**Response to an analysis of Tetryonic Chemistry by Robert J Brotherus [July 2015]**

In reply to a paper outlining Mr Robert Brotherus’ examination and mis-understanding of Tetryonic theory and in particular how it applies to the modern understanding of Chemistry as it currently taught…..

**Point by point I’ll firstly address the particular points of concern raised wrt modern chemical theory and physics in general:**

Tetryonics paper on quantum chemistry is very scarce on making any predictions about atomic properties or comparing such predictions to experimental results.

Tetryonic theory provides many predictions regarding the physical 2d planar geometries of bosons [radiant mass-energies] and the 3D material Topologies of Fermions [Matter and their associated physical properties]. Inclusive in these are many predictions and repeated statements and illustrations of specific particle shapes and the values of mass-energy momenta attributed to each… as well as how these values stem from the equilateral tessellation of Planck energy momenta and why they differ from the established values of modern scientific theory…. In many cases there are similarities to be found with existing observations but where Tetryonic theory differs from modern theory it is not by choice but rather dictated by the equilateral mass-energies within charged Matter topologies themselves and all too often led to much effort in order to reconcile the differences, leading to further insights and extensions of the theory over time…. Where differences exist it is deliberate not by error.

Tetryonics is a BOTTOM-UP physical theory that unifies many currently disparate theories of science into a coherent unified model of the same – but not without its own set of mental challenges to those who are first becoming acquainted with it. As such it must be recognised that Tetryonic theory should not be studied without a sound understanding of the foundation upon with it is built…. Many have approached analysis of my work in such a way only to find that their analysis was limited by modern science’s lack of precise detail of the foundations of the physics that they attempt to explain [to wit modern theory is a top-down explanation of the science build up over many generations with an equal number of varying interpretations and assumptions]

Tetryonics plays down importance of “mathematics” and instead emphasizes “geometry”.

Arguably I place a lot of emphasis on geometry over that of mathematics in Tetrayronic theory, but only so as it offers insights into physical theory that maths alone has not been able to
provide since its wholesale incorporation into the science in the 1600’s. This is not to downplay the importance and productiveness that maths has provided us a scientific tool, but rather to ‘illustrate’ and draw attention to the advances that a purely geometric model has to offer us in advancing our understanding of the same…. To wit, Tetryonic geometries are based on the postulate that all physical theory is founded on equilateral Planck quanta of energy momenta and as such these physical entities afford no room for speculative ideas or mathematical manipulations beyond what is physically possible to be constructed.

To help elucidate my work and thoughts on the differentiation of 2d planar mass-energy geometries from 3D Material topologies I recorded a detailed YouTube video titled “Tetryonics 101” where I show HOW to use the existing Tetryonic templates [of Planck mass-energy momenta] to construct all the fields [boson & photons] of the Standard model along with the 3D Mater topologies of all the known fermions [and them some]… I do hope you’ll take the time to review this detailed instruction on the creation of quantum fields and Matter and try to replicate them same yourself – it is THE most informative thing students of Tetryonics and science in general can do when trying to increase their understanding of the hitherto unseen constituents that make up quantum theory and our macro-scale Universe and the laws of Nature we observe….

Tetryonics paper on physical chemistry is scarce on such numerical predictions and where it does make such predictions they are often in contradiction to observed experimental facts.

In addition to the maths found within Tetryonic illustrations there are also many spreadsheets developed from those very same equations over time to provide the numerical detail found in the illustrations – particular wrt periodic elements and theory rest atomic masses and kinetic elements etc. – It is by no means exhaustive on every topic imaginable
but they do address the information provided on particles & elements etc. along with their kinetic and relativistic energies of motion.

