

Fifteen Mysteries of 9 Dimensions: On Triadic Rotational Units of Equivalence and New Directions, Part III

Edward R. Close and Vernon M. Neppe

ABSTRACT

The nine dimensional spin model has been further amplified by applying Triadic Rotational Units of Equivalence (TRUE). When we analyze the elements, importantly, we have found the equations of mass and energy of the stable fermion particles (electrons and quarks) (e.g., neutrinos are not stable) to be incomplete without a third component. We have called that component “gimmel” (λ), a necessary new term. We preliminarily report that the periodic table shows differences depending on the ratio of a third substance, “gimmel” to TRUE. We hypothesize that mass-energy and this gimmel consciousness are unitary major components for the stability of atoms, elements, molecules, and indeed all of our stable world. The elements of life (Carbon, Nitrogen, Oxygen, Sulfur, Phosphorus, Calcium and Magnesium) contain more gimmel equivalents than any other elements and these can be extended to molecules and even RNA and DNA. Silicon based on this model has life-properties. The ratio of gimmel to TRUE of hydrogen and helium in the cosmos remarkably appears to correlate with the ratio of dark matter plus dark energy to the whole composition of the cosmos, supporting the hypothesis of that third gimmel substance. The implications of these findings are critically important, both in terms of extensions and conceptualizations of findings in quantum physics; as well, as for broader speculative ideas pertaining to the fundamental nature of reality.

Key Words: 9 dimensions, angle, gimmel, Heisenberg uncertainty principle, hidden reality, higher dimensional realities, hydrogen atom, Lorentz correction, Planck probe, triadic rotational units of equivalence

DOI Number: 10.14704/nq.2015.13.4.830

NeuroQuantology 2015; 4:439-447

3A. The twelfth mystery: introducing an important new concept, TRUE units-Triadic Rotational Units of Equivalence

Even though we're presenting purely a very brief introduction for non-mathematicians on the new concepts of gimmel and TRUE units, this work is of such importance that we're putting it in its own section. Nevertheless, it is an extension of the TDVP model, as well as a very important part of the nine dimensional triadic concept.

Many physicists, including Einstein, Pauli and Hawking have dreamt of a 'theory of everything'. But to this point, their dreams have not been fulfilled. The reason is simple. You can't have a theory of everything if you doggedly exclude a major part of Reality from your theory. That major part of Reality excluded by contemporary reductionist science is consciousness. For many years Close and Neppe have both insisted that the dream of a theory of everything is never going to be realized until we find a way to put consciousness into the equations of science. Believe it or not, Close found the way - as it turns out, only accessible to a precious few because most do not want to invest the time to learn a whole new mathematical system - using a new mathematical tool called the Calculus of Distinctions. The inspiration came to Close in a dream in 1986, and he published it in

Corresponding author: Vernon M. Neppe

Address: Edward R. Close PhD and Vernon M. Neppe MD, PhD, FRSSAf, Vernon M. Neppe MD, PhD, Fellow Royal Society (SAF), DSPE, Pacific Neuropsychiatric Institute, Seattle; and Exceptional Creative Achievement Organization and Edward R. Close PhD, SRFSPe. **e-mail** ✉ psyche@pni.org

Relevant conflicts of interest/financial disclosures: We gratefully acknowledge the Exceptional Creative Achievement Organization (ECAO.us) who hold copyright and for permission to publish this article.

Received: March 10, 2015; **Accepted:** June 30, 2015

eISSN 1303-5150



1989 in a book entitled "Infinite Continuity" (Close, 1990); but in 1989, and even today, most people aren't willing to invest the time and considerable effort it takes to learn a whole new system of mathematical logic. Thereafter, Close wrote about it in *Transcendental Physics* (Close, 2000) and later Neppe and Close have published books and articles on this topic, but still we do not find many who are educated in the fundamental and basic, but critically important mathematical logic system of the CoD (Close and Neppe, 2012). This has allowed an approach to many areas including *Triadic Rotational Units of Equivalence (TRUE or TRUE Units)*.

