A data analysis preliminarily validates the new hypothesis that the ratio of dark matter and dark energy to gimmel and TRUE units (Triadic Rotational Units of Equivalence) is 'contained' in the atom: *Dark matter correlates with gimmel in the atomic nucleus and dark energy with gimmel in electrons.*

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Abstract:

Neppe and Close have previously demonstrated that the proportion of combined volumetric dark matter plus dark energy in the cosmos correlates almost exactly (0.0008 difference in score) with the proportions of gimmel to TRUE units in the corresponding most abundant elements in the cosmos. This study is now extended to the atom by mathematically comparing the ratios of volumetric dark matter to dark energy with the ratios of gimmel in protons and neutrons (nucleons) compared with gimmel in electrons. Despite data showing that certain factors can be up to 3% different in dark matter and dark energy alone, our derivation shows that the two results are within 2.35% of each other. This correlative result may possibly imply that dark matter and dark energy exist in every atom, and that the far more loosely bound electron, may involve dark energy; yet dark matter may involve the tightly bound strong forces of the nucleon. The implications are huge including possibly locating dark matter and dark energy. We do not need to look to the cosmos, possibly just to the atom. And we might have located the missing 95.1% of dark substance.

Key words: *Atom, Cosmology, Cosmos, Cube, Daled, Dark energy, Dark matter, Electron, Gimmel, Mathematics, Neutron, Nucleon, Proton, Ratios, Third substance, TRUE units, Unit, Volume*

In 2015, in our previous cosmological research on gimmel, Triadic Rotational Units of Equivalence (TRUE units) and the combination of dark energy and dark matter, we (Vernon

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Neppe and Edward Close) postulated that there is a relationship between gimmel —the third massless, energyless substance—and dark matter and dark energy in the cosmos. [1 2] We have demonstrated that gimmel is necessary for stability of the atom. [1-13] Without it, the atom would be extremely asymmetric and fly apart.

The proportion of dark matter and dark energy to the whole cosmos, based on the Planck probe data, is generally reported as 95.1%. These figures have been well substantiated over several studies. [14] We have pointed out that, very briefly and preliminarily [1], 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 they do not emit or absorb light or other electromagnetic radiation. Their existence and properties can only be inferred and this is what the Planck Probe mission team, applying the standard model of cosmology, did. [15-18]. The terms Dark Matter and Dark Energy are *misnomers* arising the unwarranted theoretical choice of looking at reality from a narrow materialistic point of view. Also, it should be pointed out that the location and distribution of so-called Dark Matter and Dark Energy in the universe is likely determined by some very complex relationships not delineated in this paper.

To perform the appropriate calculations one needs to convert the data into volumetric equivalents because the 95/1% proportion is derived from linear units. This conversion yields the volumetric proportion for dark matter and dark energy of 86.01%. [1]

We developed 'Triadic Rotational Units of Equivalence' or 'TRUE' units out of necessity. We demonstrated that in order to determine the TRUE unit values of up and down quarks as parts of neutrons and protons rotating in 9-D, the smallest subatomic particle, the electron, must be allocated the unitary value of 1. (The other quarks are unstable, ephemeral particles that do not enter into the evaluation of fermions.) The TRUE values of all other particles, elements and compounds can then be calculated accordingly.

Remarkably, when one calculates the proportion of gimmel to TRUE in the cosmos, taking into account the sum of the abundant elements that are already calculated volumetrically, and using the most appropriate available figures, the ratio of gimmel to TRUE units for the equivalent elements are almost identical. The percentage is calculated to be 86.09% for volumetric ratio cosmologically, and this difference is truly remarkable. It's only a 0.08% difference—one in 1250—when we had hypothesized that the alternative hypothesis would be acceptable if it were within 2%, a very stringent requirement. This result is 25 fold more stringent than our already very stringent requirement for acceptance of the hypothesis. (Table 1).[19] 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. Despite that 2% cutoff range to support this alternative hypothesis, we found this tiny 0.08% (or 8 in 10,000) in difference, based on the Planck probe figures. This tiny variation is almost certainly an artifact of measurement sampling error (the literature on the probe supports this). Such a profound result is unlikely to be pure speculation.

Table 1. Broader Cosmological "Dark" Data (combining dark matter with dark energy) and Proportionate Gimmel comparisons based on cosmological abundance of elements. [1 2]

1. *Hypothesized valid* if within 2% of observed value.
2. *Volumetric (Dark* Matter [26.8%]+ Dark Energy [68.3%]) ratio to cosmology 95.1% cubed = 86.01% (Planck probe 2014 data).
3. *Gimmel to TRUE* ratio (already volumetric) of Abundant Elements Σ (volumetric) [Hydrogen 89.3% gimmel/TRUE * 0.756 abundance=67.5%] + [Helium+less abudant life elements with the same gimmel score = 76.2% * 24.4=18.59%] =86.09%.
4. *Results:* The results not only confirm hypothesis but markedly so with p <0.001 difference. The difference between proportions of Dark Matter and Dark Energy together to the ratios of cosmological gimmel =0. 08%. This result is truly remarkable!
5. *Extensions:* Articulated in this paper! Neppe VM, Close ER: A data analysis preliminarily validates the new hypothesis that the ratio of dark matter and dark energy to gimmel and TRUE units (Triadic Rotational Units of Equivalence) is 'contained' in the atom: Dark matter correlates with gimmel in the atomic nucleus and dark energy with gimmel in electrons. *IQ Nexus Journal* 7: 3; 80-96, 2016.

