight of light is factored by mind, rather than time.

The cosmic mind remembers everything and forgets nothing, as it simply records and reflects the truth, intertwined with and within the minds of everyone who becomes aware of, and learns to tell the difference between fantasy and reality.

As we struggle to survive the pandemics, economic collapse, environmental self-destruction, continuous warfare, religious fundamentalism, and instinctive intolerance that threaten the extinction of humanity on Earth, we have a fleeting opportunity to outgrow and overcome the genetic, instinctive intolerance that is hardwired into our animal brainstem, which manifests itself as deception, violence, and war. We must use the full power of our collective minds and our remaining earthly resources to peacefully evolve, naturally.

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<sup>15</sup> More so than it already has.

With the metamorphosis of mind, our children will be capable of spinning about our wonderful static universe of living galaxies within the cosmic plasma. They will carry with them our collective wisdom, our unique creations, and the fruits of our minds.

They will have the opportunity to discover other warm water oxygen planets, circled by large silver moons that tug upon the tides, allowing the oceans to wash the land and water its gardens, where the minds of happy children can thrive, learn, and find joy in living and exploration.



## By the Beach: In Quarantine

Just before Christmas in 1983, my older sister, Mary Jean passed away. She had cared for me when our mother died when I was four, and she took me in at 16 during the summer of 1957 when I had no other place to go.<sup>16</sup> Earlier, I had visited Mary in the Texas hospital when she was in a coma, and 37 years ago I did not have the financial means, or emotional strength, to attend another of my siblings' funerals—as we eight were divided in half. The two oldest and the two youngest remained of us who had clung together in 1951, when I was ten, alone without parents or grandparents.<sup>17</sup>

I was 42 years old in 1983, and I had already experienced a productive 20-year professional career in the justice system, culminating in the Holocaust Case, which I had successfully prosecuted two years previously. I had spent the last year, deeply in debt from the investigative and

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<sup>16</sup> As an orphan and chronic runaway, I was a ward of the court awaiting my sentence to military school in New Mexico that fall—in lieu of being “reformed” at the Texas youth farm.

<sup>17</sup> All have now passed, and I am the last of my generation.



litigation costs associated with the high-profile *pro bono* (for the public good) matter, as I shuttered my public-interest law practice and stopped accepting new cases or paying my bills. My phone was disconnected, and I spent the year in reflection, while building models of *UN* Geometry and creating multiplication, addition, and conversion tables for *UN* Numbers.

With my home office in foreclosure and being close to eviction and homelessness, I accepted the offer of a friend to house-sit her cat in an apartment on the sand, just south of the pier in Seal Beach. I took with me some of the mathematical and geometrical drawings and models I had worked on during the litigation and in the subsequent year of contemplation. (*See back cover.*)

When the drawings had revealed the existence of an inverse spherical model on the other side of zero, I had produced the first six-circle spherical model of *UN* Geometry on a small two-inch rubber ball and painted it in the colors it still displays. One of the first questions I asked was: if the perimeter of each triangle is clearly equal to  $\pi i$ , what is its *UN* value, and the ratios of sides?



A high school math teacher lived next door in Seal Beach, and as I explained my problem, he told me about the ancient  $\frac{22}{7}$  fraction used to produce a close approximation of  $\pi$ . He suggested I convert the fraction to *UN* numbers and do the long division to achieve an approximate value of  $\pi$ . I made notes, followed his instructions, and made my first conversions and calculations of universal  $\pi$ .

As the sun was setting over the Pacific Ocean, I observed the *UN* geometric  $\pi$  numbers for the first time, and my mind combined the numbers with the image of the  $\pi$  divisions of the sphere. I immediately realized the significance of the discovery, and I was able to do enough calculations to determine that the  $\pi$  numbers worked marvelously in *UN*. Then I had to return to reality and earn a living.

Six years later, having served in the interim as the operations officer and general counsel of a national security consulting and investigation firm, with corporate and government clients, running force-on-force exercises testing the security of America's nuclear weapon sites, I semi-retired. In 1989, I was living in a studio apartment on Ocean Boulevard overlooking the bluff and beach, watching the ships come and go through the entrance of the stone breakwater into the Long Beach Harbor.

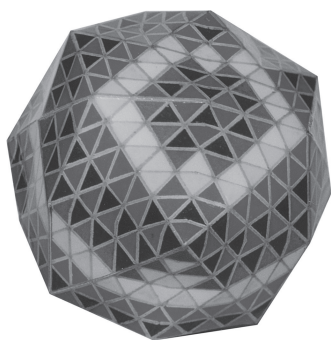
To reestablish a home-office private practice, I equipped myself with state-of-the-art equipment, and accessed the computerized data resources our firm had identified and sold to corporate clients. I opened an "investigative law" office, consulting with major law firms in those days before easy Internet access, helping my attorney clients to identify and supply their critical evidentiary needs in major cases.

During this time, I undertook representation of a still "secret client" in another *pro bono* case, and in November 1991, I arranged for the publication of the suppressed Dead Sea Scrolls that had been denied to two generations of biblical scholars.

Following this, I wrote a 1,000-page research manuscript about the history of monotheism based on the latest archeological and documentary

discoveries. After sitting on my bookshelf for almost 30 years, the revised manuscript was recently published in June 2020 as *The Way of Righteousness: A Revealing History and Reconciliation of Judaism, Christianity, and Islam*.

I spent much of the Nineties in the solitude of my harbor apartment, working at the antique six-foot long, oak trestle table, three-student desk given to me by my law school, that has served me for more than 50 years. As I continued to develop *UN Mathematics*, I built a number of cardboard and superglue models to ascertain by direct measurement that the ratio of the sides was exactly  $3:3:U$ . I later learned enough about spherical geometry to demonstrate the proofs mathematically.



Being forced to solve many basic arithmetic problems by long hand caused much wishful

dreaming about a functional *UN* electronic calculator. All math problems, no matter how minor, required conversion from base 10 to *UN*, and the long division and multiplication in a new language was tedious and time consuming.<sup>18</sup>

Expanding 22/7 to the much longer fractions used by Johann Lambert in the eighteenth century to extend the decimal places of  $\pi$ , I consumed entire notebooks calculating long division problems such as:  $US5X4W1/1N4U295 = 3.2U3W58NNN$ —a beautiful sight when first beheld. Adapting Newton's binomial theorem, I spent days calculating *UN*  $e$  to 20 places, only to learn later I had a carrying error around the 8<sup>th</sup> place.

One night, while walking home from the neighborhood market, I was attacked by two robbers and beaten in the face and head with a bottle of wine. With my eyeglasses broken and nearly blinded from alcohol after the bottle broke over my head, I released my brainstem fury and police training to fight off the men and drive them away.

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<sup>18</sup> Even the multiplication tables we memorized in elementary school became a stumbling block, as the computational values of all existing numbers changed. Remembering that three times three no longer equals nine, but *seven* instead, required the development of mental muscle memory to avoid errors.

After I reported the crime and had my head and face stitched up in the emergency room, I found myself fearful for the first time of walking city streets at night.

I encountered and adopted a young, golden, half Dingo, half German Shepherd female dog named KD, and I rigorously trained her to accompany me almost everywhere I went wearing a leather K9 working-dog harness.

Most days, we visited the local Dog Park where KD was the alpha female, but fortunately, her training kept her under tight control. One of KD's tricks was to sit in front of me, and I would toss a tennis ball straight up above her head. She would leap up into the air, snatch the ball, and do a full 360° spin before landing and dropping the ball at my feet. She wanted to do it nonstop.

One day, a little brown-eyed, seven-year-old Caribbean princess, with schoolgirl braids stopped by and asked if she could throw the ball. Naomi took over the duty of tossing KD's ball whenever she was in the park with Buster, her male Rat Terrier. I soon fell in love with Naomi, and learning she came with a single mother, my interest increased.



With time and patience, Helen accepted me into her family, and I left my harbor apartment and moved into their Cambodian Town condo. I continued to practice “investigative” law and to provide contract prosecution services to contribute my share of the household expenses. Primarily, however, Helen gave me the freedom to continue my work on *UN Mathematics*, while she worked as librarian, using her training as a classical artist to create a wonderful, nationally recognized middle-school library in a poverty-stricken neighborhood.

Working at my old law school desk, but in the corner of Helen’s bedroom, I completed two eBooks over the next year. She contributed several original drawings, including the previous handwritten number chart and initial drawing of

the device), allowing me to publish *Mindkind: Math & Physics* and *Time Travel to Ancient Math & Physics*.

To support a marriage and our need for a steady income, I was appointed as a supervising trial counsel for the State Bar of California, which regulates the practice of law in the State under its Supreme Court.

Gainfully employed in February 2000 and with my old debts paid, Helen and I (along with Naomi) were married in Christ Church within the walls of the old city of Jerusalem. I spent the next seven years running a team of lawyers and investigators prosecuting dishonest lawyers and criminal gangs engaged in the unlawful practice of law. Receiving a professional income for the first time in my life, and living modestly, Helen and I were able to fund a retirement, buy a home, and secure Naomi's college education.

After retiring in 2007, I published a combined print copy of the earlier two eBooks as *Millennial Math & Physics* in 2015.<sup>19</sup> I did little additional research or work on *UN Mathematics*, but I continued my attempts to share its languages

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<sup>19</sup> I was hospitalized near death in November 2014 with full-body sepsis. As I slowly recovered, I realized I might not have all that many years left, and that I had best start publishing some of the papers and manuscripts accumulating on my bookshelves—if they were to ever be read. Learning the process, I self-published a series of books, including *Millennial Math & Physics* and *The Book of Mindkind: A Philosophy for the New Millennium*.



with professionally trained individuals, who might provide a critical evaluation. I was met with uniform rejection and metaphorical pats on the head.

After discussing the spiritual and metaphysical mind in the initial drafts of *The Way of Righteousness*, I expanded my interest in the scientific universal mind in *Mind & Its Languages of Reason*. Published in May 2019, the book included my initial thinking about negative fractional counters and the concept of an imaginary AI quantum calculating device.