We maintain that scientists will never truly understand the Nature of Reality until our searches for scientific and spiritual knowledge are merged into one serious, combined effort. Once this happens on a global scale, humanity will experience an explosion of new knowledge and understanding far beyond anything experienced so far in the current era of recorded history.

With the concepts of *Triadic Rotational Units of Equivalence (TRUE or TRUE Units)* we are able to demonstrate how consciousness is describable in the equations of quantum physics and relativity and indeed, and importantly, extend this to Dimensional Biopsychophysics and a 9 dimensional model applying three triads of 2 quarks (up and down) and electrons. These are the most fundamental active parts of atomic structure as the proton has 2 up quarks and a down quark, and the neutron 2 down and one up and the atom also has the third stable fermion component, the electron.

In TDVP we find that, for quantized phenomena, existing in a multi-dimensional domain consisting of space and time, embedded in one or more additional dimensional domains, the fiction of dimensionless objects, a convenient mathematical expedient when we did not know that physical phenomena are quantized, is no longer appropriate. We can proceed with a new form of mathematical analysis, the "*calculus of dimensional distinctions*" (CoDD), and treat all phenomena as finite, non-zero distinctions. Replacing the dimensionless points of the calculus of conventional mathematical physics with distinctions of finite unitary volume, the elementary particles of the physical universe must be integer multiples of these unitary volumes. We can then relate the integers of

quantum reality to the integers of number theory and explore the deep relationship between mathematics and reality.

The German polymath Gottfried Wilhelm Leibniz stated that the most important question of all is: "*Why is there something rather than nothing?*" (Close, 2000) Science proceeds from the assumption that there *is something*, something that we perceive as the physical universe. In order to investigate this *something* that we appear to be immersed in, we measure the substances that something is made of—mass measured in energy-equivalent Mega electron volts divided by c^2 (MeV/ c^2)—and look for consistent structures and patterns in this substance that can be described mathematically. From analyzing particle collider data, it is clear that quarks have to be made up of integer multiples of a basic energy-equivalent quantum unit of mass equal to the smallest possible elementary particle, the electron. Setting the energy-equivalent mass of the electron (0.051 MeV) equal to unity, we can normalize the energy-equivalent masses of up-quarks and down-quarks to integer values, i.e. integer multiples of the electron mass. Elementary particles are rotating at extremely high rates of angular velocity, but because the spin velocity is limited to light speed (c) in the 3S-1t domain of physical observation, as described above in Section 4F, the minimum mass unit is also the minimum volumetric unit.

The normalization of up-quarks and down-quarks to multiples of this minimum equivalence unit, based on the electron, is consistent with Planck's discovery that mass and energy only occur in multiples of a basic quantum unit, and Einstein's discovery that mass and energy are two forms of the same thing, interchangeable by the mathematical relationship $E = mc^2$. This means that all physical objects are made up of combinations of these minimum units and can therefore be represented mathematically and geometrically by combinations of integer multiples of them.

The combination of two or more particles, e.g. protons and neutrons, made up of these equivalence units is represented mathematically by a summation of n-powers of integer distinctions, where n is the number of dimensions of the distinction. Since all stable spinning particles are shown to be symmetrical, the shape factor cancels out of the equation and

the general expression for these combinations becomes $\sum_{i=1}^n (X_n)^m = Z^m$, which we call the “Conveyance Expression”. This expression yields an infinite number of equations as n , the number of dimensions, and m , the number of particles take on different positive integer values between 1 and 9. Because the X_n can only take on integer values, these equations are a special type of equations called Diophantine equations.²

The power m is equal to 3 for observations in 3 dimensions, and Fermat’s Last Theorem tells us that there are no integer solutions for the Conveyance Equation when $n = 2$. But there are integer solutions when $n = 3$. So, while two symmetric particles cannot combine to form a third symmetric object, three symmetric particles *can* combine to form a fourth symmetric object.

This means that the Conveyance Equation $(X_1)^3 + (X_2)^3 + (X_3)^3 = Z^3$ can represent the combination of three quarks to form protons and neutrons. Note that this explains why quarks are only found in combinations of three. Other combinations are unstable and decay before they can form material structures. We find, however, that there are no integer solutions for this equation unless there are units of a third form of reality not detectable as mass or energy.