Key gimmel information:

The logic behind the elements is briefly that Hydrogen-1 (H1) constitutes 70.6% of the *total mass abundance* of all of the elements in the cosmos. The terminology is formidable in that the abundance of a chemical element is a measure of the occurrence of the element relative to all other elements in a given environment.

Table 2 : Abundance of the Cosmological Elements Comparing Mass and Mole Fractions

Isotope	**Gimmel % ג**	**Atomic number**	**Mass fraction in parts per million (MF)[d]**	**Equivalence % of gimmel**		**Atom fraction in parts per million**
			Mass-fraction	**(ג* MF)**		**Mole-fraction**
Hydrogen-1	89.28%	1	705,700	**63.0050**	1	909,964
Helium-4	76.19%	4	275,200		2	88,714
Oxygen-16		16	5,920		3	477
Carbon-12		12	3,032		4	326
Neon-20		20	1,548		5	100
Nitrogen-14		14	1,105		7	102
All these are life (O, C, N) and noble elements He, Ne	76.19%		**287971**	**2.19405**		
Iron-56	75.0%	56	1,169	0.000877	6	27
totals				**65.20781 of all %**		

Abundance is measured in one of three ways: by the *mass-fraction* (the same as weight fraction); by the *mole-fraction* (fraction of atoms by numerical count, or sometimes fraction of molecules in gases); or by the *volume-fraction*. Volume-fraction is a common abundance measure in mixed gases such as planetary atmospheres, and is similar in value to molecular

[d] In parts per million divided by million and multiply the % figure to get to %.

mole-fraction for gas mixtures at relatively low densities and pressures, and ideal gas mixtures. We are applying the most usual method of abundance values as mass-fractions. [20]

H1 is the lightest element: It actually constitutes about 91% of all the cosmos based on numbers of atoms (the mole fraction). But given the calculations based on mass and energy for dark substances, we cannot justify calculations here based on "numbers of atoms", and are using mass fractions instead) (Table 2). [20; 21] Combining the H1 mass fraction proportion of 70.57% with the gimmel to TRUE ratio of 89.28%, calculates at 63.005%.

The second to last column lists the abundance in the cosmos of elements. Iron and elements lower than #6 in abundance are clearly irrelevant here.

Helium is the second most abundant element by a large distance (Table 2) but in any event several of the next but less abundant elements are all life elements: The top five have the same gimmel score ratio to TRUE units, at 76.19% and make up the other 24.4% of the atmosphere (because H1 is 75.6%). Whereas Hydrogen-1 and Helium are the most abundant elements in the cosmos by far [1], Oxygen, carbon, neon and nitrogen (which comes seventh) all have the same gimmel score in the cosmos which means that this calculation can be extended beyond helium. Technically, iron is minimally more abundant than nitrogen and has slightly less gimmel to TRUE ratio but the contribution after taking into account gimmel to TRUE is 0.00088 total and moreover a gimmel difference of about 1% less (75.0% iron gimmel to 76.1% life elements). This makes the difference 0.0000088 negligible beyond the number of significant figures being used). The same applies to the less abundant elements and therefore we do not need to consider all the elements in the Periodic Table, in this instance (Table 2).

More importantly, 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 applying it uniquely and in a different context, hence we've used the term 'daled'. Daled may or may not be equivalent to gimmel, and we refer to both collectively as 'gimmel' here. But daled is the key to the calculations below because it increases the amount of gimmel or equivalent daled effectively in the protons and neutrons potentially creating a balance of mass-energy with a much greater portion of the gimmel-like component. This is likely to be the most important part of the Hydrogen-1 element promoting stable structures in the universe.

Adding the proportionate gimmel/ TRUE scores of these elements works out to be 18.59%. The combined figure with hydrogen therefore is 86.086%. *This means that dark matter and dark energy in the cosmos correlate so closely with the figure of gimmel to TRUE units of the major elements of the cosmos, they could suggest that gimmel in some way is linked with the dark matter and the dark energy of the cosmos.* These results are so powerful they're unlikely to be coincidence. This supports the hypothesis of this third substance (gimmel) in the cosmos.

Is "Dark" in the atom?

The question comes up: Could it be that dark matter and dark energy are 'contained' within the atom itself? We use 'contained' here for convenience because English lacks an adequate term. But it is used differently from most uses. It does not mean that the atom in our

conventional living experiential reality of 3 spatial dimensions must be volumetrically adequate to hold (or contain) all the dark matter and dark energy. The use of 'contained' is at a hierarchically different level of 9 spinning dimensions and if necessary extending forever to a 10^{th} plus still discrete, quantized transfinite (also called tenth dimension).