In January 2020, just as the pandemic began to spread, I published *The Choices of Mind: Extinction or Evolution?* about the serial collapse of the worldwide environment, economy, and self-governments, and the deadly threat of militarization and brainstem intolerance, while proposing solutions for each problem.

By the end of February, I also had completed a rough draft of *The Work* manuscript. It was, however, incomplete as much effort remained to calculate the internal relationships of fractional UN Numbers to ensure and demonstrate their rationality and reliability.

When I first envisioned the concept of an AI quantum calculating device, I did not have the time, energy, or inclination (or digital calculator) to concentrate for hours and days on the laborious hand calculations necessary to develop and

demonstrate the computational gearworks of the internal matrices of *UN Numbers*.

*Mind & Its Languages of Reason* had included color figures and tables that substantially increased the price of the print paperback, and I decided to publish a more affordable black and white edition. I also intended to include a paper updating my thinking about the *UN* calculating device and explaining the computer graphics model of a geometrical structure to envelop the universe.

Helen had also retired and returned to graduate school to secure her master's degree in fine arts, and in the first week of March 2020, we attended an exhibit of the French artist Edgar Degas at the National Gallery. We spent a few days leisurely enjoying the change of scenery, visiting the museums, and sampling the cosmopolitan dining of Washington, DC.

We flew home, but immediately took off for another quick trip up the coast to Portland, Oregon to visit an art gallery to discuss a show of Helen's work. We had a lovely dinner with two of her former models and returned to Long Beach on March 12<sup>th</sup>, the day before national travel restrictions were imposed because of the coronavirus pandemic.

As Helen napped on the return flight to Long Beach, I worked on the tray table in a new

dot-grid composition book she had just bought for me in Powell's Book Store. For the first time, I combined the base 6 and 7 configurations of the *UN* fractional counters into a master matrix that organized and displayed the fractional counters as dots. (See *Appendix C*.)

Having just traveled through two of the national hotspots of COVID-19, and in quarantine, I awoke early on *pi*-Day, March 14<sup>th</sup> and wrote a little paper about the nature of *pi* in *UN* Mathematics. As I began to recalculate and refine the *UN* languages into this manuscript, I engaged in a mental exercise I have not rigorously practiced for more than 20, if not 40 years.

Arising around 2:00 a.m. during the weeks of isolation, I spent long days at the old desk in my study, starting out working the longhand calculations and notations in my composition books. Demonstrating the inherent logic of *UN* Numbers required page after page of hand calculations, all of which were fraught with the possibility of concentration failures and computational errors.

My friend, Brian Gonzalez (the gifted young man who created the computer graphics of the *UN* geometric models) came to my rescue by programming and installing a digital *UN* calculator on my desktop computer. His calculator converts

base-10 to *UN* Numbers, and it calculates problems, displaying the result in *UN*.<sup>20</sup>

With the *UN* calculator, I finally had a tool to reliably work out the remaining matrices required to demonstrate the solid internal logic of fractional *UN* Numbers used as negative counters. (*See Appendix D.*)

Working in forced isolation, I continue to struggle with what I do not know, and, without the benefit of peer review (or any meaningful discussions with trained professionals), I worry about the validity of what I see with my own eyes and believe to be true.

Working alone, I can think almost as quickly and deeply as the past, although I have become more prone to forget my findings once I have worked them out and recorded them. I recently found myself solving the same difficult problem, on the ratio between E and M, mere pages away from its earlier solution in my composition book.

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<sup>20</sup> I might have gotten by without the *UN* calculator, had I the intellectual resources of Isaac Newton, who fled the bubonic plague in 1665, and spent the next year at his family's farm analyzing the spectrum of light, the laws of gravity, and creating his calculus. He once stated he was embarrassed by the amount of time he spent calculating. I, myself, wonder if the stacks of notebooks in my file cabinets filed with pages of handwritten calculations, notations, and drawings in an imaginary language might someday be offered as Exhibit One in my own sanity hearing.

I am now feeling every day of my 79 years—exhausted, mentally, physically, and emotionally, confronted with the reality of a pandemic projected to kill millions worldwide, a global economic collapse threatening all civil societies, growing totalitarianism endangering our self-governments, and an environment becoming increasingly dangerous from our abuse of its resources.

I am comforted by the knowledge that my research and writing tasks are largely complete, as this has been the only thing within my control that I can do that might make a difference. The probabilities of my life span are increasingly certain and dear, but it is not a tomorrow of death I fear, but a living future filled with the dread, despair, and sorrow about the ignorance, failure, and societal collapse of the humanity I am born of, and which I cherish and love with all my being.

Generations of young people arriving at their age of responsibility reading these words may be encouraged to imagine an alternative happy ending, and to learn the languages and virtues of truth, thus empowering them to create the means to make their dreams a reality. Our children can learn to plan and to foresee their own futures—rather than to live wasted lives, mindlessly seeking and living the fantasies of others.

For now, there is much to be done if we are to survive physically, politically, and socially—if

we are to make use of what we have learned to evolve into beings of mind, allowing our children to freely travel throughout the universe on spring break, before returning to their studies, instead of dying from parental neglect.

Unless we commence to better care for our children—immediately—they are all going to die horrible deaths, within the lifetimes of babies being born today, no matter how rich or powerful their parents may be.

Continuing isolation orders, and a public disorder curfew have provided additional time for work in my study and for peaceful reflection in Helen's Garden. I have rewritten and expanded the papers with new figures and descriptions of the *UN* calculating device. My work is done.



*njc*

August 2, 2020



## Upon Further Reflection

When *The Work* was published almost two years ago, it included a “Synopsis” which summarized *UN Geometry and Numbers*. As I began to circulate copies of the book, some of my correspondents suggested I spin off the synopsis as a separate publication. After revisions, *Universal Quantum Numbers: An Introduction* was published in November 2020 as a small picture eBook in the *Gift of Mind* series.

In September 2020, I was invited to join the discussions of A Cosmology Group (cosmology.info) which “seeks to understand why the Standard Model of Cosmology ( $\Lambda$ CDM) and alternative models have not reached the status of a stable theory. . .”

Although I was unable to follow some of the mathematics of forum posts, I became aware of alternatives to the “Big Bang” theory I had never heard of. Especially, I was introduced to the lectures of astrophysicist Eric Lerner and his book *The Big Bang Never Happened: A Startling Refutation of the Dominant Theory of the Origin of the Universe*.



Intrigued by the new information and dismayed I may have been in error in my published books that relied on the standard model as settled science, I began to accumulate other books criticizing the Big Bang and revealing the Electric Universe written by Hannes Alfvén, Anthony Peratt, Halton Arp, Hilton Ratcliffe, Glenn Borchardt, David Lindley, Donald Scott, and Fred Hoyle, et.al., and others.

As I read the research and conclusions of these scientists, whose work has been dismissed by mainstream astrophysicists and theoretical mathematicians, I became convinced that the universe was not created instantaneously 13.8 billion years ago, and that it is not expanding. (*See References.*)

I had always struggled to understand the counterintuitive weirdness of the standard gravitational model and to write about it convincingly—to the extent that its cosmology was central to my attempts to construct a mathematical structure around the universe. I was amazed by the simplicity and logic of a static universe produced by strong electricity within a plasma, instead of by weak gravity in a vacuum.

Relieved as well was my bewilderment about the incomprehensible theories of instant inflation, one-dimensional cosmic strings, invisible dark

matter and energy, voracious black holes, and other clever ad hoc schemes devised by theoretical mathematicians and astrophysicists to explain the failures of the standard model to describe the universe now being revealed by improved telescopes, such as those that observe in the spectrum of infrared, X-rays, and radio waves.

Convinced by the evidence, I withdrew *The Work* from publication, along with *Mind & Its Languages of Reason*, *Universal Quantum Numbers*, and my original little *Book of Mindkind*. With this present effort to produce a second edition of *The Work*, I have now revised and republished these books to reflect the truth—to the best of my present understanding—about the eternal negative cosmos and its infinite, static electric universe of plasma and living galaxies.

This second edition of *The Work* is now completed, and the next task on my old law school desk is to complete the research and writing of one last book. *The Trial of the Big Bang* is planned as a fictional “trial” of the standard model of cosmology, which will produce the factual evidence of its falsity, *and* the trial will examine the alternative theories offered by the referenced authors, and others, who will be called as “expert witnesses.” Or, perhaps, this little book about *Lucky* the Plucky Photon can save the day and a whole lot of work.



As my 81<sup>st</sup> orbit around the sun nears its perihelion marking my birth and genesis of mind, this may be my last *pro bono* legal case and hard writing done on this old desk at my electronic window to the world. I grow weary from watching the serial collapse of our environment, economy, and self-governments caused by the rise of social intolerance, political totalitarianism, and the rejection of the scientific method by a public that has been willfully misinformed by corporations and their academic and political lackies.

I continue to believe in the young people of this millennium, who must bear not only their own burdens, but those we older folks have shrugged off. Their choices will decide the fate of humanity.

The world has changed so dramatically since I was so young, and it has been such an exciting show to watch. *The best is yet to come.*

*njc*

January 15, 2022

## The Adventures of *Lucky* the Plucky Photon

This is a fable about a tough little photon, a flash of light named *Lucky* who was born on a star in a galaxy far away, out beyond the constellation Ursa Major, way back at a time before our Sun and Earth had formed.<sup>21</sup>

Like about a zillion or so other sibling photonic light waves, including his brothers *Lost* and *Last*, *Lucky* was emitted by his birth star on an unremarkable day about 13.4 billion years ago with enough energy to keep each of them oscillating

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<sup>21</sup> As I was completing revisions of *The Work* for this second edition, included in the foregoing “Upon Further Reflections” was a brief footnote about Edwin Hubble’s comments disclaiming the “explosion” theory. The footnote expanded to describe problems with redshift interpretation into a final paper. Included is a fun thought experiment about a race of photons, and the latest revelations about the eternal negative cosmos and its infinite, living, static universe of plasma and its electrical living galaxies.