All mathematical reasoning and description is based on the conscious drawing of distinctions, as in the Calculus of Distinctions. We have combined Euclidean and hyper-dimensional geometry, requiring a nine-dimensional reality containing three forms of the basic “substance” of the universe. This provides the framework for describing the elementary particles that appear to be the building blocks of the physical universe. This approach is the logical extension of very important work started by Hermann Minkowski, Albert Einstein, Georg Cantor, Theodor Kaluza, Oskar Klein, Kurt Gödel, and others, who made significant progress explaining physical phenomena in the framework of multidimensional geometry (Close and Neppe, 2014; Neppe and Close, 2014a).

² We are avoiding the detailed mathematics for the sakes of brevity and simplicity. Importantly all of this is available and will be published in due course. This is the first relative detailed non-mathematical description of gimme and TRUE units. The Conveyance Equation is $(X_1)^3 + (X_2)^3 + (X_3)^3 = Z^3$. Most of the figures generated are unstable. But there *are some* stable structures, when $n = m = 3$.

It has long been known that the appearance of *solid matter* is an illusion, in the sense that there appears to be far more empty space than substance in an atom. But now we learn that the matter of sub-atomic particles and the “empty” space around them are also illusory. This is, however, consistent with quantum physics experiments that bear out the conclusion resulting from the resolution of the EPR paradox (Bell, 1964) and John Bell’s inequality (Bell, 1966; 1987): Experimental physicist, Alain Aspect (Aspect *et al.*, 1982) and many others (Aczel, 2001; Suarez and Scarani, 1997) demonstrated entanglement phenomena. Others showed that the particles and/or waves of the objective physical reality perceived through our senses cannot be said to exist as localized objects until they impact irreversibly on a series of receptors—these constitute a distinct observation or measurement by a conscious entity (Wheeler, 1980; 1994; Wheeler and Feynman, 1945).

In TDVP, we apply Dimensional Extrapolation using dimensional invariants to move beyond three dimensions of space and one of time. Within the multi-dimensional domains defined in this way, mass and energy are measures of distinctions of content. If there are other dimensions beyond the three of space and one of time that are available to our physical senses, how are they different, and do they contain additional distinctions of content? If so, how is such content different from mass and energy? We know that mass and energy are two forms of the same thing. If there are other forms, what is the basic “substance” that makes up the universe? Is it necessarily a combination of mass and energy, - or something else? For the sake of parsimony, let’s begin by assuming that the substance of reality, whatever it is, is multi-dimensional and uniform at the quantum level, and that mass and energy are the directly measurable forms of it in the 3S-1t domain. This allows us to relate the unitary measure of inertial mass and its energy equivalent to a unitary volume, and provides a multi-dimensional framework to explore the possibility that the “substance” of reality may exist in more than two forms. We have definitively demonstrated that finite reality is multidimensional (9 spinning dimensions \pm exponents or multiples of the 9) which means that we are required to examine this extended data (Close and Neppe, 2012; Neppe and Close, 2014c; 2014).



From the TDVP model, we argue cogently that *Consciousness is truly the missing link in the current scientific paradigm*. If this is so, even the smallest subatomic particles must in some way be tethered to consciousness. We tested this by our TRUE unit work, and our data will be published in some detail at a later time. We simply now provide brush-strokes.

Within the framework of the current Standard Model of particle physics, the basic concepts of quantum physics and relativity are applied to the particle collider data. These then yield numerical values of the physical characteristics of the sub-atomic particles perceived to be the building blocks of the observable universe. These include photons, electrons, neutrons and protons, in units of MeV/c^2 (mega-electron volts/ square of the speed of light).³

Analysis of these data in the framework of the mathematics and geometry of TDVP in 3S-1t provides us with a way to find the true quantum unit of measurement. The empirically measured and statistically determined inertial masses of the three most basic elementary entities believed to make up what we perceive in 3S-1t as matter, i.e. electrons, up-quarks and down-quarks, are approximately 0.51, 2.0 and 4.8 MeV/c^2 , respectively. The values for up and down quarks are derived statistically from millions of terabytes of data obtained from high-energy particle collisions engineered in specially built colliders.

