On the Modulations of Chemical Resonance and Rehybridizations by Positive and Negative Nuclear Magnetic Moments

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Abstract

A reconsideration of the nature of matter and space is outlined for reconsiderations of phenomena of transportations, transformations, transmutations, thermodynamics, and transductions. The new effects of nonzero nuclear magnetic moments (NMMs) on delocalizations of electrons in hybrid orbitals and rehybridizations of orbitals are outlined. Reggie acids and bases are related to Lewis acids and bases and induction of Reggie acids and bases by nonzero NMMs are introduced and the stimulations of such by external radio waves and electromagnetic fields are outlined. Novel energetic storages and accumulations of external fields by Reggie acids and bases are outlined. The nature and structure of quantum fields released from fissed leptonic and hadronic motions are reasoned and the composite natures of nuclear fields released with alterations by motions and superpositions of surrounding nuclei and the point natures of electrons releasing spherical fields with alterations due to motions and surrounding superpositions of other electrons and nuclear fields are outlined. The NMMs fractionally, reversibly (FR) fissing and fusing to create QFs that fiss electrons to twists electrons into different orbitals and delocalize electrons more by positive NMMs for fractional, strong force induced fields between electrons in QF about nuclei. The clumped all positive NMMs FR fiss and fuse to produce rational luminous fragments of e^- and quantum fields for delocalizing the e^- into various lobs of quantum fields about nuclei. Mathematically, particles are spheres that in motions transform to sinusoidal waves mathematically and sinusoidal waves in sinusoidal waves by accelerating and decelerating luminosity to superluminosity. Such motions inside motions are nature of quantum mechanics (QM); and classical mechanics (CM) couple to QM by such motions in motions as the clockwise (CW) and counterclockwise (CCW) motions in motions manifest composite slower motions of quanta for coupling to bigger classical as bigger radii move faster than these composite quanta having superluminous counter pieces. Motions of nuclei alter NMMs; so at higher temperatures nonzero NMMs more severely alter electrons. Flippings of interactions in a Frame are related to changes of interacting particles; flippings occur by v>c. So pieces transmute to move CW and other pieces move CCW (Br and Dk matter and fields). Br fields are dense enough to alter e^- particles to mix in spaces. Clumped Dk fields with Br fields are less dense, superluminous and irrational and cannot as well FR fiss and fuse e^- to rationally fragment electrons into rational fields and fragmented particles for delocalizations of e^-. The clumped Br and Dk fields FR fragment irrational superluminous pieces of e^- to mix and rehybridized space and orbitals for rehybridizations. But Dk with Br spaces can mix and rehybridize less dense wavefunctions. + NMMs make for better electrophiles and centers. – NMMs are good nucleophiles. NMMs just as + nuclear

charges and e^- charges can alter motions of e^- and alter e^-. So e^- particles ⇹ e^- waves in different orbitals and s orbitals ⇹ p ⇹ d ⇹ f and … In general, here the spaces fuse to CW and CCW motions as v>c so composite has v<c in mature Universe just as during the Big Bang and Inflation. Such here explain classical mechanics and quantum mechanics and couple classical mechanics to quantum mechanics.

Theory for NMMs Effects on Delocalizations and Rehybridizations

New theory is given of clumped positive (+) nuclear magnetic moments (NMMs) enhancing delocalizations and clumped negative (-) and negative NMMs enhancing orbital rehybridizations [2]. There is difference of electron (e^-) delocalizations and orbital (Ψs) rehybridizations. The difference is due to different magnitudes of densities of e^- and Ψs; as e^- is denser and luminous and orbitals are more rarefied and superluminous. The author determined the Ψs as rarefactions of e^-. Space is matter; and matter is space. And space moves as matter moves. And matter moves as space moves. Luminous Ether moves but superluminously and we cannot see it directly. Electrons can see Luminous Ether and Ψ s can see Luminous Ether. The laser light of the Morley and Michelson experiment could not see Luminous Ether [1]. But the laser was moving with and against the Luminous Ether. But the - NMMs and + NMMs cause detection of the Luminous Ether. What is the difference of e^- delocalizations and orbital rehybridizations? The orbital rehybridizations are superluminous CW and CCW Ψ s from fractional, reversible (FR) fiss and fuse of nuclei and e^-. The Ψs are fractionally, reversibly fused by homogeneous thermal spaces (of more Br spaces); mixed by heterogeneous thermal spaces (of clumped mixed Br and Dk spaces); fissed by electric (E) and magnetic (B) fields; mixed by heterogeneous gravitational fields; and fused by homogeneous gravitational fields. The e^- and Ψs are in different spaces; so relativistic effects occur in their different Frames. The e^- is FR fissed by e^- and B; rationally fissed by all positive NMMs; irrationally fissed by clumped positive and negative NMMs; rationally fused by fragmented Br gravity spaces; irrationally fused by mixed Br and Dk gravity spaces. The nuclei are FR fused and fissed by Weak Fields, Quantum Fields, E and B Fields and heat and gravity fields and strong fields FR fisses and fuses nuclei. Ψs are rarefied e^-; so Ψs are FR fissed by both heat and FR fused by E and B fields.