**Tetryonic Problem: Missing hydrogen element**

Hydrogen is not missing from Tetryonic theory – in fact it is extensively detailed and modelled in Tetryonics [1] – Quantum Mechanics eBook [again highlight the need not to jump into one’s preferred field of expertise and study but rather learn Tetryonic theory as you would any modern physical theory in order of presentation]

Hydrogen is designated as **element 00** in Tetryonic theory as it is **NOT** the building block of periodic elements as is currently understood but rather a sub-unit of Deuterium the real building block of all elements…. This is not an arbitrary decision but one forced on anybody who attempts to build physical models of all elements in order to match and explain many of the current established aspects of chemical and quantum theory wrt the quantum electrodynamics of elements themselves wrt molar mass, the Aufbau principle, Schrodinger and Bohr numbers for each element and how Deuterium nuclei [or any other] may bind together in order to form all the elements of the periodic table and their respective spectral emissions lines.

Attempting to build heavy elements utilising Z number Hydrogen nuclei as a foundation with the excess molar masses being accounted for by way of ‘extra or excess’ Neutrons [as is the established model of modern chemistry] runs into a number of problems immediately – namely:
The lack of residual strong Force binding points on nuclei to facilitate the binding of Neutrons to the nuclei in order to form the elements [particularly elements 60+]

The incorrectness of ‘reserve beta decay’ to explain and model Neutron particle formation and the mechanics of electron binding to periodic elements in accordance with Schrodinger’s wave equation and Bohr’s atomic model of the same in order to produce observed spectral line emissions of each element in the PT.

There is no uncertainty or indeterminacy in Tetryonic theory as there is in modern theory to explain away such inconsistencies between various aspects of physical theory – each attribute MUST be modelled and explained from first principles & invariably leads to new insights into quantum chemical theory that are at odds with established lines of thought.

To wit I stand by the claims and statements made in my eBooks:

Each elemental nuclei is made from Deuterium" (p. 12)
“120 elements in 8 quantum levels and hydrogen as a free radical." (p. 26)
“Deuterium (not hydrogen) is the building block of all elements." (p. 21)
“Hydrogen is NOT a periodic element” (p. 83)

As it is the ONLY way to model and explain how all the periodic elements are created from equilateral Planck energy momenta that is in accord with the known observables… they are not in agreement with some aspects of established theory BUT they do closely mirror the observables and once KEM fields of thermal heat, kinetic motion etc. are taken into account provide a very accurate quantum model of chemical processes at the quantum scale.

Tetryonics does not throw all these facts out of the window just because hydrogen does not fit neatly into my [or other] pre-conceived set of boxes and triangles and hexagons, they are calculated from the Material models and immaterial fields associated with each element that MUST grow from first principles… not from assumptions elaborated upon over time.
In fact the Aufbau table is shown in Tetryonic theory to be a table that has been ‘right justified’ to match the nomenclature of mathematics rather than the geometric topology of reality [which is centred about the principle quantum numbers and shells of Schrödinger and Bohr respectively]… it is only our skewed perspective of maths that prevents most from seeing the real symmetry present in atomic nuclei as detailed in the quantum numbers of Schrödinger’s wave equation for the same … ie there are no g,h,i,j, shells as supposed and all the quantum numbers of Schrödinger’s wave equations match the symmetric topology of elements as geometric portrayed in Tetryonics [and are in agreement with Bohr’s shells and orbitals as well, thus unifying all 3 theories]

The material topologies of Tetryonic theory then also lead to the necessity to correct ‘weighted’ values for all known particles and elements [and then some] in light of the quantum mechanics of the same – ie their identical 3D charge topologies and the mechanics of the quantum rotating synchronous convertors [Deuterium nuclei] that they form in deference to the accepted theory of mini-solar systems and Neutrons that are heavier than their identical charged counterparts [Protons and anti-Protons]
Point in case being **Tetryonic Problem: Incorrect Proton and Neutron masses**

As detailed in illustration 49.04 & 49.05 respectively in my eBook... Tetryonics demands an exact mass for Planck quanta and the molar masses [at absolute zero] for each and every particle in our Universe for modelling and any additional energy momenta [by way of thermal, spectral, kinetic or observational energies etc.] are accounted for in the KEM fields of each respective element or particle.