When we analyze the elements, importantly, we have found the equations of mass and energy of the stable fermion particles (electrons and quarks) (e.g. neutrinos are not stable) to be incomplete without a third component. We have called that component "gimmel" (λ), a necessary new term. We hypothesize that Mass-energy and this gimmel consciousness are unitary major components for the stability of atoms, elements, molecules, and indeed all of our stable world. Gimmel is necessarily linked together to form a whole. We argue that we cannot have mass and energy (which are interconvertible and scored as a single measure) without gimmel. Without gimmel,

mathematically, the elements of the Periodic Table, including those that are crucial to life, are unstable. Because of this requirement of a third form (gimmel) for stability, i.e., in effect for there to be something rather than nothing, and because the minimal equivalence units are defined by applying basic relativity and quantum principles to multi-dimensional spinning elementary particles, we call them Triadic Rotational Units of Equivalence, or TRUE units.

As discussed above, to represent the elementary particles as multiples of the minimum mass/energy/volume units, we convert the collider data into integers, a process called normalization. We can then apply the Conveyance equation. This can be applied not only for atoms but for the whole Periodic Table of the Elements. We can extend such research to molecules and even to DNA and RNA as the fundamental elements of life.

Already our application of these concepts is producing remarkable results. This is meant to be effectively an abstract of our research, which we will present later in more detail. But in summary, the stable elements known to support life, namely carbon, oxygen, nitrogen, sulfur, phosphorus, calcium and magnesium exhibit the same high proportion of "gimmel" in the TRUE unit analysis, namely 0.762.⁴ Their gimmel content is higher than any other elements, except hydrogen, which has the highest proportion of gimmel at 0.893.⁵ We can show that these elements of life are far more stable than the others, and hydrogen would be completely unstable without this extra gimmel component. We can also even predict which elements with gimmel are more stable and therefore likely to maintain life. Surprisingly, the element silicon fits this profile so can be used as a predictive hypothesis.

As a point of interest, using the integral numbers required for stability, the key component is always triadic. In order to calculate

³ 1 eVx is a unit of energy equivalent to $1.602176565(35) \times 10^{-19}$ J (joules), and in quantum physics is the amount of energy gained (or lost) by the charge of a single electron moved across an electric potential difference of one volt. The measure eV/c^2 is one of mass where $1 \text{ eV}/c^2 = 1.782662 \times 10^{-36}$ kg. 1 MeV= 1 million eV.
eISSN 1303-5150

⁴ Interestingly, two inert elements that have completed outer electron shells, helium and neon, also yield this figure of 0.762. However, we analyze valence as well in our calculations so that these would not be "elements of life."

⁵ This is covered in greater detail in our forthcoming paper but because hydrogen does not have a neutron, we have hypothesized it to be unstable without gimmel not only in the calculations of mass and energy. Even then the ratio of gimmel to TRUE is higher than any other element. However, we also needed to add gimmel instead of the neutron into our calculations. We do not know if that gimmel is the same so have used the term daled when substituting for the neutron.



molecular equivalents of the TRUE totals, we have applied a mathematical cubic number and we find that the total TRUE unit scores for these elements and for the molecules of life and even DNA and RNA are all multiples of the integer 108.³

Could it be that *gimmel* (possibly a flow from the infinite field of a primary form of consciousness into the finite domain of 3S-1t space-time) is and always has been present in some form, even in the very most basic structure of reality, as quantum experiments and these results seem to indicate?

If so, we may have the answer Leibniz's question. There is always "something" not pure emptiness and nothingness. If consciousness is an integral part of reality, continually creating meaningful structure at the quantum level, there must be a way to include it in our scientific paradigm and the mathematics that describes it. The use of TRUE units to describe mass, energy and the third form, *gimmel*, representing consciousness, as described briefly in this paper, puts consciousness into the equations in a mathematically and logically coherent way, and produces a new paradigm that explains observations and calculations previously unexplained. This supports the validity of this approach and provides strong incentives for continuing to develop and apply this paradigm.