The 'container' idea is not a strange hypothesis because the nucleus of the atom contains protons and neutrons, and they are kept close together by electrical forces, probably strong electrical forces; and yet there appears to be a lot of, so to say, 'empty space', and the electrons are circulating around. If the calculation could be that dark energy would be similar to the gimmel scores of the electrons, and the dark matter similar to the gimmel scores of the nucleons—the protons and the neutrons together —then it might be that dark matter and dark energy are found in the atom itself, and this is the source.

Moreover, the near light-speed vortical spin of fermions and the effects of so-called dark matter and dark energy in the rotation of spiral galaxies [22; 23 24; 25] may imply that gimmel, which is derived through a 9-dimensional spin model, plays more than just a coincidental role of a remarkable correlation only. This model is used in extrapolating across dimensional domains in the atom.

We have also previously demonstrated that the atom as we know it with just protons, neutrons and electrons cannot exist. Atomic materialism is refuted. [26] There has to be a further substance: we call this gimmel. Gimmel is massless and energyless. Therefore we know that gimmel exists in the atom. [26]

HYPOTHESES:

We propose that the proportions of Dark Matter correlate with gimmel in the atomic nucleus and Dark Energy with gimmel in electrons. This is an extraordinarily important issue directly linked with TRUE units and gimmel, but this time cosmologically but at the atomic level because atoms make up our whole cosmos.

Two questions arise:

1. Can we separate the gimmel linked with dark matter from that of dark energy.
2. Can we link dark matter and dark energy with the fundamental atom?

- More specifically because dark matter is dense and involves a strong (hypothesized gravitational force) could it be linked with the gimmel in protons and neutrons (nucleons) where theoretically strong electromagnetic forces keep nucleons together.
- And could the gimmel in electrons be linked with dark energy? Again the logic is that dark energy is conceptualized almost as 'anti-gravity' with an expanding universe, and in the atomic context, parallel to how electrons rotate round the nucleons, with theoretically weak forces are involved. These concepts are based on our understanding of three dimensions of space in a moment in time without anything beyond: But 'dark matter' and 'dark energy' are misnomers, not because they are 'dark' in the sense of our usual ways of measuring them being inadequate, but because they are not truly 'matter' and 'energy' at all, because they cannot be measured as mass or force. Therefore, different rules have applied to dark matter and energy, than any other mass-energy.
- If so, we would expect the proportions of gimmel to electrons in proportion to the gimmel to the nucleons to be similar to the proportions of dark energy to dark matter.

- Based on the literature, it seems that there are papers where components of such calculations may vary up to 3% and we therefore proposed that if these results were within 10% the evidence would be very supportive, and if the variation was within 5% ($p<0.05$) the link would be regarded as strong and the alternative hypothesis, strongly supported.
- 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. [27] We should then be able to apply this to the atom itself as well. This could mean Dark Matter and Dark Energy are contained in the atom.

Pertinent dark (also called 'cold') data supporting our stipulated $p<0.05$ range.

We portray first the key, well-summarized results of the Planck Probe data and the follow-ups. [14] The data underlying these ranges are based on a replication of the Planck probe data [14]. These derive originally from some tests over some years [15; 17; 18]. In essence, the Planck satellite was launched by the European Space Agency and made observations of the cosmic microwave background (CMB) for a little over 4 years, from August, 2009 until October, 2013. Preliminary results based on the first year and a quarter of operation, and released in 2013, established high confidence in the canonical Lambda-Cold Dark Matter cosmological (ΛCDM) model. This model was dominated by dark energy (the Λ component), and had some cold dark matter (CDM). This is as opposed to ordinary matter, of which stars, planets and human beings are composed, and that 'matter' is the third most important component from a mass-energy standpoint but measured at only 4.9% of the universe, though it is easily registered because it's linked with light. We know that dark energy (68.3%) is far more than the mass-energy equivalent (26.8%) of all matter combined. Moreover, dark matter is many fold more than the ordinary matter component (only that 4.9%). 28 papers released by the Planck Consortium detail results from the entire mission, and more than three times as much data gathered.[e]

In particular the technical ranges have been delineated.

- $\Omega b*h^2 = .02226$ to within **1%**.[f]
- The cold matter density is measured to be $\Omega c*h^2 = .1186$ with the uncertainty less than **2%**
- and with the h value substituted we have $\Omega c = .258$ reflecting similar uncertainty.[g] $\Omega b = 0.048$, with uncertainty around 3% of its value. Thus, just under 5% of the mass-energy density in the universe is in ordinary matter.

Essentially, the Planck 2015 results replicate the previously thought balance of the universe based on present-day values of the constituents. In the past, dark energy was less important, but will dominate more and more as the universe continues to expand. The dark energy works as a

[e] The first paper provides an overview of these results (the Planck 2015 Results I). Papers XIII and XIV describe the cosmological parameters measured and the findings on dark energy. Many additional papers examine potential departures from the canonical cosmological model and constraints on inflationary models. [14]

[f] (Ωb = the baryon (basically ordinary matter) mass-energy fraction (fraction of total-mass energy in ordinary matter) and h = H0/100. H0 is the Hubble constant which measures the expansion rate of the universe, and indirectly, its age. The best value for H0 is 67.8 kilometers/sec/Megaparsec (millions of parsecs, where 1 parsec = 3.26 light-years). H0 has an uncertainty of about 1.3% (two standard deviations). In this case h = .678 and the expression above becomes $\Omega b = .048$, with uncertainty around 3% of its value. Thus, just under 5% of the mass-energy density in the universe is in ordinary matter.