There is NO room for a ‘weighted’ atomic mass as utilised in modern chemistry which conveniently ignores the mass and motional energies of the electrons in the elements or which ignores the KEM field energies noted above for ‘most’ situations and calculations – Tetryonic theory MUST account for all of these energies even if it does so at the risk of disagreeing with modern theory at times...

The Proton and Neutron MUST have identical atomic masses as they are identical – both are $36\pi$ Baryon Matter topologies differing only in the net charges of +12 [24-12] vs 0 [18-18] they possess as a result of their constituent quarks [UDU vs DUD] as extensively detailed in my QM eBook... Neutrons are NOT created through the process of ‘reverse’ beta-decay as is supposed presently supposed in modern theory  and accordingly do NOT have a slightly higher mass than Protons which in turn affects the molar mass calculations for all periodic elements and isotopes as outlined in my Chemistry eBook as well at length.
Ie Carbon 13, 14 and upwards are not the result of ‘extra’ Neutrons being bound to the Carbon nuclei – such a nuclei if possible would be stable and not decay as observed – but rather they are simply the result of the inherent ‘squared’ equilateral mass-energies of each Baryon in the nuclei being increased from n1 to n2 to n3 …. Resulting in a net mass increase that ‘appears’ to be the result of a number of ‘extra’ Neutrons in the nuclei [again this is detailed in my Chemistry eBook and spreadsheets of the calculations be easily created from the formulae found in chapter 53 on my Chemistry eBook….

This ‘significant discrepancy’ with Tetryonics prediction of Proton and Neutron masses from observed ones alone will be enough to prove Tetryonic theory a worthy successor to modern quantum chemistry theory – unless you can explain all of the above using ‘excess’ Neutrons.

I am neither ignorant of the basic masses of basic particles nor do I think that Tetryonic theory and observed facts of nature disagree, but rather the established theoretical ‘facts’ of modern chemical theory must be in error

I agree that in reality Matter has 3D structure (including volume) hence the terminology of Matter topologies throughout my work. To portray my planar illustration of elements and particles in my PDF eBooks as not reflecting their true material topologies is grossly inaccurate and reflects that fact that YOU have NOT read all my work including Tetryonics 101, the Google sketch warehouse of 3D CAD models of each and every particle [kindly developed by Rene Cormier over many months of effort] and extensive list of all elements and their charged 3D topologies and electronic wave function properties and numbers which are freely available to all – only planar 2 d mass-energy geometries [bosons and photons]
are portrayed as being like thin 2D sheets in Tetryonic theory, something I am sure you will become more familiar with as your understanding of T-theory advances, [and your distain for its predictions and values not in accord with modern theory wains over time].

Regarding the ‘separation’ of electrons from the atomic nucleus – this is an antiquated model of quantum electrodynamics that is fashioned on planets and their satellites [ie the mini-solar system Bohr model] and which has been extended to a fuzzy electron orbital model to incorporate the Schrodinger quantum model and the ‘inherent’ quantum uncertainly/indeterminacy of statistical probabilities intrinsic to quantum theory as the theories developed over time…. Tetryonics makes it quite clear in T[1] – QM that the atomic nucleus is in fact a quantum synchronous convertor [ala Tesla/Westinghouse] that can store and release mass-energies in a controlled and predictable manner [ala isotopic decay and spectral line emissions] and that quantum mechanics is NOT quantum inherently uncertain nor in determinant as it is often portrayed – in fact quantum theory as explained by Tetryonic theory is very much deterministic in every way – it was only our top-down view of the mechanics that led modern science to this erroneous conclusion, which I have attempted to correct through Tetryonic theory.