My editing had earlier deleted another footnote about Zeno of Elea who proposed the paradox of infinity in 500 BCE, by which neither the hare nor tortoise ever finish the race, as they alternate going halfway to the finish line. Somehow, the fable of *Lucky* the plucky photon and his brothers, and their race across the universe popped into my head, and this concluding paper began to take shape as a lighthearted fable, leading to my final argument as a retired public interest lawyer denouncing the scientific scandal of the twentieth century, the false Standard (Gravitational) Model of Cosmology, and its repression of the Electric Plasma Model of an infinite, static physical universe within an eternal cosmos.

along at about 300,000 kilometers per second until they smacked into something.



As *Lucky* and his siblings departed their star and her pretty blue galaxy known as GN-z11, never to return, they rushed off in every direction.

*Lucky* wasn't very big, just a tiny wave without rest mass or an electrical charge, but he did have some spin in his swagger. As he bravely oscillated off into the cold, black cosmic nothing, he had a story to spin about his birthplace and the ordeal of his journey.

For every kilometer they traveled, his family of photons spread out over an area the size of

the distance squared. As other photons began to disperse and angle away from the target, *Lucky*, along with his closest siblings, *Lost* and *Last*, remained focused on their race to arrive where the earth would appear someday. It was going to be a long course, about 134 nonillion kilometers, but *Lucky* was in good shape. He was energized with a feeling that he was special and destined to make an impact.

The “vacuum” of space *Lucky* and his brothers traveled through was indeed sparsely settled, with as few as  $1/3$  negative free electrons and  $1/3$  positive naked protons (ions) to be found per cubic meter, or one of each electron and proton in every three cubic meters of nothing. In the area between galaxies, there may be only one hydrogen atom per cubic meter, while within galaxies, the interstellar medium between stars is filled with dust, cosmic rays, and is richer in hydrogen atoms, about one million per cubic meter. *Lucky* and his brothers were clipping through about 300,000,000 meters every second, so there was a serious risk of collisions.

As obstacles appeared on the track, *Lucky*’s siblings began to disappear as some collided with protons, electrons, and other particles. *Lost* hit a negative electron orbiting around a positive proton in a hydrogen atom dead center and disappeared forever, transferring all his energy to the electron

causing it to change its state, or free its capture, and leave a naked proton (ion) behind. The intergalactic medium is filled with a plasma of positive hydrogen ions flowing into galaxies to feed the generation of new stars.

Photons that struck electrons, protons, and other particles were deflected from their path and were out of the race. They surrendered some energy, lost frequency in oscillation, and were scattered about on different trajectories with longer wavelengths.

Other photons, such as brother *Last*, managed to avoid direct collisions, but every time his electromagnetic wave came too close to a free electron, it caused the electron to oscillate and to reradiate a bit of *Last*'s energy, reducing the frequency of his oscillation, and stretching out the tail of his wavelength, shifting it into the red spectrum.<sup>22</sup>

There was a lot of debris along the path, including clouds of molecular dust, which could cause *Lucky* and *Last* to scatter if they were unlucky enough to collide with a little mote, and there were big stars and galaxies to be avoided. Each close encounter caused a detouring or stretching of the

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<sup>22</sup> (his lengthening wavelength would actually cause a deviation from his original trajectory, causing *Last* to also go missing, but then this is a fable and he must stay the course)

length of journey, slight around a bit of dust, great around a star or galaxy. Sometimes, the long way around large objects took *Lucky* far afield from the shortest path to near Earth orbit, but he was full of energy and there was no quit in his game.

Then there was the issue of all the other photons and other electromagnetic waves *Lucky* and *Last* crossed paths with that were having their own adventures, zipping along from one place to another. Although the vacuum of space appeared empty ahead of him, *Lucky* found it to be filled with the Cosmic Microwave Background Radiation, gamma and X-rays, ultraviolet, visible light, and infra-red waves, and the long radio waves that seemed to take forever to pass by.

All lengths of electromagnetic waves would seem to stream through the brothers' waves from time to time, but *Lucky* and *Last* oscillated straight through the other waves, without loss of frequency. In some respects, the combined "forces" of all ambient electromagnetic particles the photonic brothers encountered, composed the "field" through which they all moved.

More agile than *Last*, *Lucky* was better than an all-pro American football open-field runner, as he dodged every tackler that came close.

To make a long story short, the universe placed many obstacles in *Lucky's* path, but he made



it around each one of them avoiding any collisions. In aggregate, however, his path was made longer and more difficult by each impediment he encountered.

Even though *Lucky* took a longer path, he arrived at the end zone an instant ahead of *Last*, whose wave had grown longer each time he tried to take a shorter path and cut too close to electrons, losing a little energy each time.<sup>23</sup>

As the pair impacted the goalpost mirrors and lenses of the Hubble and Spitzer Space Telescopes, they were welcomed with the news that they had set a record. Hubble's Wide Field Camera measured their light spectroscopically revealing the largest redshift of  $z = 11.1$  observed to date.

Based on their reading of the redshift as evidence of Doppler gravitational recession, standard model scientists estimated that *Lucky's* galaxy is *receding* away from Earth at a velocity that approaches the speed of light, as much as 295,050 kilometers per second. At that rate of moving the goal posts, it is a near miracle that *Lucky* was able to score a touchdown, or that *Last* ever made it to the endzone.

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<sup>23</sup> This of course has been a fable about fictitious photons and any similarity to any photon, living or not, and the actual way real photons shift into the red spectrum, is unintended, as still being unknown. *Lucky* the Plucky Photon was created to introduce the true story about how tired light and consequential red shift was grievously misinterpreted and science was set back for more than 50 years.

Although GN-z11 is believed to be a young galaxy developing new stars at 20 times the rate of the Milky Way, standard model astronomers were amazed by the extent of its development so quickly, just 400 million years, after the “Big Bang.” The energetic star development of *Lucky*’s galaxy made it bright enough to be imaged by our telescopes, even at its great distance.

The standard gravitational model predicted that the universe was dark for the first 100 million years after it exploded, until the first appearance of stars resulting from the gravitational compression of hydrogen atoms into a fusion within their cores.

Galaxies were not supposed to gather stars, gravitationally, until after a billion years, but then photons from GN-z11 appeared on the collector, having started out just 400 million years after the supposed Big Bang, and having already taken millions of years to develop.

Even though billions of years had passed since *Lucky* left on his journey (he was two thirds of the way here before the sun began to shine), he was just as plucky when he arrived, as he was the instant he left home. Even so, the actual distance he traveled, his journey was eventful, each of which required a bit of his oscillation frequency to continue, resulting in a longer light wave, which shifted him and *Last* into the red spectrum.

The original misinterpretation of the observed redshift as gravitational Doppler Effect recession, and evidence of an exploding universe has been perpetuated, decade after decade by “scientists” whose blind faith in a creationist, exploding, gravitationally bound universe continues, as perpetually bound by the Newtonian physics of the nineteenth century, rather than the almost lost electrical promise of the twentieth century.

Even now, after 70 years of observational failures, twenty years into a new century and millennium, these standard model, gravitational bound, theoretical scientists just concluded, contrary to all observational evidence, that *Lucky*’s home galaxy must be receding, along with all other galaxies in the universe,<sup>24</sup> at and beyond the speed of light, swept outward by unseen dark energy. The powers of self-delusion are truly amazing.

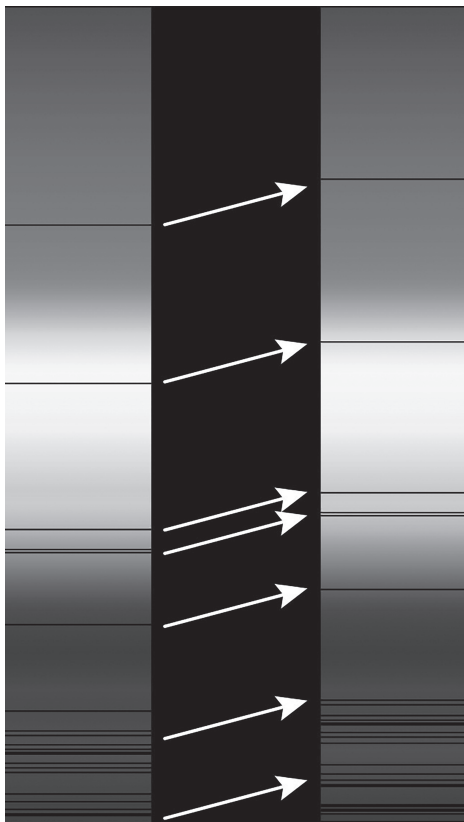
As for *Lucky*, though his wave may have gotten long and lean, and his oscillation wasn’t quite as frequent it once was, his light was not tired when it smacked that mirror. No siree, his flash was focused with a story to tell. In fact, having laid back at the speed of light, *Lucky*’s journey had taken no time at all, as though the distance was

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<sup>24</sup> Except for Andromeda, our closest relative in the local family of galaxies, which has a blueshift in the spectrum, indicating that it will drift into the Milky Way in a few billion years.

nothing. *Lucky* arrived quite refreshed, as bright and plucky as ever, and ready to make an impact, just a bit off the target center, slightly in the red.

THE END





## The Rejuvenation of Tired Light

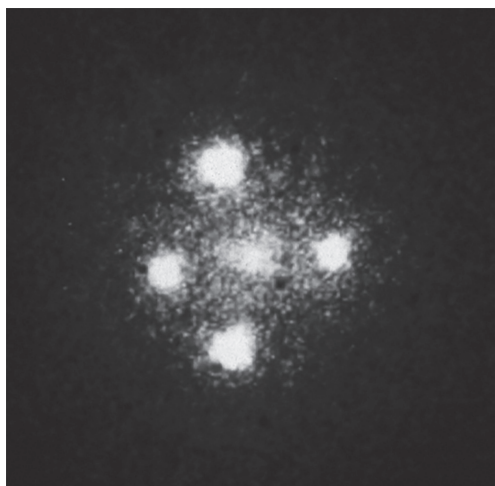
Edwin Hubble (whose measurements of galactic redshift *and* his “Hubble constant” have been grievously misinterpreted by mainstream astrophysicists and theoretical mathematicians as evidence of an expanding universe), warned against the “explosion” theory. He did not believe the recession explanations stood up to what he observed through his telescope. (*Los Angeles Times*, “Savant Refutes Theory of Exploding Universe,” December 31, 1941.)