[g] Since the radiation density in the universe is known to be very low, the remainder of the mass-energy fraction is from dark energy, $\Omega e = 1 - .048 - .258 = 0.694$.

negative gravity and causes space to expand.[h]

These figures appear to justify calculations based on alternative hypotheses of 5% or even 10%.

METHODOLOGICAL APPROACHES:

What do we calculate?

Considering potential technical problems, it should be clear that one has to take into account volumetric mass and energy equivalence. We have these figures readily available for protons and neutrons: We have already determined the exact number of TRUE units of gimmel associated with the electrons, so we know where those fit. [12] But there is a question of how much gimmel is there in the protons and neutrons besides that which we have already calculated from empirical data in connection with the quarks that make up fermions. Is there more gimmel than just that associated with quarks? It appears that there could be, as for symmetric stability, gimmel should be present in all particles and everything comprising physical reality. But how do we determine this when it comes to protons and neutrons? This is relevant because protons and neutrons apparently contain more than just up and down quarks. We know this because quarks make up only a tiny fraction of the mass of these nucleons. Their far greater mass must be explained.

We have previously already strongly proposed a linkage of so-called gluons with quarks. [2; 28; 29] Effectively, we have postulated that the gimmel might actually be what the heuristically derived gluons actually are.[2] Could that be true? The evidence appears to be substantial. And could it be linked with other unstable particles that last only tiny fractions of a second? These are the so-called subatomic ephemeral particles, for example, the Higgs Boson. The Higgs Boson is regarded as in some way providing the mass even though it's effectively ephemeral so not permanently existing, massless, and energyless. Since gimmel is necessarily linked with all particles, not just fermions, it is likely that these extra components reflect just another aspect of the role of gimmel in the fabric of everything. This new conceptualization of the nature of gluons, and the hypothesis that dark matter might be equivalent to gimmel in or part of the atom, if demonstrated, would support this contention. Working from what is known, i.e. the amount of gimmel in the electrons and quarks, we can potentially calculate the differences in total mass, energy and gimmel, and find a way to account for 100% of the volumetric equivalence of the atom.

The hypothesis therefore is, the proportion of gimmel to electrons to the proportion of gimmel remaining, which is in the neutrons, would be the same as the proportion of dark energy to dark matter.

The problem that one has is how to calculate this, because dark energy/dark matter can be calculated basically on the basis of angular momentum (mass, and energy), and converting that into volumetric equivalents -- or number of TRUE in the universe is the problem. This is particularly so in calculations pertaining to the elements, and the most pertinent difference between proportion of mass and number of atoms, as indicated, is one of hydrogen because it is so light. Hydrogen-1 contains 91% of the atoms of the whole ordinary universe (the 4.9%

[h] The Planck Consortium also find the universe is topologically flat to a very high degree, with an upper limit of 1/2 of 1% deviation from flatness at large scales.

ordinary matter) (Table 2). But it constitutes far fewer, only about 63%, of the total equivalent mass. These figures would vary markedly in terms of different calculations, so we must decide what is appropriate. We could also apply Mass Energy Volumetric equivalents, which would make the H1 figure about 67%. [12] Logically, we must measure the mass of each of the elements because we're dealing with concepts pertaining to mass, energy and gimmel, and not numbers of atoms. But our expectation would be that there is an error range in our comparative calculations.

Also, essentially, we cannot estimate the amount of dark matter/dark energy that would be in the neutron, or the amount of gimmel total besides the fermions. However, we can calculate it based on the remaining proportion: We know the exact figure for the electrons, so 100% minus the % gimmel score in union with electrons, which is 105 gimmel TRUE units per electron, allows us a close approximation.

But in this paper, we will first apply the known, and we have figures for gimmel in the fermions—the gimmel and daled linked with quarks in neutrons and protons, and the gimmel in electrons. [12] If we find that these figures are way off, we can then go to the next stage of examining 100% minus the electron gimmel for the nucleons, and postulating what can explain the difference. This is a particularly logical first choice as our original study examined the proportions of gimmel in TRUE units and was based on fermionic particles [12 2], and our Conveyance Equation for calculating such gimmel allocations was based on fermions, not bosons or any other stable or unstable particle. [12]

These figures are therefore estimates, but the hypothesis and the preliminary results, as indicated below, should show a closeness of gimmel in the electrons proportionate to TRUE units based on cosmological atomic data. Even within 10% of what we would expect would be very good. The remainder, then, is the dark matter (less the 4.9% of matter that is ordinary matter).

RESULTS: The tables below indicate this.

Table 3A Oxygen or He or H2 or N or C Ratio of gimmel to TRUE is 76.19%.