Reconsideration of Luminous Ether and Its Detection

Here I go back to detection of Luminous Ether. The Michelson Morley experiment used laser reflection to attempt to detect Luminous Ether. Luminous Ether is what RBL calls thermal spaces. But motions of light parallel and perpendicular to the Luminous Ether could not be observed by experiments of Michelson and Morley (1). Einstein reasoned the Luminous Ether does not exist due to inability to observe it (3). But RBL reasons thermal spaces (Luminous Ether) exist as noema and they cannot be observed due to their superluminosities (2). The thermal spaces move faster than light; so as the light moves through the Luminous Ether their motions cannot be observed as the Luminous Ether has moved and reverses motions before the light can move to detect the motions. Thermal spaces move reversibly back and forth before light can detect them. Gravity is dense thermal spaces which have slowed, compressed and bent. But Gravity still moves faster than light, E and B fields. E and B fields are even

denser thermal spaces, which move even slower than gravity. Light is moving E and B fields; and light is slower than thermal spaces. So thermal spaces (Luminous Ether) cannot be discerned by light. Light is two rarefied to couple to thermal spaces to irreversibly absorb thermal spaces. But by RBL Rules (4) the denser spaces of QF, e^- and nuclei can couple to thermal spaces irreversibly for detections of the thermal spaces (Luminous Ether) and their motions. So although QFs, e^-, and nuclei move slower than thermal spaces. These denser particles can detect thermal spaces (Luminous Ether) as thermal spaces FR fiss and fuse these denser entities and phenomena. The noema of thermal spaces couple to the phenomena of Ψs, e^- and nuclei, strong fields, weak fields, p^+, n , and e^-. So these denser phenomena can detect motions of Luminous Ether (thermal spaces). So now the moving e^- and muons couple to Luminous Ether irreversibly as the Luminous Ether is $v \rightarrow \infty$, but denser objects are agitated by the rarer Luminous Ether by Little's Rules and altered by the rarer Luminous Ether. So the particles FR fiss and fuse and this is the cause of QM as the e^- (s) have particle/wave duality as they couple to the Luminous Ether (thermal spaces). The muons wobble as they couple and are agitated by the Luminous Ether. Just because the light is too rare does not mean the Luminous Ether does not exist. Phenomena denser than light can be agitated by Luminous Ether to detect the Luminous Ether. But the Luminous Ether couples to light as Luminous Ether agitates the E and B fields of light and by these agitations of light the Luminous Ether fisses light to irrationality so light moves and refuses to new positions as they move. But really Luminous Ether causes quantum mechanics as the particles and fields are agitated by Luminous Ether and absorb Luminous Ether and the particles FR fiss and fuse due to interactions with Luminous Ether. So RBL reinterprets the Michelson Morley experiment by noting the Luminous Ether cannot be directly detected relative to the motions of laser light but the Luminous Ether is the reason the light moves.

Rarefied Wavefunctions

The e^- is FR fused by heat (thermal space) as thermal spaces disrupt e^- and e^- hold Br heat. But B fields FR fiss e^- as B fields spread e^- into many waves. The wavefunctions (Ψs) are FR fused by Br heat and FR fissed by E and B fields into L Continua. The nuclei are FR fused and fused by B and E fields and FR fissed and fused by q. So the Ψs FR fiss and fuse in the q, B fields and E fields. So q (thermal space) can be bright (Br) and positive (+) in symmetry. So positive (+) NMMs FR fiss more Br and q whereas negative (-) NMMs fractionally, reversibly (FR) fiss more Dk and q. So the Br and q FR fiss Ψs and Dk and q FR fuses Ψs. Dk twist Ψs to move them counterclockwise (CCW) to cause deficiency and integrate surroundings as by divergent integrations. Br q twist Ψs clockwise (CW) to cause excess with FR fiss as by divergent differentiations. + NMMs therefore cause FR fiss of Ψs and – NMMs cause FR fuse of Ψs fusing Ψs making them easier to rehybridize as background is excess Br and q; so Br and q FR fiss Ψs and without Dk and q then they are difficult to refuse. But with Dk and q, the – NMMs give Dk and q to help refuse into new hybrid symmetries and different hybrid symmetries.

Denser Electron

The e^- is denser than the Ψs so Br and q FR fuses e^- and Dk and q FR fisses e^-. The Br and q FR fuses e^- as dense lepton + q accel e^- interiors or disconform e^- interiors to FR fuse them by RB Little's Rules 1 and 2 as they move faster in shrinking for relativistically moving faster. But Dk and q acts to