If there was no Big Bang from a singularity and subsequent expansion, as imagined by the gravitationalists, then why is the visible light spectrum of distant galaxies shifted to the red?

**The Path of Light.** Photons are not considered to have rest mass; however, light waves are regularly observed to bend “gravitationally” around the “relativistic spacetime” of stars and galaxies, as predicted by Einstein. There is no reason to believe that photon waves would not be similarly bent on a smaller scale by near collisions, as they go around molecular dust, atoms, and other particles having gravitationally measurable mass.

The phenomena can be observed on a large scale by an Einstein Cross, which displays the

stream of photons from a distant quasar appearing as flares around the edges of a galaxy located in the foreground, which serves as a “gravitational” lens. A photon continually moves at the speed of light, even around large objects, until it strikes something interesting.



A photon has no weight, nor charge; it is simply a neutral wave of energy, oscillating along from one event to another. Since the photon is moving at the speed of light, it experiences neither time nor distance. It is either being emitted there or being observed here.

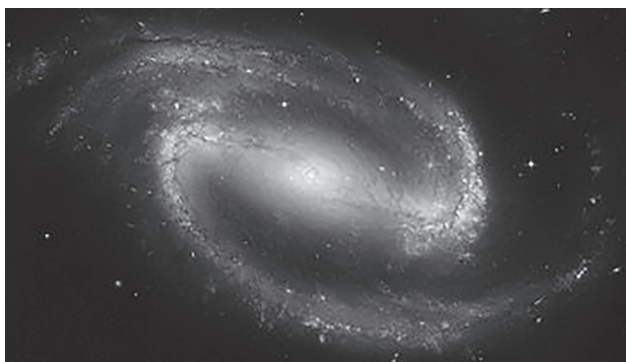
Light is the moment when the negative energy of the eternal cosmos is transmuted into a burst of light in the darkness, becoming an element of the

infinite electric universe, and its wave commences its path until it encounters something, immediately connecting origin and destination.

Photons are discharged into an infinite, living, static universe of plasma, which is organized and controlled by powerful electricity, not puny gravity.

**The Birth of Living Galaxies.** Magical things can happen in such a universe of plasma leading to an electromagnetic vortex in a vacant area of intergalactic space that churns ions and electrons into spinning bars of massive electromagnetic filaments that aggregate cosmic dust into electric stars and planetary gravitational mass.

In synchrony with magnificent electricity, an individual living galaxy, and its stars and planets of mass with oceans and gardens, naturally appears wherever there is space in the cosmos for it to accumulate enough energy to start spinning, and to keep going, once started.





The physical universe appears static overall, it is not expanding, and there is a uniformity in the distribution of galaxies, even in the absence of gravity. Perhaps the movement of individual galaxies, in relation to each other is a random, chaotic, Brownian-like movement within the eternal, negative black cosmic intergalactic medium. The negative nothingness self-organizes itself as a web, or crystal, consisting of mutually repulsive free electrons, and attractive naked proton ions, and the lives they live together, and the progeny they produce.

We can see for ourselves how the living galaxies generate cosmic dust into planetary mass, and how galaxies drift together into families of ellipticals, clusters, and strings of related galaxies, in an endless family tree of lights. Our own Milky Way mother galaxy has her own group of almost 60 smaller “dwarf” galaxies nestled around her.

With our existing telescopes, we now can see the massive filaments of electricity flowing through and illuminating the intergalactic plasma. The Veil Nebula is a wonderfully beautiful example, as it displays the spiraling magnetic lines wrapped around the massive filaments of electrical energy resulting from a supernova approximately 10,000 to 20,000 years ago that would have illuminated the daytime sky.

## The Rejuvenation of Tired Light

In a wonderful video prepared by NASA, you can fly from Earth to and through the Veil Nebula. (YouTube.com, “Veil Nebula is Mesmerizing Through Hubble’s Eye.”)



Traveling through all the physical stuff in the intergalactic medium, the photons that avoid collisions keep oscillating along making waves. Given the vast distances of travel, however, the frequency of close encounters between a lonely hard-waving photon and other elements of the physical universe cannot be trivial. The resulting aggregate redshift would simply be an accurate and reliable measure of actual distance traveled and the number of events, rather than a Doppler Effect signal of gravitational recession.

Using our best instruments, synchronized by the brilliance of our combined cosmic mind, we must face the truth about the essential nature of

the eternal black negative cosmos and its infinite, positive, static, electric universe of plasma, light, life, and mind.

The universe is not gravitationally bound, and any attempts to apply Newtonian-Einsteinian era gravitational theory beyond the solar system will continue to produce errors. Such was the truth, then and now.

**The Scandal.** More than 70 years have been wasted since the theoretical mathematicians and astrophysicists (the gravitationalists) gained control of the science of cosmology, to the disadvantage of the more practical electrical engineers, plasma physicists, and other observational and lab-based scientists.

The result has been a disgrace, but all is not lost, indeed, not everything. In fact, everything learned looking in all the wrong places, produced the skills and knowledge base of what not to do, required to quickly redirect research and science in the right direction. This requires the courage to accept evidence of error, and to imagine opportunity, instead of failure.

The scientific method demands that demonstrable errors be readily acknowledged, and that lies not be told, so that immediate lessons can be learned. Otherwise, the pseudoscientific examination of heated turtle shells, animal entrails, epi cycles, and

the gravitational big bang of universal creation, will continue to retard human ability to foretell and shape the future.<sup>25</sup>

The greatest mistake of mainstream scientists was their failure to heed and to learn from Hannes Alfvén's speech as he accepted the Nobel Prize for Physics in 1970. Speaking about "Plasma Physics, Space Research and the Origin of the Solar System,"

Alfvén pleaded with the gravitationalists to stop misusing his earlier work indicating the plasma was a "perfect" conducting field, freezing in the magnetic lines of force. His later and more important work proved that the plasma was a "good" conductor that allows the magnetic field lines to generate electricity. His was an elegant electrical model of the universe, versus the gravitational model "proven" by the elementary theoretical mathematics that gave us the bomb, missiles, and all the other senseless and wasteful toys of war.

The scandal of the Big Bangers is their continued reliance on Alfvén's own self-discredited earlier work to produce pleasing, but erroneous,

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<sup>25</sup> Otherwise, humankind will become extinct within the lifetimes of babies being born today, less than one hundred years (36,500 days, 5,200 weeks, 876,000 hours, and 52,560,000 minutes, and 3,153,600,000 seconds), and the clock is ticking.

mathematical models supporting their insular gravitational theory, while ignoring the reality of the observable electric plasma universe he was given the Nobel Prize for describing.

An even greater offense is the continued denial and deprivation of funding, publication, and observation time to those who have the foresight and courage to look at things differently and to challenge lofty pontifications about things the gravitationalists cannot and will not ever see, and which are contrary to the observational evidence.

### **Alternative Explanations of Redshift.**

Studying the redshift of the distant light that indicated the Doppler Effect and recession to the gravitationally bound standard model cosmologists, Fritz Zwicky, a Swiss observational astronomer, (who first documented the discrepancy of galactic rotation with the gravitational model and predicted galactic gravitational lensing) pointed out problems with the gravitationalists' model. Zwicky showed that the correlations between calculated distances by the gravitationalists and their redshifts contained discrepancies that exceeded the margin of error.

In 1929, as an observationalist, Zwicky proposed that photons might lose energy, growing "tired" over time and distance through the drag effect through *gravitational* interactions with other particles resulting in a longer wave or redshift.

Zwicky believed such collisions would cause scattering that would blur the images.

When “blurring” of distant objects was not observed, even with improved telescopes, Zwicky’s prediction was “falsified,” labeled, and filed away in the dustbin of discredited ideas as the “tired light” theory. Subsequently, all suggestions regarding other ways the frequency of photon oscillation could be reduced, and their visible light waves lengthened, without resort to Doppler Effect gravitational red shifts, have been uniformly rejected as being contrary to established science.

Instead, the gravitationalists relied on the nineteenth century Doppler science, which they correlated with gravity locally to explain the solar system, and the redshift on the “limbs” of its sun. They were not, however, able to define the gravitational movements of the Milky Way, and other galaxies—without inventing gravitational dark matter, dark energy, and black holes to explain what they refuse to see.

Much of the study of gravity may be of little value in describing intergalactic space, the relationships of individual living galaxies, or their family clusters. Gravitation is useless in describing the age of the universe, or any of its individual galaxies, including our Milky Way mother, who

may be quite ancient, far older than the busted big bang, 13.8 billion years ago.

We may not easily learn the actual age of individual galaxies, except perhaps by the frequency of star formation, the number of smaller galaxies that have drifted together, their family ties, their redshift distance and coordinates, and the stories and histories told by the minds that arose during the electric lifetime of the mother galaxy, as measured by eons, rather than the speed of light, or the puny pull of gravity.

The standard model of gravity fails to describe the electrical dynamo that drives galaxies, instead of the invisible gravitational black holes they imagine, and calculate, but never see. Nor does the standard model recognize the existence of electric stars, instead of archaic notions of gravitational burning fusion.

Dissent has been so long disregarded and suppressed, that whole generations of scholars have been deprived of the truth, as it was known and shown to be more than 50 years ago.

Other dissident attempts to attribute the redshift to a loss of energy resulting from the photon traversing a radiation field also were “falsified” by the gravitationalists as being inconsistent with the redshift observed on the solar limb.

In 2013, Ming-Hui Shao of the Xinjiang Astronomical Observatory proposed a mechanistic model of “tired light” in which the electromagnetic field of photons acts on massive particles and transfers some energy by the Lorentz electric force. His analysis of the relationship of redshift to the number of massive particles encountered by the traveling photon sought to explain the “limb effect” on the solar disc.