3B. The thirteenth mystery: Dark matter, dark energy, *gimmel* and TRUE units. Speculations in cosmology

A separate but extraordinarily important issue arises. This is also directly linked with TRUE units and *gimmel*, but this time cosmologically. The data we discuss here, is very much necessarily preliminary, but exciting given that it confirmed a hypothesis, and extends the ideas of *gimmel*, from the quantum level through to the cosmological.

When one calculates 3 dimensionally as a triad applying volumetric components, there is an almost exact correlation of the proportion of Dark Matter plus Dark Energy in the Cosmos (based on the latest Planck probe data) (Collaborators, 2013a; 2015; Cowen and Castelvecchi, 2014) as the proportion of *Gimmel* to TRUE units.

Effectively, we hypothesized that the ratios of *gimmel* to TRUE units and dark matter

and energy taken together as a proportion of the cosmos should strongly correlate.

This mathematical result is still preliminary based on our best available figures, but the equivalence which likely has an error we guesstimate of 1-2% is still striking. We hypothesized this correlation would work out and it does. Our hypothesis was based on the postulation that if indeed TRUE units are appropriate at the atomic level, they should be at the element level, at the molecular level and indeed all the way through to the cosmological levels. This, indeed, might provide the beginnings of a solution to the thirteenth mystery. It is one that has been regarded as unsolvable.

Very briefly and preliminarily, the calculation is complex and involves some assumptions of ratios in the cosmos. Effectively, "dark matter" and "dark energy" account for most of the matter and energy in the entire universe. The "dark" components cannot be seen directly with telescopes as apparently it does not emit or absorb light or other electromagnetic radiation. Its existence and properties can only be inferred and the Planck Probe mission team, applying the standard model of cosmology, calculated the total mass-energy of the known universe as containing 4.9% ordinary matter, 26.8% dark matter and 68.3% dark energy. Applying mass-energy equivalence together, the "dark" components constitute 95.1% of the total content of the universe. (Collaborators, 2013a; 2013b, 2015; Cowen and Castelvecchi, 2014). The Planck probe 95.1% is a linear proportion and should be calculated volumetrically as TRUE unit analysis cubes the values, and the cube of the 95.1% is 86.1% which we would use to compare with the *gimmel*/ TRUE proportion.

The cosmos is thought to be made up of about 75.6% hydrogen and 24.5% other substances mainly helium (but all these other substances have a similar *gimmel* to TRUE ratio of 0.442). For hydrogen, we needed to introduce another form in the "horizontal axis" besides *gimmel*, called "daled" (which may or may not be the same as *gimmel*). The necessity for a horizontal axis calculation with hydrogen is because the hydrogen atom lacks a neutron. Without something to compensate, the atom based on the TRUE unit calculations would be symmetrically unstable. There needed to be a further flow of a *gimmel* type substance to compensate. While we assume it would be the

same “gimmel”, we’re using it in a different context, hence Daled.⁶ Daled may or may not be the same as gimmel, and we’re referring to both “gimmel” here.

The figures on Mass-energy and Gimmel in the TRUE unit calculations are already based on volumetric (cubic) units. By applying volumetric equivalents of 75.6% hydrogen in the cosmos with a 0.893 ratio of gimmel to TRUE, we calculate the hydrogen contribution to be 67.5%. Similarly, applying the 24.5% of helium (0.442 ratio) and any other life element (also = 0.442) that may be very small in the cosmos, the same figure TRUE unit ratio exists producing 18.5% as the ratio of Gimmel to TRUE. The total volumetric proportion then is 67.5% + 18.5% = 86.0%.

The similarity of figures (86.1% of volumetric dark matter plus dark energy compared with the proportion of gimmel to TRUE in the cosmos at 86.0%) is striking. However, these figures despite being based on best available current statistics, are, as indicated, still speculative. We estimated that the range for gimmel/ TRUE ratio might have an error of say 2% or even more, based on the available data for the proportions of estimated hydrogen and helium / other life sustaining elements in the cosmos.