Particle	Mass/Energy	ג	Total TRUE
8e	8	840	848
$8P^+$	136	56	192
$8N^0$	176	128	304
Total nucleons	**312**	**184**	**496**
Totals	**320**	**1,024**	**1,344**

Oxygen 16 has 8 electrons, protons and neutrons. Fundamentally that ratio of 320/ 1024 is the 76.19% the same as for other life elements, here Carbon, Nitrogen and inert elements Helium and Neon and even Deuterium. Essentially important here is the gimmel ratio of the protons and electrons / total gimmel. 184 / 496 = 37.1%. We contrast this with the 840/848 of the electron, which is 99.06% gimmel and characteristic for all elements. The electron always

has 105 times the units of gimmel to its mass. Oxygen here is used as an example, but effectively, we're dealing with proportions and will ultimately be able to unitize any life element like oxygen, carbon or nitrogen or inert noble gas like helium, by dividing by the number of protons or neutrons to get a basic unit like deuterium . This simplifies calculations. [12]

We now examine Hydrogen 1 (Protium; H1). H1 does not have a neutron. It compensates by extra third substance. This may be gimmel but we're uncertain so call it daled. But the proportion of gimmel to TRUE or to our mass-energy in the nucleon is now enormous. Hydrogen is the only exception with no neutron and yet daled. Because of the "daled" units (gimmel?) replacing the absent Neutron: TRUE ratio of 89.28% in H1, far the highest figure for the H1, the most prevalent element in the cosmos.

Table 3B: TRUE-Unit Analysis for Hydrogen 1 (Protium).

Particle	Mass/Energy	ג	Total TRUE
e	1	105	106
P^+	17	7	24
Daled ד	0	38	38
Total nucleons	**17**	**45**	**62**
Totals	**18**	**150**	**168**

Calculation 1: H1 Daled 150 of gimmel to 18 so 89.28%
But we're interested in the nucleons here, not the total because we're looking at ratios.

But this result is particularly relevant given that Hydrogen is by far the most abundant element in the cosmos. In Table 2 we can see that 91% of all atoms are Hydrogen 1. But for our purposes, we're dealing with mass and energy as this is the measure we're doing with dark matter and dark energy. Instead of 76.19%, H1 has 89.28% gimmel/ TRUE ratio, but this is a total and we must separate the electrons from the nucleons in every element in our calculations.

More telling, instead of the 37.1% maximum for the life elements, H1 because of its daled instead of a neutron has 45/ 62 = 72.6% even in the nucleons (protons in this case because there's no neutron). And that counts because H1 is so abundant.
We now show H2 (Hydrogen-2 or deuterium a relatively rare hydrogen isotope, just because it reflects a life-element in all scores, but has one of each so calculating is easier.

Table 3C: Hydrogen 2 (Deuterium; H2).

H2 is equivalent to heavy hydrogen because it has a neutron.

Particle	Mass/Energy	ג	Total TRUE
E -	1	105	106
P+	17	7	24
N 0	22	16	38
Total nucleons	**39**	**23**	**62**
Totals	**40**	**128**	**168**

Remarkably, H2 has the same gimmel to TRUE ratio of any of the life elements (O, C, N, S, Mg, Ca and even Si) plus the two inert noble gases (helium and neon) is 76.2%: All the life elements C, O, N, S, Mg, Ca have this same ratio. He and Ne are non-reactive in this context because of their 0 valence. (Gimmel is abbreviated with the Hebrew letter, ג)

Let's now calculate: PNd = Protons, Neutons (and Daled in hydrogen 1 where there is no neutron: the daled makes the big difference in the scoring):
First we briefly look at the number of atoms as opposed to the mass of each element. So for example, in Table 2, looking at number of atoms per milion for He, O, N, C, Ne, then:

Incorrect approach as this is based on parts per million:
The electron score is the same: e =105 of 106 total TRUE.
But for the protons and neutrons of the abundant Helium, Oxygen, Carbon and Neon the amount is the 37.1% but, for example, with each neutron and protons (16+7)= **23** of (7+16)= 23 of (24+38)=62 so 37.1% of the 9% (lower because H1 is 91%) if number so **3.71% ……1A.** But this is flawed as we've not used number of atoms, instead mass-energy with dark matter and energy: So we don't count atoms.

An aside, but necessary exclusion showing irrelevance:
We must now examine whether any of the other non-life or non-noble elements play a role. Iron (Fe) is sixth in abundance but its contribution turns out to be so negligible, it does not even fit significant figure calculations. Fe has a gimmel to TRUE ratio is 3392/4520 = 0.7504 = 75.04%. Similarly, aluminum and argon are tiny and the rest are elements of life and isotopes and this is all negligible in difference because of its infrequency (Table 2).