More recently, in January 2021, Alessandro Trinchera discussed the electrical nature of the “limb effect” as the multiple interactions between photons and electrons around the “edges” of the sun. Viewed from the earth, there is a natural redshift representing the difference in distance from the face to the observable edge of the solar disc and its “limbs.”

Writing in 2010, Dean L. Mamas introduced a theoretical model viewing the photon “as an electromagnetic wave whose electric field component causes oscillations in deep space free electrons which then reradiate energy from the photon, causing a redshift.” The theory envisions visible wave-length photons passing directly over electrons without changing direction or blurring of images.

Perhaps the most visually, imaginatively, and interesting suggestion was found in a 2019 paper



and books by Lyndon Ashmore, who proposes a theory that would have *Lucky* and his brothers traversing a matrix in the intergalactic medium consisting of free electrons oscillating about fixed positions in a crystal lattice. These crystals pass the light of photons through on a straight line, with the waves of light being alternatively attracted to a negative electron, absorbed, and then reemitted, but each with a slightly reduced frequency and consequentially longer wavelength, a bit further in the red.

Instead of a crystal held in your hand up to the light, you can look up into intergalactic space and image free negative electrons living lonely lives, each repulsed by the other negative electrons, socially distanced in cubic meters of nothing. These solitary electrons may form natural crystal, lattice works in the intergalactic medium that absorb and re-emit arriving light waves in a straight line without blurring. In some respects, they would act like the ions transmitting chemical messages between nerve cells.

The frequency loss with each retransmission would be infinitesimal, a measure of repetitions over distance, not a measure of the time it took to travel from original emission to observation. The rate by which the wave's frequency decreases is demonstrated on the spectrum of visible light, as

the light wave lengthens into the red, and ultimately black.

Whether detouring around obstacles *or* being flashed through a matrix of crystalized electrons, the incidence of photon events or electronic synapses could not be trivial, especially in a universe composed of a plasma consisting of naked positive ions in a plasma, mixed with free negative electrons, and neutral hydrogen atoms, all driven by massive currents of electricity, instead of being bound together by puny gravity.

How great is the shift into red before the distance traveled moves to black, as much as  $\tan$ , a full circle, instead halfway with  $p\pi$ ? If not so great as  $\tan$ , then just how much longer would a detoured or lengthened path have to be, than a straight-line path to produce the redshift falsely interpreted as recession? Or how many crystal electron flashes would have to be made each astronomical unit or parsec traveled in the intergalactic medium to produce the observed shift?

**A Universe of Living Galaxies and Electric Stars.** Proposing a framework for the next generation of stationary cosmological models, Yves-Henri Sanejouand demonstrated in a December 2021 paper that the galaxies are uniformly distributed about the cosmos, and that the universe is stationary. “It is far from being as

transparent” as believed, with the photon lifetime along the line of sight being one third of the Hubble time.”

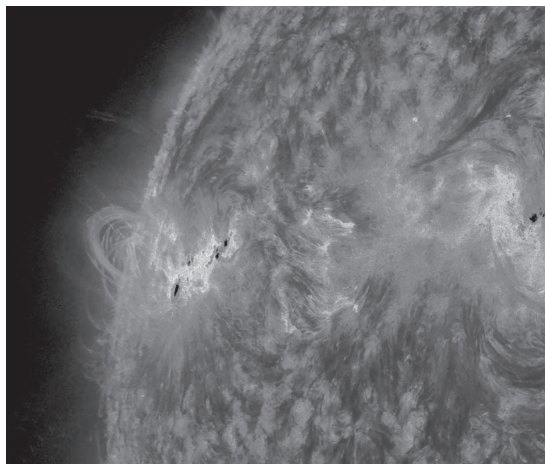
The infinite physical universe exists within the eternal black cosmos. While the density of cosmic space varies, it is populated by negative free electrons throughout, by their capture into orbit by naked positive ions in marriages as hydrogen atoms, by being freed by the impact of photons, and by the natural self-organization of free electrons into crystals through mutual repulsion, which absorbs and reenergizes the waves of lights that pulse through.

We are a living part of what we can so plainly see, individually self-generated electrical galaxies and their electric stars, and their related families of living galaxies, spaced out, as far as we will ever be capable of seeing, from here, plugged into our electric sun, on a spiral arm of our lovely Milky Way mother.

NASA published a video in 2020 made by its Solar Dynamics Observatory that gathered 425 million images of the sun for ten years, which were displayed in a video of the turning sun, one Earth Day per second, as the sun quickly rotates every 27 days (or seconds) for ten years. (YouTube.com)

It is impossible to view this video and to say, with any honesty, that you see the product of

gravity, compacting stuff, instead of an electrical dynamo blasting massive electrical arcs across the face as the “limbs” of the sun, that can be seen swirling and reaching out into interstellar space, as the sun rotates them toward us.



**What Might Have Been?** Everything relied upon by the gravitationalists to negate the electrical model and to “falsify” its theories, have all now been proven untrue; however, professional resistance continues to the gravitational dominance of cosmology, with its inbreeding of false principles resulting from the haughty ridicule and repression with which dissent is treated.

The history of mistreatment of the practical, lab and observation-based scientists by the theoretical

mathematicians and physicists, started before the end of the nineteenth century. An example was the way Norwegian professor Kristian Birkeland (who studied auroras in the field and created laboratory experiments with “terrellas” of magnetized metal spheres to demonstrate the flow of electricity from the sun to Earth) was ignored by theoretical scientists, outside Scandinavia.

Birkeland’s premature death in 1917 precluded his Nobel prize, but his work strongly influenced Swedish Hannes Alfvén and drew the ire of an English mathematician named Sydney Chapman, who had an interest in geomagnetism and gravitational “tidal flows” in the ionosphere that differed from the electric model. Chapman once visited with Alfvén in Stockholm, but he refused to go into the laboratory to observe the electrical experiments prepared for his visit, as being “beneath his dignity as a mathematician to look at a piece of laboratory apparatus!”

Chapman gained prominence theorizing about gases and the ozone layer, but he felt compelled to personally denigrate the work of Birkeland and Alfvén for more than 30 years, while refusing to debate the issues in academic forums. He planted the seeds of intolerance and prejudice by which all mention of an electric universe continues to

be treated by the gravitationalists. The abuse continued with the misuse of Alfvén's work and ignoring of his evidence.

Edwin Hubble, like Alfvén, had his own problems with the way his observational data was being misinterpreted by theoretical mathematicians and astrophysicists to prove an explosion and consequential expansion. In 1935, Hubble wrote (along with Richard Tolman), "if the red-shift is not due to recessional motion, its explanation will probably involve some quite new physical principles. . ."

Alfvén's explanation of a static universe of plasma and electricity fit the bill, perfectly, but its physical principles were ignored and belittled by those who misinterpreted his work *and* ignored Hubble's warning.

Alfvén's legacy is almost forgotten now in the predominant gravitational science of cosmology and astrophysics, an untaught historical footnote in the existing study of physical cosmology, astrophysics, and astronomy.

What might have been? Had not several generations of young people gazing with wonder at the stars been deprived of the truth, *and* what if for 50 years, children had easily understood that the stars were the same as the electricity that flows through the power cords that liberate them from

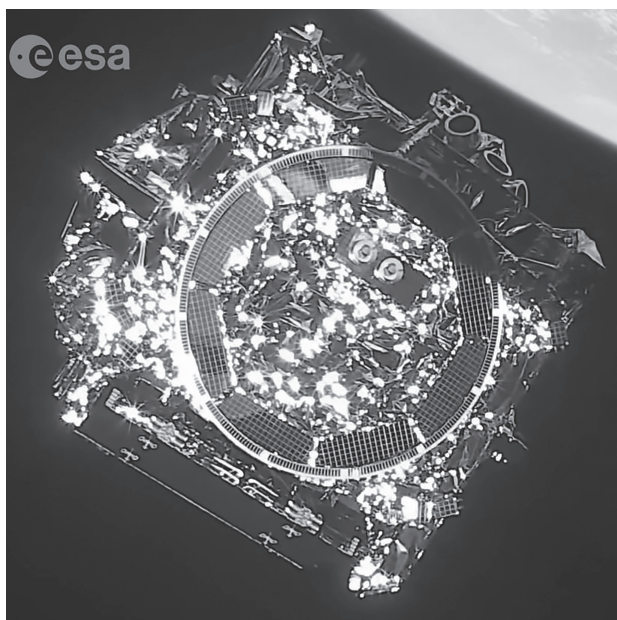
labor and the darkness, instead of being like the gravity that has kept them earthbound?

Or, what if children could see that the entire universe is powered by the same spark that flies from our fingers to the doorknob as we walk across the carpet, generating static electricity. Just a bigger spark resulting from the massive movement of ions and electrons, with its magnetic lines spiraling around the dynamic currents spread across the sky. These dynamos, including our sun, produce the electricity we see at work in the plasma, once we understand what it is we are looking at.

**The Webb Telescope.** As this paper is being completed, the James Webb telescope ended its 1.5-million-kilometer journey to the L2 Lagrange Point with a perfect deceleration. The Webb achieved a stationary position where it will commence infrared imaging of galaxies much farther in distance than was achieved by the Hubble space telescope that focused on *Lucky's* home galaxy, GN-z11.

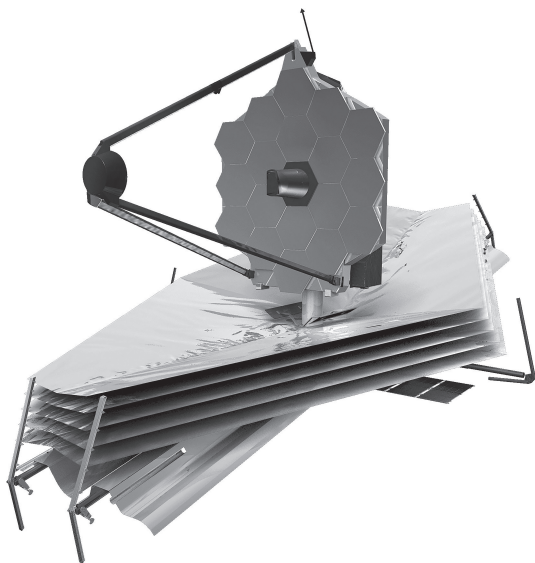
The Webb has already unfolded the origami of its protective and reflective tennis court size, five-layer tinfoil sun umbrella, and all 18 of its hexagonal gold mirrors are now locked in place and are being fine-tuned. This was a magical moment, not just because of what its 6.5-meter

diameter combined mirror may collect, but what the Webb represents—the might of the cosmic mind at work.