The electron does not orbit the atomic nucleus of any element but rather is bound via its magnetic dipole moment to the positively charged nucleus and spins akin to the rotating rotor of quantum convertor partially within the 3D Matter topology of Deuterium nuclei…. 
Again these models have all been built and operate according to established electrodynamic theory and their operation is well understood in the macro sense [but obviously the acceptance of such a model strains the thoughts of most who have grown up a mental picture of fuzzy electrons orbiting a spherical nuclei]

Again the electronic structure of each and every one of the 120 possible periodic elements is well detailed wrt Bohr shells & orbitals and unified wrt their respective Schrodinger numbers for the same in my Chemistry eBook for all to view…. Unlike modern texts which normally stop at element 20 and claim that it is just too difficult to show the quantum models of larger elements with their evermore complex electron configurations and Schrodinger numbers

The s.p.d & f orbitals of electrons ‘around’ any elementary nuclei is the result of the atomic nuclei rotating about is centre of mass/gravity [classical angular momentum] and the
electrons tracing out easily determined and well defined concentric orbits about the same centre [as illustrated] …. A close examination of the Schrodinger numbers [or in fact Bohr orbits] of heavier/larger Z number atomic nuclei reveals the there are no g,h l orbits etc as often postulated but in fact there is a reversal of electron orbital distance as the element number and principal energy levels increases….. Resulting in the periodic symmetry depicted in Tetryonic theory of an atomic nucleus resembling a child’s spinning top, which could be mistaken for a spherical topology from our macro view of the quantum scale.

With each element’s Z number reflecting the number of Deuterium atoms in each nuclei, not the number of Hydrogen atoms with an ever increasing number of Neutrons to account for observed molar masses

The electrons associated with each atomic element’s structure in fact have an important and direct bearing on the spectral emissions of each particular element. Even though their mass-energies of their electronic topologies are only 0.000533’ % of the mass-energies of each Baryon in any atomic nuclei this mass-Matter differential along with the energy momenta of the electron’s KEM field is key to facilitating the absorption and release of spectral line emissions particular to each and every element known…. again, it is not simple good enough to conveniently ignore electrons ad hoc in scientific theory to suit a particular point or theory just because they are or ‘insignificant’ mass compared to the whole nucleus. Any successful model of science and physics in general must be able to account for ALL the known aspects of modern observations not just a select few that suit their purposes in order to unify physics on all energy scales. Ie a new model of the quantum structure, topology and mechanics of atomic nuclei must account for charge, atomic and chemical interactions, spectral line series and all known elements and compound creation in the ONE physical model.
Clarifying question about Tetronics nuclear vs. atomic size wrt the Zenon atom
I humbly submit that illustrations 51.49

And 53.49 respectively along with the 3D CAD illustrations of the same

Should be sufficient to explain and illustrate all properties of the Zenon atom [or any other you chose] including their rest mass-Matter energies [at absolute zero], their charged Matter topology in accord with Bohr shells/orbitals and Schrodinger numbers and the kinetic mass-energies of their bound electrons.

Clarifying question 2 about Tetronics nuclear vs. atomic size

According to Tetronics the proton and neutron in Deuterium nuclei touch one another at the point son their respective charge topologies where the e-field components of their constituent quarks are located - this is indicated on all Tetronic element illustrations via red [for positive] focus points and black [for negative] focus points.
But since Tetryonics does not include any separate strong nuclear force but just electromagnetics, all particles of Tetryonic nucleus would fly apart in a nanosecond.

Again, this misunderstanding and erroneous statement about Tetryonic theory seems to stem from you having failed to read Tetryonics [1] – Quantum Mechanics, viewed my Tetryonics 101 instruction video or even attempted to build and understand how atomic nuclei are formed and come together to form larger elements and compounds alike prior to commenting ….