Again, this is a stark contrast with the H1 —Hydrogen (Protium).
Based on mass: H1 is 70.57%. so 63.00% gimmel
In this instance the main nucleon calculation is Daled of 30 for 70.57% if mass, or 90.99% if parts per million (incorrect, in this instance).
And the remaining elements of relevance, mainly Helium but also O and C and Ne, show the same Protons =Neutrons =Electrons with a mass value total of 29.43% or 9.01% with abundance. Then remaining key elements is 29.35% gimmel.
Calculation 1: H1 Daled 150 of gimmel to 18 so 89.28%
Calculation 2: Elements of life and inert based on total electrons 105 gimmel to 1 of mass may reflect Dark Energy. But this takes Parts/ million into account not mass. And mass is correct here.

The correct approach where we apply mass
So 37.1% of the mass 29.43 = 10.92% …… 1B and this must be logical. Note how the mass versus the numbers increase this figure from 3.71% to 10.92% because hydrogen is so light.
We now apply H1 with its daled and again using number of atoms, *if using the 91% # figure for H1 then* ***66.05 %***
So for H1 and all else: 105 of 106 to electrons == 99.06%

The correct results are summarized in Table 4.

Table 4. Summary of atomic ratios of dark matter (DM) related to gimmel in nucleons and dark energy (DE) liked with gimmel

5. *Hypothesized* within 5%-10% given variation of Planck data proportions of DE and DM
6. *Volumetric (Dark* Matter [26.8% cubed] / Dark Energy [68.3% cubed]) ratio in atoms in cosmology (Planck probe 2014 data) examined.
7. *Gimmel to TRUE* ratio (already volumetric) of Abundant Elements Σ (volumetric) [Hydrogen 89.3% gimmel/TRUE * 0.75.6 abundance=67.5%] + [Helium+less abudant life elements with the same gimmel score] in nucleon (protons, neutrons, daled) / electron gimmel
8. *Results:* The difference between proportions of Dark Matter to Dark Energy to the ratios of nucleon gimmel (linked with quarks and daled) to electron gimmel is remarkably close: 60.42% to 62.77%. The results not only confirm hypothesis but markedly so with only a 2.35% difference, far closer than even the alternative expected.
9. *Extensions:* This paper Neppe VM, Close ER: A data analysis preliminarily validates the new hypothesis that the dark matter and dark energy is contained in the atom: Dark matter correlates with gimmel in the atomic nucleus and dark energy with gimmel in electrons. *IQ Nexus Journal* 7: 3; 80-96, 2016.

Hydrogen 1 (*see Table 3.1)*
PNd applying number of atoms 45 of 62 so 72.58% and much higher at 91% but this is incorrect as we're dealing with mass not numbers.
*Apply using the P ~~N~~ d mass for H1, H1 is 70.57% * 72.58 = 51.22 % …… 2B (the N is struck out here for the d for daled and so the figure is much higher than with Oxygen or Helium or Deuterium all the same at 23/62 = 37.1%*

From the above applying 1B and 2B.
Combined mass nucleon gimmel to TRUE is 51.22% H +10.92% He = 62.14 %.
Note that this correct approach uses figures of gimmel based on fermions only. So it still does not base the results on all the contents of the nucleons.

Ratio of nucleons to electrons: We need to apply it this way, because while we have the exact amount of gimmel in electrons as the only option, the protons and neutrons may not just have fermions and clearly do not.
mass 62.14/ 99.06 =62.77% (incidentally using the wrong parts calculation the incorrect figure would be # 69.76/ 99.06 = 70.42%)
So this is the figure for protons and neutron gimmel to electron gimmel.

We've hypothesized that proton-neutron gimmel is equivalent to dark matter so that should be 62.77% if an exact match when compared to dark energy which is equivalent to electrons.

The actual figure compared with dark matter to dark energy
Dark Matter [26.8%] and Dark Energy [68.3%]) figures in cosmology = 95.1%

When cubed = 86.01% (Planck probe 2014 data). However, we now individually cube these results: Dark energy cubed is 31.86%; Dark matter cubed is 19.25% so total is 51.11%
Ratio is 19.25 Dark matter / 31.86 Dark energy so 60.42%

This is demonstrated when applying volumetric mass energy equivalents
Dark matter/ dark energy is **60.42%** to Nucleons/ electron gimmel its **62.77%**

The difference here is which affirms the affirmative hypotheses which allowed for at least a 5% variation (and possibly 10%) given that some Planck probe figures were 3%, 2% and 1% for different derivations. Moreover, there are also questions of which abundance quantities of elements to use (two are shown in Table 2, but there are even other ways of conceptualizing this such as Mass-Energy-Volumetric Equivalence—MEV. Consequently, such calculations, in turn, create more room for variations allowing for a further range. too. There are also less Standard Errors per se in this instance, because the results would vary depending on interpretations, but this is why we decided on one method of calculation at the start and even then before the calculations began, we realized the optimal way to calculate gimmel in the nucleons was from our direct derivations with gimmel in union with quarks, because the other method of subtracting from electron associated gimmel turns out to be problematic because of the huge contribution of daled in the most abundant H1. However, it may imply that our original work just involving gimmel scores linked with quarks is correct as these figures are based on quark gimmel scores and on daled.