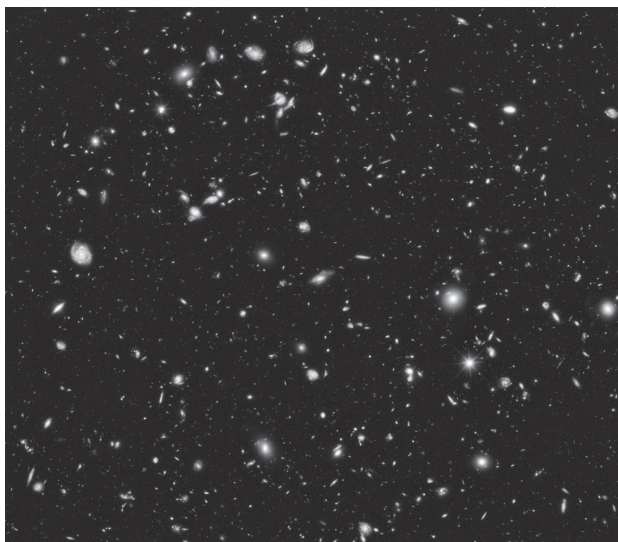


Thousands of things could have gone wrong and could never have been fixed. Nonetheless, it would have been a beautiful piece of space junk, a real work of art, science, and mind. That catastrophe has not occurred, for there were thousands of minds working together to make sure that every one of those thousands of steps worked, perfectly, the first time.

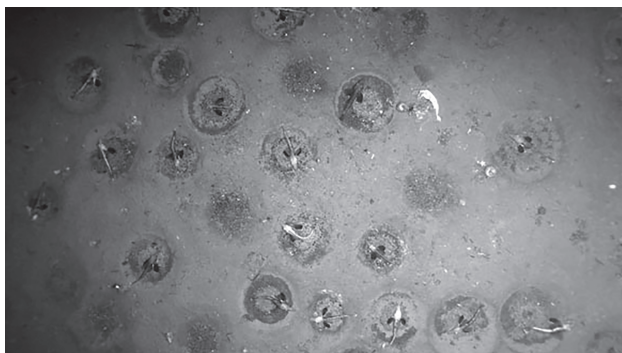




The observational data will surely disappoint the gravitationalists, as the Webb will undoubtedly reveal more of the “same ole same ole”—living galaxies and their families of clusters and strings, as far as you can ever see. No beginning, no ending, just a limitless display of galactic islands of living mass within an infinite universe waiting to be explored and mapped. This is what we can already see in the following NASA/ESA image in which each dot of light is a galaxy.



A recent discovery by robotic cameras operating under the ice of the Weddell Sea of Antarctica discovered 240 square kilometers with 60 million nests made in the sandy bottom of below freezing water by adult Jonah's icefish to lay and protect their eggs. The adult icefish naturally space themselves, much like the individual living galaxies of our infinite universe of electricity and plasma.



Undoubtedly, the Webb will provide incontrovertible evidence that the redshift of the visible light from distant galaxies and clusters is a basic measure of distance to those galaxies, rather than an imaginary recession at near the speed of light. What we observe is what we are, where we are, and when we are here.

We live in an infinite, static universe of living electrical galaxies, self-generated within the eternal black negative cosmos. Each galaxy, including our Milky Way is naturally spaced out from the others, each experiencing random, nongravitational Brownian-like motion in the plasma, each unique, and each giving rise to its own life, intelligence, and minds.

**The Universe is Alive!** It really doesn't matter which nongravitational explanation of galactic redshift proves to be most accurate. The bottom line is that based on observations of the spacing

of galaxies, the universe is necessarily static, and it is not expanding. Its galaxies are formed by individual magnificent bar currents of electricity, not gravity. Redshift is a direct measure of the distance to the galactic islands that will continue to appear in our viewfinders as we improve our ability to collect their waves of light.

The remaining question is whether the Big Bangers will continue to ignore the science and refuse to forfeit their investment in the standard gravitational model, and its privileges. Will they continue to make ad hoc tweaks to their theoretical mathematics, adding “epi cycles, upon epi cycles,” striving to make their flawed model conform to observation? Can they in good conscience refuse to accept, and continue to deliberately misinterpret, the observational evidence to please and tease their pretty formulas? Or why risk their funding, reputations, etc., taking a position?

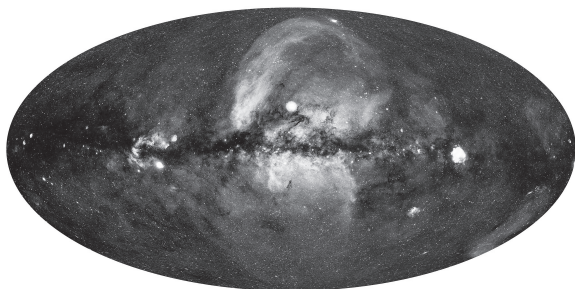
The problem is that so much of theoretical mathematics and science, which can be so useful, was sidetracked and hijacked into making weapons of war, leading to easy corporate profits, easy academic funding, and unchallenging elementary levels of gravitational science, nuclear weapons, ballistic missiles, weaponized drones, and spy and killer satellites. Unsolved entirely, is how do we get to any place significant, even at the speed of light,

if bound by Newton's laws of gravity, rather than the equations of Maxwell-Lorentz?

As distressing as it may be to thousands of theoretical scientists and mathematicians around the world to hear, there was no big bang, nor will there be a big crunch; there is no dark energy (except the eternal negative cosmos itself), and there is no dark matter, nor are there black holes, instant inflation, cosmic strings, wormholes, or any other such gravitational nonsense.

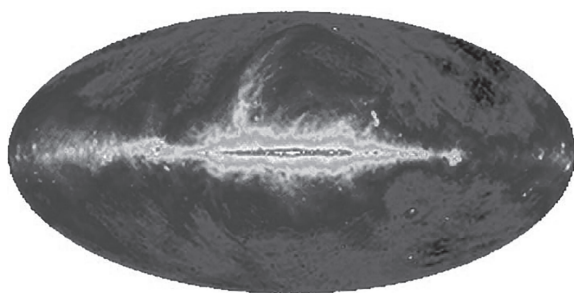
This does not mean that there is not much of value related to these erroneous studies, which can be instantly translated to the true model. Much of science is knowing what not to waste time and money on.

There is—instead of an imaginary black hole at the center of our galaxy gobbling up everything swirling around it gravitationally—direct evidence of the electrical model. The best, most recent image of our own galaxy shows massive arcs of powerful electrical energy bubbling above and below the axis of the massive dynamo that drives the Milky Way.



Almost 20 years ago, the Los Alamos National Laboratory documented the fact that the Milky Way galaxy is a cosmic electric generator. Using radio waves, gigantic magnetic fields were detected extended from the center of the galaxy, out into intergalactic space as far as ten million light years.

Another view of the Milky Way's galactic bubble of radio, X-rays, and gamma rays produced by star formation, demonstrates an alignment with the galactic magnetic field lines.



The Universe is alive! That is the name of *Lucky's* game. The infinite static electric plasma universe produces living galaxies that produce light and life, that produces intelligence, that produces mind, and that's us.

Mind exists in the negative space where there is no time, but the imagination of time makes life more interesting in the reality of the physical space we occupy.



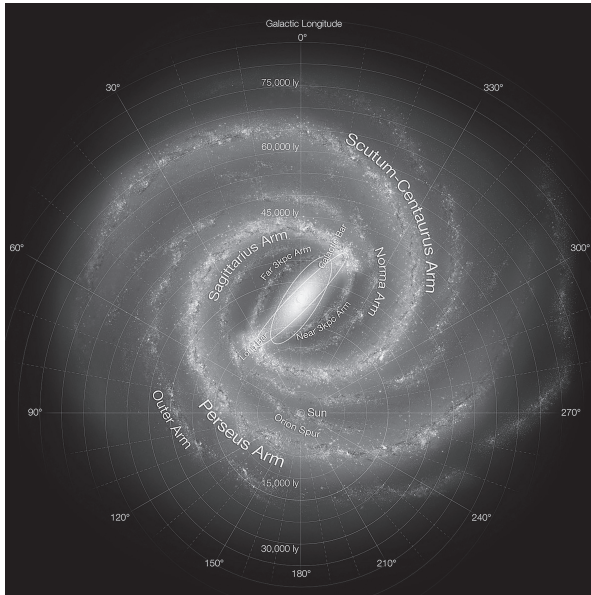
## A Synopsis of *Universal Mathematics*

Having decided to publish this concluding paper of *The Work*, with references, as a little color eBook about the adventures of *Lucky* the Plucky Photon, following is a quick review of *Universal Mathematics*, as originally documented in some detail and developed in the Second Edition.

Demonstrated is an expanding spherical geometrical and mathematical structure that is centered in the Milky Way galaxy, and which extends outward to always be just beyond the outer observable limits of our infinite universe, an expandable geometrical framework in the eternally empty cosmos, establishing limits on both infinity and eternity, and providing mapping waypoints.

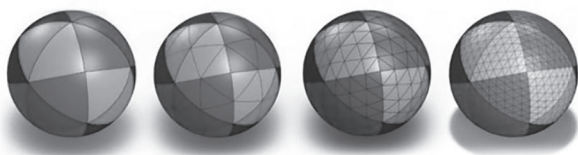
Imagine the sphere expanding from the core of our galaxy, set upon the flat plane of stars and planetary mass of our Milky Way, including ourselves, along one of her spiraling arms, reaching above her to encompass her magnificent electric dynamo, with her magnetic lines reaching out tens of millions of light years into the cosmos around her.