twist e^- in reverse to fiss e^- with release of superluminous irrational spaces. Rarer e^- cannot hold excess agitating, thermal spaces by RB Little's Rules 1 and 3; so rarefied e^- FR fisses by Dk and – NMMs. So Br and q in background and Br q in + NMMs act to FR fuse e^- for rational denser dressed electrons and rational pieces of e^- and rational fields for delocalization of e^-; Little's Rules 1 and 2. So Dk and q from negative NMMs act to FR fiss e^- Little's Rules 1 and 3 for release of irrational superluminous fields and waves for coupling and rehybridizing spaces and orbitals. And FR fiss e^- cannot delocalize as it has nothing to refuse it in many places. But Br fields from different atoms are as Dk fields upon a given center. So central nuclei with Br fuses and surrounding with Br fisses e^- as peripheryl atoms having Br of concavities relative to peripheral nuclei but Dk of convexities relative to central nucleus. So concavities of peripheral nuclei ⇀ convexities of central nucleus. These Br and Dk fields of concavities and convexities are transient powerful gravities on atomic scales and nuclear scales that transform fractionally, reversibly (FR) to E and B fields, QF, NF, WF, and SF. So now this requires + NMMs of central and peripheral nuclei to rehybridize and delocalize intervening e^-. As Br fields invert to Dk fields of peripheral nuclei cause fiss of e^- and the core FR fuse e^- in new location so $^{14}NH_3$ has delocalized e^- and ^{12}C-$^{16}O_3^{2-}$ has delocalized e^-. But for ^{13}C-^{17}O, the ^{17}O releases Dk fields and give Br fields to ^{13}C to make it easier to rehybridize e^- on ^{13}C. But why would it be more difficult to delocalize e^- for the clumped positive and negative NMMs? The + NMMs and – NMMs make e^- delocalization more difficult as – NMM delocalizes and + NMMs localizes. So peripheral atoms of – NMMs spread e^- but the spread of – NMM relative to central + NMMs appear as concavity to localize e^- e^- on central atom. So ligands fuse e^- on central atom and central atoms fuses e^- about the central nuclei for excess fusing electrons for irrational fields and superluminosity for difficult delocalization of the e^- as the irrational field fisses the electron irrationally and releases irrational fields for less rational delocalization of fragments of the e^-. It is important to consider the different effects of clumped + and – NMMs on lattice electrons. Centers with + NMMs FR fiss and fuse to release rational luminous fields that FR fuse e^- e^- and e^-.

Lewis Acid and Base ⇀ Reggie Acids and Bases by Nonzero NMMs

There is difference in ability to FR fuse bosonic e^- e^- and fermionic e^- as the boson requires different NMMs to FR fuse e^- e^- relative to magnetic, fermionic radical e^- FR fusing and fissing so as to require net magnetic moments of NMMs. Nonzero NMMs may form Reggie acids with lone single e^- and Reggie bases with lone single e^- in half filled orbitals. Clumped nonzero all + or all negative (homoclumped) NMMs may couple more strongly to Reggie acids and Reggie bases and may transform Lewis acids and Lewis bases to Reggie acids and Reggie bases. The clumped positive and negative (heteroclumped) NMMs may couple more strongly to Lewis acids and Lewis bases and may transform Reggie acids and Reggie bases to Lewis acids and Lewis bases. But NMMs of zero NMMs may manifest the FR fissing and fusing of e^- e^- Lewis pairs in chemistry and e^- e^- Copper Pairs in superconductivity. By this mechanism, as introduced previously by RBL, the nonzero NMMs induce mixing of Lewis acid base chemistry via e^- e^- pairs with radical reactions via NMMs breaking Lewis acids and Lewis bases into Reggie acids and Reggie bases. Where Reggie acids are acids that accept single e^-(s) and respond paramagnetically and ferromagnetically to external magnetic fields and spins. But the Reggie bases are bases that give single e^-(s) and respond to paramagnetic and ferromagnetic environments and respond to external B fields and spins. Reggie acids and Reggie bases react to form Lewis salts with diamagnetic e^- e^- pairs in orbitals of formed bonds. But ligands of + NMMs release fields that will FR fiss e^- e^- on that center of + NMMs. And ligands of – NMMs will release fields that FR fuse e^- e^- on that center. Vice versa

centers with – NMMs will FR fiss $e^- e^-$ and ligands of + NMMs bound to that of negative NMMs will FR fuse $e^- e^-$ to that center of negative NMMs. This is new effect of nonzero NMMs on Lewis acids and Lewis bases. So now nuclei of different patterns of nonzero NMMs will pull $e^- e^-$ to centers for + NMM centers and – NMM ligands to pull $e^- e^-$ to + NMM centers while push $e^- e^-$ into + NMM centers by ligands. And pull $e^- e^-$ to centers while pulling $e^- e^-$ to ligands for + NMM centers with + NMM ligands to rationally fragment $e^- e^-$ on center nucleus and ligand nuclei simultaneously. So clusters of + NMM centers with – NMM ligands irrationally localize $e^- e^-$ on the center at one time and then irrationally shift $e^- e^-$ negative charge at later moment of time on to nuclei for polar covalent bond. But clusters of clumped all + NMMs will rationally delocalize $e^- e^-$ simultaneously onto centers and ligands for covalency. So ^{13}C on central atom should be more delocalized sp^3 $e^- e^-$. And therefore ^{13}C $^{17}O_3^{2-}$ with $e^- e^-$ should have polar covalent bonds across center and ligands. Reggie acids and Reggie bases may also be considered and novel effects of radio waves and static magnetic fields on the reactions of Reggie acids and Reggie bases.

The nonzero NMMs RF fiss and fuse to alter fermionic NMMs more as they may induce bonding of fermionic NMMs. The nonzero NMMs may FR fiss and fuse to induced breaking covalence bonds to stabilize fermionic lone electron in orbitals. The net nonzero NMMs stabilize lone e^- and destabilize $e^- e^-$ bosonic pairs. The net zero NMMs stabilize $e^- e^-$ pairs and destabilize lone e^- fermions. The + NMMs on cations and – NMMs on anions stabilize covalent bonds and destabilize ionic bonds. The – NMMs on cations and + NMMs on anions stabilize ionic compounds. All + NMMs stabilize metallic bonds. All – NMMs destabilize metallic bonds. + NMMs and – NMMs in isotopes destabilize metallic bonds.