Nevertheless, particularly, given that it was hypothesized to be so, the correspondences are remarkable based on current figures (gimmel/ TRUE: volumetric dark matter and energy together/ proportion of the cosmos). So very preliminarily, it appears that we could postulate that gimmel/ daled exists as a third substance besides mass and energy at every level, ranging from the quantal to the cosmological.

3C. The fourteenth mystery: the immediate implications of these 9D spin findings

We discuss the immediate implications of these findings (Close and Neppe, 2014; Neppe and Close, 2014b). Some dimensions may be hidden from us in our restricted 3S-1t subjective reality.

The presence of a nine-dimensional vortical finite reality radically changes our worldview.

⁶ We don’t know what Gimmel/ daled is. We postulate it as linked with a broader “consciousness”. We speculate it may be a continuous infinite vortical flow of consciousness, which would also possibly be embedding in it, other infinite properties equivalent to mass and energy. Gimmel/ daled we speculate may be a continuous infinite vortical flow of consciousness, which would also possibly be embedding in it, other infinite properties equivalent to mass and energy. This is a topic for a further lengthy paper.



More formally, these results confirm the following hypotheses:

- a. We demonstrate a mathematical justification for the fermion mixing angle, like the Cabibbo angle.
- b. We demonstrate this is not purely a curiosity because it works only with 9 dimensions (and no others) and only by considering the vortical nature of reality.
- c. We demonstrate that our proposed 9 dimensional finite realities are a 9 vortical model in TDVP is feasible.
- d. Critically, this calculation would be falsified if any other number of finite dimensions were used because the fundamental figure is calculated per spin rotational dimension and only the pre-stipulated hypothesis of 9 dimensions works out.
- e. Further support is provided by the lack of any other dimensional model (e.g., 8 or 10 or 11 or 4 or 3) not working with these calculations. This provides support for the hypothesis that this model works exclusively by applying a 9 dimensional model.
- f. This conclusion provides critical evidence supporting the validity of the TDVP finite 9 dimensional spin model.
- g. Most importantly, the application of the fermion mixing angles has been demonstrated to be applicable in a 9-D spin model.

If the calculation holds, and it appears to do so, *because this is a simple mathematical derivation which can be, and has been checked*, it also has implications for not only finite 9 dimensional rotational realities as in TDVP, but other key concepts in this paradigm including:

- why and how dimensional extrapolation works: DE is directly demonstrated by the feasibility of these calculations requiring extra dimensions.
- vortical spin (with a stimulating proposal) including vortical indivision: This, of itself, provokes another important theoretical model relating to electron shape.
- orthogonality,
- dimensionometry,
- Calculus of Distinctions (CoD) and

- relativity and
- the Fine Structure Constant α .⁷ In this instance, α indirectly comes out in ratios like velocity of the electron round the hydrogen atom and the calculated spin velocity of the electron. The unwritten assumption is that fermions have an intrinsic spin of one half. The probability matrix calculated relates to the influence of one angle to another under the influence of subatomic forces (Mohr *et al.*, 2011; Rym and Cladé, 2010).

Our proposal that the essential substance of finite reality manifests as various dimensionally related mixtures of matter, energy and consciousness in 9 finite dimensions even though we may only be experiencing three of space and a moment of time is feasible but not proven by this work. Later work we are doing focuses on this triad.

3D. The fifteenth mystery: other significant implications for the future of appreciating and understanding our reality based on the 9D spin findings

Can this be applied to other models? Possibly, but only:

- a. if they are 9 finite dimensional models (most String Theory models are not 9 dimensional)
- b. and if they involve rotation and intrinsic spin of fermions (so that, for example, any “folding” multidimensional String Theory models should not apply). No other well-developed proposed models seem to fit these parameters. The closest alternative model appears to be the provocative Subquantal Model modified in Adrian Klein's 2012 version. This recognizes the logic of a 9 dimensional model, but only briefly. However, the vortical spin elements and dimensional extrapolation applied to this calculation are not an essential part of the Klein model (Klein, 2012).
- c. Importantly, this calculation cannot be

derived by using a conventional Standard Model of Physics with 3 dimensions of space and one dimension of time. Nor can a Cabibbo angle like figure be calculated applying anything but a 9 dimensional model suggesting that models with <9 or >9 finite dimensions are incorrect. Moreover, the requirement of spin rotation suggests that models involving folding dimensions are also falsified.