Here is our mother galaxy mapped out with her billions of electric stars, some with bits of planetary mass, earth and water, for the growth of organic gardens of life, mind, and purpose.

The first *UN* model represents the view from just outside the present range of the Hubble observations. The next model is the universe as will be imaged by the Webb telescope, with the following models available, ad infinitum, to accommodate improved observation, always placing an expandable geometric limit on the infinite static universe.



*Universal Geometry* is based on a sphere defined by *five* lines and tiled with  $1N$  equal right angle triangles with perimeters of  $\pi$  times radius, having sides of  $3:3:U$ , and heights of  $1/U\pi$ . Defined by geometric  $\pi$  at  $3.2U72U7$ , produced by  $1/6$ , the base fractional counter  $.010U$  is revealed.

*Universal Numbers* counts the geometry, quantifies the constant numbers, and establishes an arbitrary maximum ratio<sup>26</sup> between energy and mass, as a limit on the eternal negative cosmos.

$$1,2,3,U - 4,5,6,N - 7,8,9,S - C,X,W10.$$

$$\pi = 3.2U3W58NNN$$

$$e = 2.96X14152N$$

$$\phi = 1.7X36679N$$

$$\alpha^{27} = 0.01CX3CU278S2UWW$$

<sup>26</sup> The ratio seems to be about  $1.33W$  quintillion E to one M.

<sup>27</sup> *Alpha*, the fine state constant, 137.03599920611, is expressed in *UN* as  $N7.0736X6UXS8548XSX359$ , which divided into *one*, produces  $0.01CX3CU278S2UWW267U3$ . Fractionally,  $1/N7$  becomes  $.01CX$ , the *geometric alpha*., a sub number of the base counter  $.010U$ , the one minus *iii*.

$$^{\mathbb{Q}\mathbb{N}}\sqrt{-1}^{28} = .010U \text{ (1-)}$$

$$C = U7:3X0 \text{ kps}$$

$$(\boldsymbol{\pi}\mathbf{E})^3 = N(\mathbf{e}\mathbf{M})\mathbf{C}^U$$

*njc*

January 22, 2022

As edited on January 31, 2022

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<sup>28</sup> Displayed is the quantum  $N$ th successive square root of the Negative one; its geometric successive square root is  $4\sqrt{-1}$ .

## Appendices



## Appendix A

### UN Base-10 Multiplication Matrix

1	2	3	U	4	5	6	N	7	8	9	S	C	X	W	10
2	U	5	N	8	S	X	10	12	1U	15	1N	18	1S	1X	20
3	5	7	S	W	12	14	1N	19	1X	21	2U	26	28	2C	30
U	N	S	10	1U	1N	1S	20	2U	2N	2S	30	3U	3N	3S	U0
4	8	W	1U	17	1X	23	2N	2C	32	36	3S	U1	U5	U9	40
5	S	12	1N	1X	2U	28	30	35	3S	U2	UN	UX	4U	48	50
6	X	14	1S	23	28	31	3N	3W	U5	UC	4U	49	52	57	60
N	10	1N	20	2N	30	3N	U0	UN	40	4N	50	5N	60	6N	N0
7	12	19	2U	2C	35	3W	UN	41	48	53	5S	64	6X	N6	70
8	1U	1X	2N	32	3S	U5	40	48	5U	5X	6N	N2	NS	75	80
9	15	21	2S	36	U2	UC	4N	53	5X	67	NU	NW	78	84	90
S	1N	2U	30	3S	UN	4U	50	5S	6N	NU	70	7S	8N	9U	S0
C	18	26	3U	U1	UX	49	5N	64	N2	NW	75	87	95	S3	C0
X	1S	28	3N	U5	4U	52	60	6X	NS	78	8N	95	SU	C2	X0
W	1X	2C	3S	U9	48	57	6N	N6	75	84	9U	S3	C2	X1	W0
10	20	30	U0	40	50	60	N0	70	80	90	S0	C0	X0	W0	100



## *Appendix B*

### The Geometric Powers of Two and the Value of the One Plus *eit* (1+) in Base-10 and *UN* Numbers

Powers	Base <u>10</u> and UN Bases	1+ = $\sqrt{e}$	
2 <sup>1</sup>	<u>2</u>	2	7 ( <u>9</u> )
2 <sup>2</sup>	<u>4</u>	U	12 ( <u>18</u> )
2 <sup>3</sup>	<u>8</u>	N	19 ( <u>27</u> )
2 <sup>U</sup>	<u>16</u>	10	2U ( <u>36</u> )
2 <sup>4</sup>	<u>32</u>	20	2C ( <u>45</u> )
2 <sup>5</sup>	<u>64</u>	U0	35 ( <u>54</u> )
2 <sup>6</sup>	<u>128</u>	N0	3W ( <u>63</u> )
2 <sup>N</sup>	<u>256</u>	100	UN ( <u>72</u> )
2 <sup>7</sup>	<u>512</u>	200	41 ( <u>81</u> )
2 <sup>8</sup>	<u>1,024</u>	U00	48 ( <u>90</u> )
2 <sup>9</sup>	<u>2,048</u>	N00	53 ( <u>99</u> )
2 <sup>S</sup>	<u>4,096</u>	1:000	5S ( <u>108</u> )
2 <sup>C</sup>	<u>8,192</u>	2:000	64 ( <u>117</u> )
2 <sup>X</sup>	<u>16,384</u>	U:000	6X ( <u>126</u> )
2 <sup>W</sup>	<u>32,768</u>	N:000	N6 ( <u>135</u> )
2 <sup>10</sup>	<u>65,536</u>	10:000	70 ( <u>144</u> )
2 <sup>11</sup>	<u>131,072</u>	20:000	77 ( <u>153</u> )
2 <sup>12</sup>	<u>262,144</u>	U0:000	82 ( <u>162</u> )
2 <sup>13</sup>	<u>524,288</u>	N0:000	89 ( <u>171</u> )
2 <sup>1U</sup>	<u>1,048,576</u>	100:000	9U ( <u>180</u> )
2 <sup>14</sup>	<u>2,097,152</u>	200:000	9C ( <u>189</u> )
2 <sup>15</sup>	<u>4,194,304</u>	U00:000	S5 ( <u>198</u> )
2 <sup>16</sup>	<u>8,388,608</u>	N00:000	SW ( <u>207</u> )
2 <sup>1N</sup>	<u>16,777,216</u>	1:000:000	C9 ( <u>216</u> )
2 <sup>17</sup>	<u>33,554,432</u>	2:000:000	X1 ( <u>225</u> )
2 <sup>18</sup>	<u>67,108,864</u>	U:000:000	X8 ( <u>234</u> )
2 <sup>19</sup>	<u>134,217,728</u>	N:000:000	W3 ( <u>243</u> )
2 <sup>1S</sup>	<u>268,435,456</u>	10:000:000	WS ( <u>252</u> )
2 <sup>1C</sup>	<u>536,870,912</u>	20:000:000	104 ( <u>261</u> )
2 <sup>1X</sup>	<u>1,073,741,824</u>	U0:000:000	10X ( <u>270</u> )
2 <sup>1W</sup>	<u>2,147,483,648</u>	N0:000:000	117 ( <u>279</u> )
2 <sup>20</sup>	<u>4,294,967,296</u>	100:000:000	120 ( <u>288</u> )





## Appendix C

## The UN Fractional Counter Matrix

6	7	8									
•.2U70	•.U720	•.5C90	•.72U0	•.95C0	•.C950	•.WWW0	•.1.0U00				
•.23NS	•.UN1S	•.5S8S	•.713S	•.94SS	•.C84S	•.WXWS					
•.22NN	•.U61N	•.598N	•.703N	•.90SN	•.C74N	•.WCWN					
•.21NU	•.U51U	•.588U	•.NW3U	•.93SU	•.CN4U	•.WSWU					
•.20N0	•.U410	•.5780	•.NX30	•.92S0	•.C640	•.WX90					
•.1W6S	•.U00S	•.5N7S	•.NC2S	•.919S	•.C5US	•.W8CS					
•.1X6N	•.U30N	•.567N	•.NS2N	•.909N	•.C4UN	•.W7CN					
•.1C6U	•.U20U	•.557U	•.N92U	•.8W9U	•.CUUU	•.WNCU					
•.1S60	•.U100	•.5470	•.N820	•.8X90	•.C3U0	•.W6C0					
•.195S	•.3WVS	•.5UNS	•.N71S	•.8C8S	•.C23S	•.W5SS					
•.185N	•.3XWN	•.53NN	•.NN1N	•.858N	•.C13N	•.W45N					
•.175U	•.3CWU	•.52NU	•.N61U	•.898U	•.C03U	•.W3US					
•.1N50	•.3SW0	•.51N0	•.N510	•.8880	•.SW30	•.W3S0					
•.164S	•.39XS	•.506S	•.N49S	•.877S	•.SX2S	•.W29S					
•.154N	•.38XN	•.4W6N	•.NU0N	•.8N7N	•.SC2N	•.W19N					
•.144U	•.37XU	•.4X6U	•.N30U	•.867U	•.SS2U	•.W09U					
•.1U40	•.3NX0	•.4C60	•.N200	•.8570	•.S920	•.XW90					
•.13US	•.36CS	•.45SS	•.N0WS	•.84NS	•.S81S	•.X08S					
•.12UN	•.35CN	•.495N	•.6WVN	•.8UNN	•.S71N	•.XC8N					
•.11UU	•.34CU	•.485U	•.6XWU	•.83NU	•.SN1U	•.XS8U					
•.10U0	•.3UC0	•.4750	•.6CW0	•.82N0	•.S610	•.X980					
•.0W3S	•.33SS	•.4N4S	•.6SXS	•.826S	•.S50S	•.X87S					
•.0X3N	•.32SN	•.464N	•.69XN	•.806N	•.S40N	•.X77N					
•.0C3U	•.31SU	•.454U	•.706U	•.7W6U	•.SU0U	•.XN7U					
•.0S30	•.30S0	•.4440	•.67X0	•.7X60	•.S300	•.X670					
•.092S	•.2W9S	•.4AUS	•.6NCX	•.7C5S	•.S1WS	•.X5NS					
•.082N	•.2X9N	•.43UN	•.66CN	•.755N	•.S0WN	•.X4NN					
•.072U	•.2C9U	•.42UU	•.65CU	•.795U	•.9WUU	•.XUNU					
•.0N20	•.2S90	•.41U0	•.64C0	•.7850	•.9XW0	•.X3N0					
•.061S	•.298S	•.403S	•.6USS	•.774S	•.9CXS	•.X26S					
•.051N	•.288N	•.UW3N	•.635N	•.7N4N	•.95XN	•.X16N					
•.041U	•.278U	•.UX3U	•.625U	•.764U	•.99XU	•.X06U					
•.0U10	•.2N80	•.UC30	•.61S0	•.7540	•.98X0	•.CW60					
•.030S	•.267S	•.US2S	•.609S	•.74US	•.97CS	•.CX5S					
•.020N	•.257N	•.U92N	•.5W9N	•.70UN	•.9NCN	•.CC5N					
IR •.010U (1-)	•.247U	•.U82U	•.5X9U	•.73UU	•.96CU	•.C85U					