Novel Chemical Dynamics of External Magnetic Fields on Reggie Acids and Bases

Reggie acids and Reggie bases may also be considered and novel effects of radio waves and static magnetic fields on the reactions of Reggie acids and Reggie bases. The nonzero NMMs may induce the fragmentations of Lewis salts into Reggie acids and Reggie bases. The Reggie acids form on the nuclei having positive NMMs and the Reggie bases form on the nuclei having negative NMMs. These bases and acids give and receive e^-. External magnetic fields may polarize the electrons of Reggie acids and Reggie bases preventing their recombinations to Lewis salts for manifesting prolong radical pair effects, but in new way as introduced by the author. Radio waves may also couple to such chemical systems having Lewis salts with positive and negative NMMs to form and drive nuclear spins and electron motions in the cleaved Lewis salt to Reggie acids and Reggie bases. The radio waves may thereby be absorbed and accumulated into such chemical systems having Reggie acids and Reggie bases. The Reggie acids and Reggie bases having ^{13}C and ^{17}O or ^{13}C, ^{15}N and ^{17}O in proteins and nucleic acids and other biomolecules may be a way for organisms to detect external magnetic fields. Organisms may have a sixth sense for magnetism by biomolecules having ^{13}C, ^{15}N and ^{17}O, manifesting Reggie acids and Reggie bases that orient in earth's magnetic field for detecting the magnetic field of the earth. It is in this way that RBL discovered previously that such Reggie acids and Reggie bases of ^{13}C, ^{15}N, ^{17}O, ^{25}Mg, ^{33}S, and ^{31}P may form in external magnetic fields as Lewis acids and bases of ^{12}C, ^{14}N, ^{16}O, ^{32}S, and ^{24}Mg (having $e^- e^-$ Lewis pair) involve and bind ^{17}O for activating and magnetizing Lewis acids and electrophiles like ^{12}C, and ^{32}S and others for introducing ^{17}O into biomolecules. Then ^{17}O favors surrounding ^{13}C over ^{12}C to clump ^{13}C, ^{17}O and ^{15}N into proteins, carbohydrates and nucleic acids. Surrounding and environmental radio waves, infrared, microwaves and other electromagnetic waves and static magnetic

fields may couple to such systems to assist such clumpings. But it is stressed here the cross over of prior organic chemistry of Lewis bases acting as nucleophiles by attacking $e^- e^-$ pairs onto Lewis acidic electrophilic centers like ^{12}C to cause new ferrochemistry of Little's Effect as the nuclei of nonzero NMMs manifest nuclear pressures that separate diamagnetic Lewis pairs $e^- e^-$ into different orbitals of bonding and antibonding orbitals or into forbidden states momentarily for forming magnetized Reggie acids and Reggie bases for transitions from classical organic chemistry to ferrochemistry of RB Little.

Examples of Centers and Ligands with Positive and Negative NMMs for Excess Stability

But ligands of negative NMMs will FR fiss to push and polarize $e^- e^-$ from their centers of negative NMMs. So ^{14}N in $^{14}NH_3$ will rationally FR fuse to polarize and pull $e^- e^-$ to such centers for example ^{14}N with its + NMM and the bound ^1H of ^{14}N-^1H rationally FR fiss to pull polarize $e^- e^-$ to the ^1H ligand to disrupt confining QFs about ^{14}N center for more delocalization of $e^- e^-$ in more nonpolar covalence between ^{14}N and ^1H nuclei for more covalence and instability as by contrary electronegativity differences between ^{14}N and ^1H. But for CO_3^{2-} with ^{13}C and ^{17}O, the ^{13}C of + NMM FR fuse to polarize and pull $e^- e^-$ to ^{13}C and ^{17}O of - NMM FR irrationally fuse to polarize and push $e^- e^-$ to the center ^{13}C for polar covalence and greater stability. RBL notes that surrounding radio waves will agitate $^{13}C^{17}O_3^{2-}$ to increase its stability by irrational release more NMMs. Radio waves will irrationally agitate $^{15}NH_3$ to stabilize it by increase polar covalence across ^{15}N-^1H bonds. On the basis of this, RBL discovers unusual biochemistry of carbonate and amine functional groups with ^{17}O replacing ^{16}O and ^{15}N replacing ^{14}N. The author here notes radio waves and ^{17}O may interact with CO_2 to fix CO_2 so as to capture CO_2 from the atmosphere. ^{29}Si has – NMM and may be unusual in reacting as electrophilic center relative to ^{13}C. ^{29}Si has negative NMM and fiss $e^- e^-$ away and will be poor center. ^{29}Si may be nucleophilic. ^{29}Si may bind organic molecules in unusual ways. ^{117}Sn, ^{115}Sn, and ^{73}Ge also have negative NMMs and may behave unusually relative to the other isotopes of these elements for novel chemistry and biochemistry for novel drugs or poisons. ^{32}P is radioactive but has negative NMMs and half life of 14 days and may be unusual nucleophile in cancer. In this work the author discloses changing isotopes of some elements having 0, + or - NMMs among their isotopes can change the chemical stabilities of bonds and chemical reactivities of species.