- d. Moreover, this theoretical background to this calculation applies Dimensional Extrapolation in the TDVP model allowing calculations based on the multi-dimensional nature of reality.
- e. We show that the idea of our 3S-1t reality being relative and not absolute, and that there are legitimate concepts of orthogonality at higher dimensions.
- f. Our calculations support the finding of electron shape not being uniformly spherical: This is a strong conclusion because otherwise the calculated spin velocity v_e would exceed the velocity of light (which multidimensional time may suggest but which is less parsimonious than the non-spherical electron).

Implications for Space-Time-“Consciousness” (STC) dimensions

The demonstration specifically of the actual calculation of the fermion mixing angle (as exemplified by the equivalent Cabibbo angle) strongly motivates that our *finite* reality is 9 dimensional and these dimensions are differentiated through spin. However, this finite reality 9-dimensional matrix does not specifically differentiate any configuration of dimensional substrates such as (S3, T3, C3) from say (S5, T4). The TDVP model also includes finite and transfinite elements (the 10th plus dimension) plus the continuity of the infinite reality elements, but our derivation, here, examines purely the finite 9-dimensional spin TDVP reality component.

Future implications of the nine dimensional spin model

We find that the mathematical derivation supports other significant implications for the future of appreciating our reality:

⁷ Arnold Sommerfeld's 1916 Fine Structure constant, α , is a fundamental physical constant of the coupling constant characterizing the strength of the electromagnetic interaction. It is a dimensionless quantity, with a constant numerical value in all unit systems. It is $\alpha = 7.2973525698(24) \times 10^{-3}$ or the famous 1/137 or more correctly 1/137.035999074(44). It can be expressed in terms of other fundamental constants of physics. .



- We confirm the derivation of the same approximate angle of 13.032 degrees for mixing angles for electrons.
- We recognize the potential to apply higher dimensional realities for future particle physics research.
- We amplify the pertinence of spin, the application of relativity corrections in electrons, and the conservation of angular momentum.
- We apply derivation of the same approximate Cabibbo mixing angle linked with electron spin (as well as quarks), and the broadening of Cabibbo's concept of "weak universality" by hypothesizing that all discrete phenomena result from specific dimensional extensions of the same elementary pattern inherent in the multi-dimensional substrate of reality.
- We introduce concepts pertaining to intrinsic electron spin and the pertinence of angular momentum in that regard.

Implications for the broader future

This Cabibbo angle 9D spin finding could have *significant speculative implications* for the future of appreciating our reality. Effectively, these findings because of their breadth could generate several novel ideas for testing and application. These findings potentially change our world-view to a 9D spin finite reality. If justified, and the data below appear cogent, we no longer can claim that reality is purely 3S-1t.

- They imply that most of our finite reality is hidden because we are limited to what we experience in 3S-1t.
- The potential to apply higher dimensional

realities for future research becomes non-trivial. The most obvious relate to what was previously "science fiction" including space and time travel and communications that appear immediate.

- It provokes serious questions about the concept of finite reality, and about why some dimensions that may be hidden from us in our restricted 3S-1t sentient experience.
- It suggests that some of the other mysteries or ostensible contradictions in physics may be solved or better understood by applying a 9-dimensional spin paradigm.
- The extension to other science besides physics such as biology and application of concepts even to the consciousness and psychological sciences becomes an important consideration.
- The availability of a mathematical technique to demonstrate that the elements of life are more stable and to study TRUE and gimmel is a potentially major advance.
- All these findings, because of their breadth of implications, could generate several novel ideas for testing and application.

We have presented fifteen mysteries illustrating the potential diversity of multidimensional models that include consciousness and recognize the infinite. It may seem remarkable that brief overviews of so many mysteries have been presented. But the area of studying nine vortical dimensions is new and to our knowledge, no one else has explored it. Hence, this has provided a fertile area for the authors to pioneer new discoveries in dimensional biopsychophysics.