## *Appendix D*

### The Divisions of One by *N*, 8, *S*, & *X* and the Ratios of Division and Multiplication

$$1/N = .2$$

$.2 / 2 = .1$	$.2 \times 2 = .0U$
$"/3 = .0888$	$" \times 3 = .5$
$"/U = .0N$	$" \times U = .N$
$"/4 = .0555$	$" \times 4 = .8$
$"/5 = .0444$	$" \times 5 = .S$
$"/6 = .0U72$	$" \times 6 = .X$
$"/N = .0U$	$" \times N = 1$
$"/7 = .03NX3N$	$" \times 7 = 1.2$
$"/8 = .0333$	$" \times 8 = 1.U$
$"/9 = .02XN98$	$" \times 9 = 1.5$
$"/S = .0288$	$" \times S = 1.N$
$"/C = .065265$	$" \times C = 1.8$
$"/X = .02U72U7$	$" \times X = 1.S$
$"/W = .0222$	$" \times W = 1.X$

$$1/8 = .17777777$$

$.1777 / 2 = .0SSS$	$.1777 \times 2 = .3333$
$"/3 = .0NNN$	$" \times 3 = .USSS$
$"/U = .0555$	$" \times U = .5555$
$"/4 = .041X$	$" \times 4 = .6WWW$
$"/5 = .0UUU$	$" \times 5 = .7777$
$"/6 = .038N$	$" \times 6 = .9333$
$"/N = .0333$	$" \times N = .SSSS$
$"/7 = .02CN$	$" \times 7 = .X555$
$"/8 = .02NS$	$" \times 8 = .WWWW$
$"/9 = .0243$	$" \times 9 = 1.1777$
$"/S = .0222$	$" \times S = 1.3333$
$"/C = .01WN$	$" \times C = 1.USSS$
$"/X = .01CU$	$" \times X = 1.5555$
$"/W = .019U$	$" \times W = 1.6WWW$

$$1/S = .14444444$$

.1444 /2 = .0888	.1444 x 2 = .2888
“ /3 = .061S	“ x 3 = .3WWW
“ /U = .0444	“ x U = .4444
“ /4 = .0UUU	“ x 4 = .5888
“ /5 = .03NX	“ x 5 = .6WWW
“ /6 = .030S	“ x 6 = .7444
“ /N = .0288	“ x N = .8888
“ /7 = .024X	“ x 7 = .9WWW
“ /8 = .0222	“ x 8 = .C444
“ /9 = .01W0	“ x 9 = .X888
“ /S = .01S6	“ x S = .WWWW
“ /C = .018U	“ x C = 1.1444
“ /X = .01N5	“ x X = 1.2888
“ /W = .015S	“ x W = 1.3WWW

$$1/X = .12U72U72U7$$

.12U7 /2 = .072U72	.12U7 x 2 = .2U72U7
“ /3 = .051N51	“ x 3 = .35C95C9
“ /U = .0U72U7	“ x U = .U72U72
“ /4 = .038N38	“ x 4 = .495C95
“ /5 = .030S30	“ x 5 = .5C95C95
“ /6 = .027S95	“ x 6 = .6WWWWW
“ /N = .02U72U	“ x N = .72U72U
“ /7 = .020N20	“ x 7 = .8U72U7
“ /8 = .01CU1C	“ x 8 = .95C95C
“ /9 = .0187NX	“ x 9 = .S72U723
“ /S = .01N51N	“ x S = .C95C95
“ /C = .015N15	“ x C = .XC95C9
“ /X = .01UX4X	“ x X = .WWWWW
“ /W = .013N13N	“ x W = 1.12U72U

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## **Images**

### **Sun's Magnetic Field**

NASA/GSFC/Solar Dynamics Observatory

### **Aurora Seen From Space**

NASA – Wikimedia Commons

### **GN-z11 Galaxy**

Wikipedia

Artist's conception by Pablo Carlos Budassi.

### **Redshift Spectrum**

Wikipedia

### **Einstein Cross**

NASA, ESA, AND STScI

### **Spiral Bar Galaxy**

NASA, ESA, and The Hubble Heritage Team,  
STScI/AURA

### **Veil Nebula**

HubbleESA, “Zooming in on the Veil Nebula,”  
YouTube.com

### **Arcs of Electricity on the Sun Surface**

Wikipedia Commons

## **Webb Telescope Reflective Shield**

NASA/ESA

## **Webb Telescope**

NASA Wikimedia Commons

## **Distant Galaxies**

NASA, ESA, Garth Illingworth and Dan Magee (University of California, Santa Cruz), Pascal Oesch (Yale University), Rychard Bouwens (Leiden University), and the HUDF09 Team.

## **Nests of Jonah's Icefish**

Purser et al., doi: 10.1016/j.cub.2021.12.022.

## **Electric Bubbles of the Milky Way**

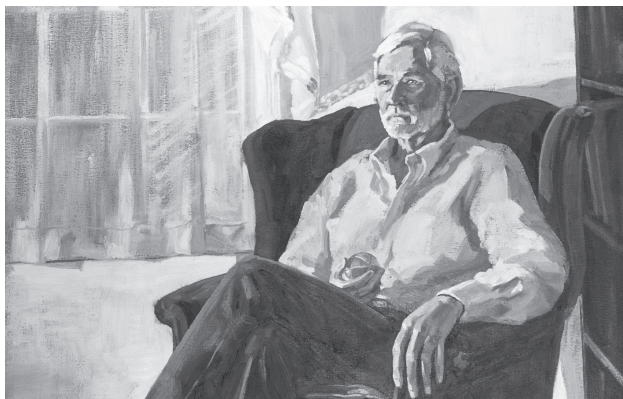
From the eROSITA X-ray telescope,  
Jeremy Sanders, Hermann Brunner & the eSASS  
team/Eugene Churazov & Marat Gilfanov, IKI.

**“Milky Way Galaxy Bubbles** and the North  
Polar Spur Supernova Outflows Found Having  
Aligned Magnetic Fields Lines.” By the Carretti  
team. [Holographicgalaxy.wordpress.com](https://holographicgalaxy.wordpress.com).

## **Coordinates of the Milky Way Galaxy**

Artist's depiction of galactic longitude. Original image  
published in 2008 by NASA/JPL-Caltech (author R.  
Hurt). NASA/JPL-Caltech/ESO/R. Hurt

## William John Cox



For more than 50 years, William John Cox has written extensively on public policy, law, politics, history, philosophy, mathematics, and the human condition. Known by his work, rather than his personal notoriety, Cox experienced an adventurous career in the U.S. justice system.

As a part of the “New Breed” movement to define and professionalize law enforcement in the late Sixties, Cox wrote the Role of the Police in America for the presidential advisory commission in 1973 that created existing national criminal justice policy and standards, while a young LAPD police sergeant attending evening law school.

As an attorney, he worked for the U.S. Department of Justice to implement national criminal justice standards and goals, prosecuted cases for the Los Angeles County District Attorney's Office, and operated a public interest law practice primarily dedicated to the defense of young people accused of serious crimes.

Cox volunteered *pro bono* services in several landmark legal cases. In 1979, he filed a class-action lawsuit on behalf of all citizens directly in the U.S. Supreme Court alleging that the government no longer represented the voters who elected it.

As a remedy, Cox petitioned the Court to Mandate the failed government to hold a National Policy Referendum on the 12 most critical issues with every presidential election, so the People can vote and make their own policies for their elected representatives to implement.

When the Supreme Court declined to hear his petition, Cox ran for president in 1980 as a write-in candidate to promote government by people-policy referenda, and nonviolence against other nations or peoples. Instead of war, Congressional declarations of arrest warrants should issue to secure the appearance of dangerous "leaders" at the World Court of Justice to "defend the legitimacy of their government" over the innocent people of x,y,z (Iraq, North Korea, etc.).

In 1981, representing a U.S. Korean War veteran, a Jewish immigrant who had survived Auschwitz as a youth by pretending to be older, Cox investigated and successfully sued a group of radical right-wing organizations that denied the Holocaust.

Cox later represented a “secret client” and signed contracts freeing the publication of almost 1,800 photographs of ancient Dead Sea Scrolls in 1991 that had been suppressed for more than 40 years with their study denied to generations of biblical scholars.

Cox concluded his investigative law career in 2007 as a Supervising Trial Counsel for the State Bar of California, where he organized a “Fast Track” team of lawyers, investigators, and paralegals who worked with law enforcement and the Superior Courts to quickly prosecute crooked lawyers endangering the public, shutting down their practices, and targeting criminal gangs engaged in the illegal unlicensed practice of law.

Continuing to contemplate public policy, political, philosophical, and mathematical matters since his retirement, Cox, now comfortably into his 80s as an armchair philosopher, and great grandfather, writes and publishes books, and creates Internet websites. His digital autobiography and libraries are at [WilliamJohnCox.com](http://WilliamJohnCox.com), and *The Gift of Mind* series is at [Mindkind.info](http://Mindkind.info).

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