Concavity of Ligand is Inverted to Convexity and Convexity Inverted to Concavity

This is new idea of centers with + NMMs and their interactions with ligands with + NMMs for greater stabilizations as + NMM centers (with concavity) see peripheral + NMMs (concavity) as convexities. So the concavities of + NMM centers rationally bind $e^- e^-$ and the relative convexities of peripheral + NMM of ligands rationally disrupt confined $e^- e^-$ on + NMM centers to rationally destabilize quanta fields of wave natures. But – NMMs in peripheral ligands are convexities and from perspective of central + NMMs the peripheral convexities become concavities so these irrationally push $e^- e^-$ closer to nuclei with particle nature to stabilize higher hybrid orders the centers with NMMs. So + NMM centers and – NMM ligands produce gravities that twist e^- in same direction for particle like e^- in the bonding MOs. But + NMM centers and + NMM ligands produce contrary gravity spaces that bend e^- in and bend outward and this causes wavelike e^- with rarefactions of wavefunctions and stretching of the bonds for electrophilicity of + NMM centers and electron delocalizations. So now going back, the

negative NMM centers with negative NMM ligands twist e^- e^- away from centers to weaken bonds and increase nucleophilicity and ease of rehybridizations. Likewise – NMM centers and + NMM ligands cause opposing bending of e^- to irrationally cause wave nature of e^-. So $^{13}C^{17}O_3^{-2}$ will have wave nature of e^- for delocalizations of e^- relative to $^{12}C^{16}O_3^{2-}$ with ^{16}O. So ligands with – NMMs rehybridize better as push e^- from nucleus e^- e^- --- e^- e^- interact to alter orbitals. Rarefied Ψs rehybridize more easily than dense Ψs. It is on this basis that isotopes of oxygen can be explained to favor certain positions in O_3 on basis of this new theory. ^{18}O-^{16}O-^{17}O. So that the ^{17}O favors the outer position and ^{16}O favors the central position. The ^{16}O of null NMM more readily delocalizes electron among sp^2 hybrid orbitals so ^{16}O favors the central position. ^{17}O favors outer position as it readily rehybridizes orbitals from sp^2 to sp^3. So ^{17}O in outer can resonate π bonds for greater stability: $^{17}O{=}O{-}O \leftrightarrow {}^{17}O{-}O{=}O$. So in general, e^- e^- interact with nuclei cause s orbital but e^- e^- interact with e^- cause p, d, f , g, h ect orbitals. e^- in motions cause altered s waves; as moving s spheres ⇀ p orbitals.

So + NMMs rationally shift and oscillate e^- e^- between centers. But what would irrationally shift /oscillate space itself? + NMMs interact with + NMMs pictures of fields countering between nuclei. + NMMs and excess + fractional NMMs of space tend to rationally fragment e^-. But space is not like e^-. Space is irrational. Space has both + and – NMMs and fractional Br and Dk gravities with excess Br gravity in our sector of the Universe. So the Ψs are more space like having regions of spatially separated + and – NMMs. The e^- has less spatially separated + and – NMMs as they fuse to sphere for e^- at pole v is less but at equator v is greater (The property of the space is different from particle, depending on packing and symmetry of space). So the v>c at equator causes CW to flip CCW to reverse motion inside e^-. So reverse motions at equator allow the pieces to move v>c across equator and compose + and – motions to v<c. e^- fragments to space by the N and S poles separating and in separating the N pole slows and S pole slows as they separate in space to form lobs of wavefunctions. (This fragmenting of electron is as the electron's motion becomes superluminous so relative to other objects the electron fragments its top hemisphere and bottom hemisphere so the top moves luminously CW to form Br monopole and the bottom moves luminously CCW Dk monopole to form so the monopoles internally move v>c but the composite moves v<c. Such fragmenting of electron manifest particle wave duality as explained here and also manifest general tendencies in mature Universe of space, fields, waves and particles to fiss and fuse as motions exceed speed of light so composites form or composites decompose so v >c becomes v < c as occurred in Original Singularity , Big Bang and Inflation.) The electron is composed of many, many wavefunctions. The lobs of the wavefunctions have monopoles with v>c to stabilize the monopoles. Ψs have v>c spaces and monopoles of + and – parities. e^- is dipole; the dipole of e^- is rationally shattered to pieces by + NMMs of centers and ligands to delocalize e^- (picture of space or wavefunction, Ψ, created between two NMMs of + polarities) as one + NMM rationally acts on N pole of e^- and the other + NMM rationally acts on S pole. But for Ψs, the + pole of N and – pole of S are separated in space. So many + NMMs will not shatter Ψs. Ψs with + and – poles and + NMMs and – NMMs will act on Ψs to shatter Ψs as + NMMs and – NMMs will act on Ψs to shatter Ψs as + NMMs and – NMMs create polarizations to separate space nonlocally. (It is important to note the + and – NMMs not only act on e^- but act on Ψs (so and moreover they (NMMs) act simultaneously on e^- and Ψ (s). So all + NMMs act to rationally pull e^- apart and e^- alters distributions into different orbitals. So + NMMs and – NMMs irrationally act on e^- to pull apart irrationally. The irrational fragments by + NMMs and – NMMs are not as able to redistribute e^- into different lobs but redistribute space.) The – NMMs with +

NMMs and background excess + NMMs can act on QFs (Ψs) to couple many Ψ (s) so as to rehybridize and mix the Ψ (s) for rehybridizations. Denser all + NMMs can couple to dense e^- to mix alter top poles and bottom poles. But the irrationals rarer + and – NMMs in L Frames can couple to many QFs (fragmented e^-) to alter mix and rehybridize the Ψ (s). So $s + p_x + p_y + p_z \leftrightarrow sp + p_y + p_z \leftrightarrow sp^2 + p_z \leftrightarrow sp^3$.