DISCUSSION:

Cosmology:

We have already shown that 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) [15-18] and the proportion of Gimmel to TRUE units. These correlations are not linked causally. In this study, we now ask: "Could it be that Gimmel is a mass-less, energy-less component of dark matter/ dark energy, just as it and TRUE plays a role in elements?"

Tentative but pertinent:

Our mathematical result is still preliminary based on our best available figures, but the equivalence, with a remarkably low difference of less than one in forty is very 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 elemental level, as well, plus 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 challenge of what dark matter and dark energy are. It is one that has previously been regarded as unsolvable.

The numerical percentage ratios we have used in this article, are not precisely correct because we have not included every form of mass and energy in the universe, e.g. plasma is not included, and the percentages of relative abundances are only estimates. However, as indicated, by the time we move below number 5 in abundance, to iron, the impact is so miniscule that not having included every known element is not a limitation. Nevertheless, we have shown a finding that is very close now at the cosmological level for all of dark components:cosmos to

gimmel:TRUE. Now we demonstrate that dark components might be in the atom. The search might have ended!

Interpretations:

These figures are far closer than we expected even when expecting a support for the hypothesis and therefore strongly suggest that the results are real. The implications of these findings are critically important, both in terms of extensions and conceptualizations of findings in quantum physics. This is also cogently relevant to the broader speculative ideas pertaining to the fundamental nature of reality. It likely means that there are the same laws of nature at the quantal and cosmological level, and presumably therefore at the macroscopic level too. Previously there were different ideas for quantum physics ("quantum weirdness"), which seemed illogical and were unexplained even by Richard Feynman. [30; 31]

Revisiting gimmel

We don't know exactly what Gimmel is. We *postulate* that gimmel is linked with a unitary 'broader consciousness'. We *speculate that* gimmel might exist as a *continuous infinite* vortical flow of more than just a 'consciousness' content: Embedded within this consciousness 'container' would be other *infinite continuity* properties equivalent to mass and energy content. We postulate that when presenting in the quantized finite reality, gimmel *manifests differently* for every chemical—atoms, molecules, or even components of the cosmos: Everything has its unique 'cosmic fingerprint'. This is also based on our work with gimmel and up and down quarks where each of the six (2 up and 1 down in the proton; 2 down and 1 up in the neutron) has a different gimmel score. [2 12] Gimmel, therefore, could possibly apply to *meaningful specific* information (a *targeted* consciousness) as opposed to the general components.

Communications occur across all the nine dimensions, as well as in the still quantized transfinite. Those interfaces are across, between and within dimensions, involving a mechanism called 'indivension' translated through intersections of vortices, scalar, vector and tensor components. [32-34] This implies different levels: Some regard these as 'vibrational', referring to the different frequencies of movements, but then those 'vibrational resonances' would be multidimensional and manifesting relative to a particular framework, like 3S-1t. [35] We speculate that gimmel and daled reflect the same property, but they might turn out to be different (hence, their different names). Further lengthy papers will discuss these complex concepts. They're pertinent here because the nature of gimmel might say something on the nature of dark matter and energy or the union of gimmel with them.

A real speculation: Is gimmel 'dark'?

This leads to a key question: whether or not this dark matter and dark energy in some kind of way is gimmel itself. The dilemma here is difficult, because gimmel, by definition, is a third mass-less, energy-less substance. We think that Gimmel may constitute, at least in part consciousness by default, because what else could be? Be that as it may, how could gimmel be part of dark matter—dark energy which is defined in terms of mass/energy components?

However, these concepts are defined in a different, possibly relative kind of way. The dark energy effectively allows for an expansion of the cosmos, a drawing apart energetically, and the dark matter for a contraction of the cosmos, whereby everything is pulled together. The implication is two different forces—strong and weak?

Moreover, the definition of gimmel as mass-less and energy-less is relative to our usual physical reality of three dimensions of space and a moment in time. And the mass-energy equivalence of the physical, certainly has a relevance in consciousness at higher dimensions. As one progresses in dimensional domain these differences are not static, but dynamic and we have proposed that mass-energy is totally contained within gimmel, per our hypotheses, in the infinite and transfinite. [2]

Dark energy and dark matter and the atom:

Despite data showing that certain factors can be up to 3% different in dark matter and dark energy alone, our derivation shows that the two results are within 2.35% of each other. This correlative result may possibly imply that dark matter and dark energy exist in the atom, and that the far more loosely bound electron, may involve dark energy; yet dark matter may involve the tightly bound strong forces of the nucleon. The implications are huge including possibly locating dark matter and dark energy. We do not need to look to the cosmos, possibly just to the atom. And we might have located the missing 95.1% of dark substance.

Importantly, 'dark matter' and 'dark energy' are not matter and energy at all, because they are not measurable as mass or force Dark matter and dark energy are misnomers that come from the materialistic assumption that matter and energy is all there is, and the discovery of the necessary existence of gimmel changes this forever.

Another complex conundrum:

We may ask *"how does all this Dark Matter and Dark Energy that supposedly make up 95.1% of the cosmos fit into atoms when atoms constitute only 4.9% of the cosmos?"* This question is legitimate and important.