In my first eBook I have gone to great lengths to show that the STRONG force does indeed exist and in fact plays a crucial role in bringing tetryons [the tetrahedral quantum of Matter topologies themselves] together to form leptons, quarks, mesons & Baryons – it is the parallel opposite charge interaction present between the planar charge faces of each tetryon within each and every Baryon [not to be mistaken for the residual strong force]

Obviously this co-planar opposite charge interaction holds all atomic nuclei together and your claim of Tetryonic particles flying away in a nanosecond just doesn't hold water…

In fact just place two sheets of glass together with a thin film of water between them and see how easy it is to pull those sheets apart by applying a force orthogonal to the co-planar sheets of glass and you’ll soon understand the STRONG force much better that you do presently.
This charge interaction between the e-fields of quarks in Baryons serves to not only bring positive charge Protons together with neutral Neutrons [something modern theory cannot explain] but also serve to orientate each baryon to the other so as to facilitate electron bonding and the creation of ever larger atomic elements and compounds [the residual strong or EM force as it is often termed or the London force]

Yes I have an ‘obsession’ with all atomic nuclei have equal numbers of Protons, electron AND Neutrons in accord with their Z number, just as you have an obsession with them being Hydrogen atoms with excess Neutrons ‘bound’ to them – but for the reasons highlighted above, and many others – as for the quantum structure of Protium (regular hydrogen), Deuterium and Tritium being ‘missing’ - again my T[1] - QM eBook holds the answers

With additional space being made to highlight the Tetryonic genesis of Tritium & Helium 3
All isotopes are simply Z number nuclei with the energy levels of their Baryons raised to the next quantum energy level \([n_1-n_8]\) in accord with the 3D material symmetry of the atomic nuclei themselves and the Bohr shells/Schrodinger principal quantum numbers, which can occur either through natural energy absorption or the artificial increase of their mass-energy content in the lab.

Obviously with all Deuterium nuclei being quantum synchronous convectors as the energy levels of their Baryons are increased [or decreased] the electrons bound to them respond in kind [hence synchronous] via spectral line emissions [or absorption] ….all covered in Tetryonics [2] – Quantum Electrodynamics.

There is NO explanation in modern chemical or quantum theory that accounts for the Proton-Neutron ‘curve’ of atomic isotopes nor for the islands of stability that exist for various elements, however Tetryonic theory accounts for all of this firstly by ‘straightening’ out the curved Z line of Protons and Neutrons underpinning atomic elements [by showing that all atomic nuclei are comprised of D nuclei not H atoms with excess neutrons] and then showing that the observed isotopic masses of each are the result of increased principal energy levels of their constituent baryons with the D nuclei comprising each element…. It is no error or ‘false notion’ as you put it, rather it is the current explanation of these facts by modern theory that is in error.
You have chosen Lithium to make your point I chose Carbon, Nitrogen and Oxygen to make mine, but the explanation for Lithium remains the same..... an increase in the mass-energies of the baryons making up the element concerned... btw I have done spreadsheets for each and all the elements as a matter of course during the development of my theory.

Element 3 – Lithium [ground state atomic topology and electronic configuration]
Regarding your comment of “but in reality only electrons are on these shells and the structure of the nucleus is completely separate from these shells”, - that is only the current opinion/consensus explanation of quantum chemistry at this stage and is obviously at odds with Tetryonic theory built from the ground up from equilateral Planck energies not the top-down through supposition….. I am confident that over time this consensus will change.

1. Explaining the extra (neutron) weight as higher energy-levels of the Deuterium nuclei seems ad hoc explanation with no supporting evidence – simply nonsense…..
2. No calculation is presented to derive a prediction for the excess mass (or energy) from the Tetryonics model – have you even read my work in detail – calculations and mass-energies are provided everywhere throughout it.
3. The excess mass of, say, Lithium 7 (one excess neutron compared to 3x deuterium) – again a number based on your erroneous viewpoint – not y given explanation and illustrations of the same.
4. This is inconsistent with the fact that there are multiple isotopes of each element.- how so?