The composite e^- is fragmented rationally and remixed rationally over larger space so e^- rationally slower particle ⇿ e^- rationally slower wave by denser + NMMs. But the + NMMs and – NMMs irrationally act on composite Ψ s to irrationally, superluminously mix composite Ψ (s) + and – NMMs concentrate the spaces to change spaces of dense Ψ (s) to rehybridize the spaces. The rehybridizations of many Ψ s can form e^-. Hybridizations of many Ψ s can cause nuclei of + NMMs and – NMMs to act more irrationally, globally as they counter each other to rarefy + NMMs so they fiss to broader and complex to many Ψ (s) to mix the Ψ (s). But all + NMMs will act rationally and deeply to alter spaces inside Ψ(s). The – NMMs are less dense and rare in our sector of the universe. So – NMMs and + NMMs manifest irrationality over larger spaces than size of e^- and over sizes of atoms and molecules, so the – NMMs with diminished + NMMs can irrationally FR fiss and fuse to irrationally couple to Ψs to alter multiple Ψs to rehybridize Ψs momentarily. The nuclei irrationally FR fiss and fuse the – NMMs and + NMMs and corresponding strong fields and weak fields for irrationally coupling and twisting the Ψ s and e^- about nuclei in altered ways to irrationally create new patterns of Ψ s of mixed pure Ψ s for hybrid orbitals. The fractional, reversible fissed + and – NMMs and strong and weak fields are able to irrationally bind like charged fragments of e^- and like polarity lobs of gerade and ungerade in novel ways so – lobs irrationally bind - lobs and + lobs irrationally bind + lobs and + lobs and – lobs repel irrationally for mixing lobs of orbitals of different principle azimuthal, magnetic and spin quanta numbers for forming transient hybrid orbitals for new theory in ferrochemistry for describing activated states and modified transition state theory on the basis of the author's theory. Thereby elements with isotopes of null NMMs differ relative to nonzero NMMs in their proclivities to rehybridize orbitals on the basis of this theory of ferrochemistry by author.

The heat bath as proposed by author has both irrational fractional + NMMs and irrational fractional – NMMs and irrational fragmented Br and irrational fragmented Dk spaces. But in our sector of the Universe, the thermal space is more of the fractional, irrational NMMs and Br spaces of gravity for imbalance and dissipative phenomena for classical mechanics on macroscales. But in other sectors of the Universe there may be more thermal spaces of excessive fragmented irrational – NMMs and fragment irrational Dk spaces. But in our sector of the Universe, there is more fragmented irrational + NMMs and fragmented irrational Br spaces manifesting the thermal space and Aether. The imbalance of more fragmented irrational + NMMs and fragmented irrational Br spaces couple by Little's Rules all the way to the core of denser spaces of matter like quarks, electrons, leptons, strong fields, hadrons, nuclear fields, quantum fields, B fields, E fields and gravities to perturb such fields, waves and particles by Little's Rules. Such irrational couplings of the thermal spaces of C Frame to these denser fields waves and particles 'at the bottom' cause QM and is the basis for coupling QM to CM and further explain CM on the basis of elementary particles and fields.

In prior publications [4 and 5] author the heat bath (thermal spaces or Aether of fractional E Fields and B fields for thermal irrationals and gravity irrationals with slight excess of Br and deficiency of Dk) can concentrate to transform / transmute to E and B fields and G fields. Even greater accumulation can fuse to QF. Also it was proposed that denser fields, waves, and particles can seed the crystallizations of thermal spaces to denser fields.

In the new publication here, it is demonstrated further that the irrational thermal spaces of excess Br and deficient Dk can irrationally superluminously couple to bath quarks, leptons, hadrons and associated fields of strong fields, weak fields and quantum fields to affect the quantum dynamics of nuclei and electrons in new ways for explaining new phenomena. The excessive Br thermal spaces irrationally superluminously couple to + and – NMMs and e^- about nuclei to fiss fields in different ways than the deficient Dk thermal spaces. The excessive Br thermal spaces are able to rationally couple to denser quarks, strong fields and hadrons of nuclei and e^- by Little's Rules 1, 2, and 3. But the less excessive Dk thermal spaces are not as able to rationally couple to e^- and its QF (Ψs) by Little's Rules 1 and 2. Thereby the excessive Br thermal bath with its excessive Dk couples more densely, rationally to affect both + NMMs and – NMMs and e^- to delocalize e^-. The deficient Dk thermal spaces cannot as well rationally couple to the e^- to alter its delocalization. But the deficient Dk can irrationaly couple + NMMs and – NMMs to couple to the QFs (Ψ s) to alter the rehybridizations of the QFs by Little's Rules. Thereby the denser e^- in the thermal bath behaves differently than the rarer QFs in the thermal spaces of slightly excessive Br spaces. The + NMMs with – NMMs irrationally fiss fields in the fragmented Br (excess) and fragmented Dk of thermal spaces so the + NMMs and – NMMs irrationally couple to e^- QFs (Ψ s) to rehybridize QFs. The + NMMs alone rationally fiss fields in the excessive Br thermal spaces so the + NMMs rationally couple to e^- delocalize the e^-.