We regard the answer as based on a significant conceptual misnomer, in fact, a category error. The error is about *"the amount of mass and energy fitting into a certain restricted size in 3 dimensions of space in a moment in time."* The Close-Neppe concept of 'TRUE units' were calculated and validated mathematically on the assumption of units of relative rotational equivalence through nine dimensions (9D). [9; 12 2]. TRUE units apply mass-energy-equivalents-volume (MEV) and that is not just matter and energy but necessitates 'gimmel' as a third substance because otherwise there would be no stability of atoms. [2] We have recognized that the MEV of a proton was about 938 times and the neutron about 940 times the TRUE electron value, (which we had unitized to 1). However, this was not the issue in this instance. 'Dark matter' and 'dark energy' have nothing to do with the MEVs of protons and neutrons in this instance, because we do not even know how much total gimmel there was in the nucleons and must start from what we do know. We know only the calculated gimmel amounts in union with quarks. One approach was to apply that as an unknown and therefore resorted to calculations of the known electron and electron gimmel quantities and subtracting that from 100% for the fermions.

Moreover, the concepts of 'dark matter' and 'dark energy' are not truly matter and energy in the sense that we know them: Neither should be so named or we could call them possibly *"matter and energy behaviors relative to the 3S-1t context only."* The 'matter' and 'energy' terms are misnomers, and the 'dark' indicates the stubborn difficulty of locating them in space. This is possibly, we propose here, because *"they're not just in space, but also in extended time, space and consciousness, as in the Neppe-Close TDVP model"* [34; 36].

'Dark matter' and 'dark energy' reflect somewhat contradictory forces thought to reflect something linked with contraction and expansion, for example, of the universe. They have been proposed to be linked with gravitation; if they were in the atom, it would have to have something to do with 'electroweak' and 'electrostrong' *forces*.

- The strong forces would be reflected in the proton and neutron staying together; and
- The weak would be reflected in the looser rotation of the electrons.

Therefore, it's not a case of "*can the 95,1% of* dark matter' and 'dark energy' *fit into 4.9% of mass and energy that is measurable in the cosmos?"* Instead, it's a case of "*can the overwhelming contraction forces that do not get detected by conventional mass or energy techniques be assumed to have a location associated with the atom?"*

Ironically, this is the same question we can ask with gimmel. Gimmel is neither mass, nor energy, but it is a third content substance, and yet in one form, a necessary part of the atom. Dark matter' and 'dark energy' are not extents of measures, they, too, involve distinctions of content.

We could possibly conceptualize similarly with the Higgs Boson. [37; 38] This created such interest because it supposedly was an ephemeral mass-less, energy-less substance that was possibly controlling all mass and energy in atoms. Does it fit into the atom? Likely not. But it markedly impacts.

"So how does all this fit?" We propose that *"relative to 3S-1t it does not!"* We suggest that all this cannot be accommodated in the extent dimensions of 3S-1t, because this is only part of reality. We posit that we need to go multidimensional measures of extent applying further dimensional domains —and we know mathematically that there are 9-dimensions (9D).

In that context, we have proposed that what is an extent in space or time in our experiential living reality of the 3S-1t dimensional domains, becomes instantaneous in higher dimensions because of the relative non-locality. [39] [35] Some findings in physics and consciousness research simply do not fit into 3S-1t and this is why we introduced relative non-locality. One tell-tale sign of non-locality is *immediacy* —availability immediately or instantaneously in space-time-consciousness higher dimensional domains. [40]

The misnomers 'dark matter' and 'dark energy' simply do not fit into the limited cubic 'box' of 3S-1t. They are outside the box. They should be limitless in a finite and transfinite reality. And with that comes consciousness.

We postulate that 'dark matter' and 'dark energy' fit into 9D. In fact, gimmel is conceptualized across 9D in the finite.

- If gimmel is in union with 'dark matter' and 'dark energy' then these two should also be applied in the 9D spin context.

Even more so, if gimmel is synonymous with 'dark matter' and 'dark energy' then it must be part of the 9D this. This is the big question: *Are they in union with gimmel, or are they gimmel themselves?*

Therefore, this calculation might be particularly important, and another paradigm shift, for this reason. It may explain not only a major conundrum of physics, namely the location of 'dark matter' and 'dark energy', but explains a proposal using relative concepts and applying a fundamental part of physics to 9D.

Gimmel is in union with more than quarks?

Another implication of this kind of work is that there might be more to gimmel than just links with the fermions and quarks. This constitutes grounds for a separate study, but is unlikely given the very close results and the fact that the 2.35% difference is higher for the gimmel or daled calculations, which were purely fermion related than the 'dark' differences. If there were more gimmel in other subatomic particles, for example, the ephemeral particles, or gluons (if they were not gimmel which we've hypothesized they are [2]), then the next step of taking subtracting electron gimmel from the 100% total would be logical. Nevertheless, it would not be surprising, and may be relevant here, because the proportions in the nucleons might be more than just the quark figures. It could then explain that the particle soup including the Higgs Boson could actually be gimmel. This is a worthy speculation to explore. It is as yet unproven and could be studied separately.

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