References

- Aczel AD. Entanglement: the greatest mystery in physics. New York: Four Walls Eight Windows; 2001.
- Aspect A, Grangier P, Roger G. Experimental realization of Einstein-Podolsky-Rosen-Bohm Gedanken experiment: a new violation of Bell's inequalities. *Physical Review Letters* 1982; 49(2):91-94.
- Bell JS. On the Einstein Podolsky Rosen paradox. *Physics* 1964; 1:195-200.
- Bell JS. On the problem of hidden variables in quantum mechanics. *Reviews of Modern Physics* 1966; 38(3):447-52.
- Bell JS. How to teach special relativity? Speakable and unspeakable in quantum mechanics. Cambridge: Cambridge University Press; 1987. p.67-80.
- Close ER. Infinite continuity: a theory integrating relativity and quantum physics. Los Angeles: Paradigm Press; 1990.
- Close ER. Transcendental Physics. Lincoln: I-Universe; 2000.
- Close ER, Neppe VM. The Calculus of Distinctions: A workable mathematicologic model across dimensions and consciousness. *Dynamic International Journal of Exceptional Creative Achievement* 2012; 1210:2387-97.
- Close ER, Neppe VM. The Cabibbo mixing angle and other particle physics paradoxes solved by applying the TDVP multidimensional spin model. *IQNexus Journal* 2014;14(1):13-50.
- Collaborators P. Planck 2013 results. I. Overview of products and scientific results. *Astro-phCO*. 2013a; arXiv:1303.5062.
- Collaborators P. Planck 2013 results. XVI. Cosmological parameters. *Astro-ph CO*. 2013b; arXiv:1303.5076.
- Collaborators P. Planck Publications: Planck 2015 Results European Space Agency. *Astro-ph CO* 2015 (submitted); February.
- Cowen R, Castelvecchi D. European probe shoots down dark-matter claims. *Nature Physics* 2014; Doi:10.1038/nature.2014.16462.
- Klein A. The poldimensional holistic model (unpublished; based on abstract of 1993 / 1995) Tel Aviv, Israel 2012 p.1-32.
- Mohr PJ, Taylor BN, Newell DB. The 2010 CODATA recommended values of the fundamental physical constants (web version 6.0).2011: Available from: <http://physics.nist.gov/constants>.
- Neppe VM, Close ER. A Proposed Theory of Everything that works: How the Neppe-Close Triadic Dimensional Distinction Vortical Paradigm (TDVP) model provides a metaparadigm by applying nine-dimensional finite spin space, time and consciousness substrates and the transfinite embedded in the infinite producing a unified reality. *IQ Nexus Journal* 2014a; 16(3):1-54.
- Neppe VM, Close ER. Reality begins with consciousness: a paradigm shifts that works (5th Edition). Fifth ed. Seattle: Brainvoyage.com; 2014b.
- Neppe VM, Close ER. The Triadic Dimensional Distinction Vortical Paradigm (TDVP): The nine-dimensional finite spin metaparadigm embedded in the infinite dynamic International Journal of Exceptional Creative Achievement 2014c; 1401:4001-41.
- Neppe VM, Close ER. The concept of relative non-locality: Theoretical implications in consciousness research. *Explore (NY): The Journal of Science and Healing* 2014; 12 (7): 1-12.
- Rym B, Cladé P, Guellati-Khélifa S, François N, Biraben F. New determination of the fine-structure constant and test of the quantum electrodynamics. *Physical Review Letters* 2010; 106 (8): aXiv:1012.3627.
- Suarez A, Scarani V. Does entanglement depend on the timing of the impacts at the beam-splitters? *Physics Letters* 1997; 232(390): 9-14.
- Wheeler JA. Delayed-choice experiments and the Bohr-Einstein dialogue. In: APS, (UK) R, editors. *The American Philosophical Society and the Royal Society: papers read at a meeting, June 5, 1980*. Philadelphia: American Philosophical Society; 1980. p.9-40.
- Wheeler JA. At home in the universe. Woodbury, NY: American Institute of Physics, 1994.
- Wheeler JA, Feynman RP. Interaction with the absorber as the mechanism of radiation. *Reviews of Modern Physics* 1945; 17(2-3):157-61.