The many + NMMs in surrounding heat bath of irrational fragmented Br and Dk gravities act counter to each other so as to pull e^- apart rationally into dense QFs (Ψs) for the efficient delocalizations of the e^- in say $^{13}C\text{-}O_3{}^{2-}$and in $^{13}C\text{-}^{19}F_3$; $^{10}B^{19}F_3$. $^{13}C^{17}O_3{}^{2-}$. But the clumped + NMMs and – NMMs in say carbonates are acted on by surrounding superluminous irrational thermal bath of fragmented irrational Br and Dk gravities to FR fiss the clumped + NMMs and – NMMs to release reinforcing QFs and L Continua about the nonzero NMMs. The resulting reinforcing QFs (Ψs) and L Continua push e^- into irrational and rational QFs to fragment e^- in spaces. So it seems all + NMMs or all – NMMs rationally agitated to surrounding irrational thermal spaces agitate the nonzero NMMs to cause contrary fields to shutter e^- rationally and stronger altered particles fragment for e^- delocalization. But + NMMs and – NMMs irrationally agitated by surrounding irrational thermal spaces agitate the nonzero NMMs to cause reinforcing fields to shatter e^- in to irrational L Continua and stronger alter spaces for faster rehybridizations.

Understand Quantum Mechanics by Such Fractional, Reversible Fissing and Fusing and Motions

It is good to imagine nuclei with spherical fields of s nature within electronic lattices and e^- with bright spheres so the electrons spheres move in the transformed spherical fields released from the nuclei and the electrons to form wavefunctions. The electrons are moving. The KE mixes with PE in the Hamiltonian as the spaces move with electrons and the potential energy (PE) moves with electrons to

have kinetic energy (KE) affect PE and PE affect KE in ways not of classical nature. This helps couple quantum mechanics to classical mechanics. Quantum mechanics have phenomena that are not manifested classically. For instance, in classical mechanics, the objects have KE and the objects have PE due to gravitational fields, electric fields and magnetic fields. But in quantum mechanics, the KE have PE as the motions of spaces have potential energies to move matter. The PE are moving so they have KE. Moving PE in QM are different from PE in classical mechanics. KE in QM are different from KE in classical mechanics (CM) as in quantum mechanics (QM); the KE have energy due to their motions not by motions colliding to move other objects but the KE cause alterations of spaces and motions of alterations. So their energetics are different from CM as in CM the motions of masses allow them to collide with other objects to move other objects. But in QM the motions of the objects produce and consume spaces and transmute spaces and emanate spaces and these allow them to alter other objects not by colliding but nonlocally. The picture shows concavity and convexities of nucleus and moving electrons in effort to derive the wavefunctions (Ψs) from the moving particles as particles FR fiss and fuse spaces about them. The picture demonstrates the wavefunctions (Ψs) of space FR fissing and fusing from electrons and nuclei. Thereby changing the nuclei neutrons change the Ψs in subtle ways as discovered here.

Moving Fractional Fissing Fusing Spheres of Electrons and Nuclei form NonSpherical Subshells

The spheres of s orbitals form dumbells of p orbitals. Moving spheres of more than 2 electrons about the nuclei with rational FR fissed and fused spherical fields, which cause the rational spherical s spaces to transform to dumbbells shapes of rational p orbitals. Nuclei rationally and irrationally FR fiss non-spherical fields due to internal moving nucleons and such released nuclear fields may be altered by the motions of nuclei and superpositions of fields from other nuclei and other electrons. Electrons rationally FR release spherical fields as point particles; these spherical fields maybe altered by electron motions and superpositions of fields from many electrons in motions. This occurs due to linear combinations of moving spherical fields from each electron in motions and the spherical fields of the central nucleus. Denser, slower, rational nuclear fields of altered spaces couple to moving e^- fields of altered spaces to form wavefunctions (Ψs). Some motions and waves from the stationary nuclei and moving electrons self-conform manifesting Ψs as we know them. Other fields self-deform for forming L Continua about Ψs. + and – NMMs alter the Ψs as FR released by nuclei. Here the author (RBL) includes novel Ψs induced by relativistic rotating nuclei and other electronic motions. + NMMs alter the Ψs that are FR released by nuclei. At a particular time, + NMMs FR release concaved fields (converging) and – NMMs FR release convexed fields (diverging) from nuclei at a particular time. At some different time the nuclei release + NMMs and – NMMs of convexed fields (diverging) and concaved fields (converging), respectively. The Ψs are more concentrated by e^- FR fiss and fuse. The NMMs perturb the e^- FR fissed and fused fields. + NMMs produced at a particular time are concaved spaces with converging for perturbations of the e^- FR fissed and fused fields. So the e^- spin revolves as it orbits so the FR fiss fields released due to e^- waves and nuclei disrupt their FR reabsorbing and fusing to e^-; so e^- particles form e^- waves. So at some particular time, + NMMs release concavities relative to nuclei but convexities relative to e^- at the particular time; so + NMMs pull e^- waves away from e^- seed and FR fiss and fuse e^-. So the rarer fields cause Ψs to compress and pull to nuclei. But – NMMs are convexed at the characteristic particular time relative to nuclei and concaved relative to e^- to FR fuse e^- at the characteristic time, but excess cannot FR fuse to e^-. So excess QFs exist about e^- to cause larger Ψs about – NMMs. How do