   The energy level of Baryons of each and every illustrated element in Tetryonic can be increased resulting in isotopes of that element – with NO extra Neutrons present, again you seem to have failed to read and/or comprehend what was presented before you in the Tetryonics chemistry eBook.

5. See above for Hydrogen family [please]

All the ‘observed’ masses you have provided in that table are firstly just that, weighted [averaged] measurements of particles with kinetic energies [heat, spectral, motion etc.] not the absolute rest masses I have provided and clearly stated as such…… you must account for observational and inherent kinetic energies for your stated values to even begin reflecting the quantum values of particles at absolute zero.

Again, ‘isotopes’ is NOT what you think and proclaim – there are no extra Neutrons in the nuclei – only Baryonic energy above that of the res/ground state of such an element at absolute zero – unless you can account for those KEM field energies [as should be done]
Tetryonic Problem: Helium as Alkaline Earth metal
- And Hydrogen is element 1 which no-one can agree on which position it truly belongs in on the current periodic table.

Tetryonics problem: 120 possible maximum elements
- That is what is dictated by the charge topology of particles and elements themselves, perhaps you’d care to share what your spherical [or other] model for element 93 is, and how all the ‘extra’ Neutrons bind to each other to create that particular model?

Tetryonics shows quite clearly the reasons for there being only 120 possible periodic elements and it agrees with the math and equations of both Bohr and Schrodinger’s models despite the differing quantum topologies.

Perhaps, you can produce element 121 and prove me wrong on this.

Additional random quotes - the uncertainty principle erroneously dictates that position and momentum cannot be simultaneously determined

- There’s nothing random about this comment/quote - Tetryonic theory is founded on the SINGLE postulate that Planck mass-energy momenta has an quantum equilateral geometry [ie quantised angular momenta (m^2/s] is equilateral/triangular not circular as it is the macro sense of angular momentum] - from that flows the fact that the probabilistic nature of quantum theory and the maths used to describe it are in fact not ‘fuzzy’ or indeterminate as supposed presently but in fact an emergent property of the tessellation of mass-energy momenta at the quantum level.

The inherent indeterminacy of quantum theory is a crutch used my mathematicians and scientists alike to explain many of the puzzling aspects of quantum theory like the inherent statically probabilities of quantum fields themselves or the wave-particle duality of photons or particles in motion….. Again it is them and modern theory that have simply failed to grasp the geometric reality of energy momenta that underpins these phenomena and how they build to form the familiar laws of Nature at our scale of observation.

Tetryonic theory is all about correcting these erroneous assumptions and established viewpoints – but any change of perspective is not without birth pangs of angst and misunderstanding from those who first encounter it [like Newton, Planck and Einstein with their theories of Gravity, Quantum mechanics & Relativity theories before it]
That it is the transverse bosons Max Planck described using \( E = n \cdot h \nu \) when resolving the ultraviolet catastrophe and spectral line emissions.

And which subsequent theorists incorrectly applied directly to Einstein’s formulation of \( E = hf \) to describe neutral PHOTONS of energy momenta [dual charge bosons – quantum transformers].

And then erroneously attributed to an inherent uncertainty in quantum field dynamics etc. that does NOT and never existed in Nature itself or in Tetryonics.…
I do look forward to further elaborating Tetryonic theory in detail with you – but also strongly suggest that you become more familiar with my Tetryonics [1] – Quantum Mechanics and & Tetryonics [2] - Quantum Electrodynamics eBooks beforehand as a lot of your suspicions of, and reaction to Tetryonic theory seem to stem from a lack of understanding of the basics of the theory….

And as I mentioned in previous communications, I remain open to an online discussion so we may discuss these points in far more detail than possible herein.

There is also lots more additional information and explanation of Tetryonic theory to be found on YouTube and Otto’s Science of Life web- blog & the detailed 3D CAD models developed by Rene Cormier in the Google sketchup warehouse.