moving concavities interact with relative convexities from + NMMs and their concavities? So the + NMMs may be concaved and the – NMM may be convexed at some particular characteristic time. The fields released from e^- are shaped and sheared, so the fields closer to nuclei are twisted faster than fields far away. (But this causes nonclassical phenomena in L Frame as L Frame rotations classically should be slower than C Frame rotations. Thereby the nuclei further alter the electronic motions in L Frame from Classical Mechanics to Quantum Mechanics as the acceleration of electrons by nuclei cause Bigger C Frame dynamics to need superluminosity relative to slower L Frame. So the L Frame superluminous motions transmute to form pieces of spaces, fields, waves and particles with Br and Dk fields and CW and CCW motions in superluminosities for composite to be luminous and C Frame outer fields and particles to be subluminous.) This is the origin of quantum mechanics (QM) as, on the one hand, the classical mechanics (CM) has the inner most moving slower relative to outer most fields and spaces. But the dichotomy is that the interactions of inner most with other inner most fields and particles are larger as the distances are smaller so the forces are greater while the motions classically should be slower; so the accelerations and motions are greater for QM and the resulting greater forces and resulting greater accelerations produce v>c of L Frames relative to C Frame so. Therefore more L Frames seeded and accelerated in CW and CCW motions for superluminosities that sum to composites to produce luminous composite (phasal) motions. But in L Frames, the CW and CCW group velocities in individualities or phasals for phase velocities have v > c. So the dichotomy of slower inner most spacetime but greater forces and accelerations on inner most leads to motions in motions for compounded motions so compound is as classical and finer motions in motions experience stronger fields for shredding spaces and creating inner spaces and motions. The sheared fields may twist e^- faster in revolutions as they orbits. This may compress the e^- and compress the orbitals as already reasoned by RBL.

Therefore more L Frames seeded and accelerated in CW and CCW motions for superluminosities that sum to composites to produce luminous, composite (group) motions. But in L Frames, the CW and CCW group velocities in individualities for phasals for phase velocities have v > c. Such is reminiscent of Original Singularity and Inflation of the Universe as the Big Band produced singular Dk outward motions and fields; which perhaps slowed with expansion. But the Inflation involved superluminous explosions (generating phase velocities) beyond the initial Bang with productions of inner most Br and Dk fields with phase velocities and particles with superluminous phase velocities but together luminous group velocities relative to outer expanding Universe. The outer expanding Universe in its maturity still manifest as in the interior phase velocities of the Br and Dk particles and waves moving superluminously relative to each other for Quantum Mechanics by grouping for group velocity as by quantum mechanics. But the interior Br and Dk particles, waves and fields move luminously by their compound motions or group dispersion relative to larger scale C Frame. Such explains the origin of quantum mechanics by grouping of superluminous phases for composite luminous motions and the composite quanta of the inner L Frames having luminous motions relative to bigger outer scales of C Frame.

The Coupling of C Frame Motions to L Frame Motions for CM to QM

It may seem that the fields, closest to nuclei are twisted slower than fields far away as by the linear coupling of the outer and inner spaces for slower inner motions relative to outer motions. But the

inner spaces interact more strongly. Classical mechanics (CM) has objects moving in what appears isolation with interactions via collisions or a few other macro-objects. But quantum mechanics (QM) is different as objects move with multitudes of strong interactions nonlocally and motions in motions. So thereby RBL introduces relativistic effects for fields and spaces developing within spaces. This slower twisting of inner spaces relative to outer spaces seems reasonable from our classical perspective. But also the inner spaces have smaller distances and larger potential energies for stronger forces and accelerations relativistically to nonlinearity. But the relativism introduces spaces within spaces and bending and vibrating within bends and vibrations for classical mechanics to transform and transmute classical mechanics to quantum mechanics as the inner bends and vibrations lack possible spaces for self-conformations and the lacking spaces lead to forbidden (phasal motions as the self disconformation is the lack of space and motion for grouping to slow the phase from superluminous to luminous for grouping) and L Continua (is non grouped phase modes) for emergence of quantum mechanics from our classical mechanics/notion. So the rotations in our macroscopic Frame (C Frame) seem to need superluminosities as relative to smaller Frames as $\Delta x \rightarrow 0$. But by the theory of the RBL, the divergent integrations cause differences from the classical differentiations as the $\Delta x \rightarrow 0$ the spaces develop inside (internal) spaces so the macro spatial velocities do not have to $\rightarrow \infty$ as $\Delta x \rightarrow 0$ for finite velocities of internal spaces. The spaces within spaces move contrary (for Br and Dk for sum + and – to finiteness) so the spaces move infinitesimally and in opposite directions for composite finite velocities of the whole velocities (composite velocity $(\Delta x/\Delta t) \rightarrow v_1$); so the bigger space does not move at $v \rightarrow \infty$! (It is harder to group irrationals than rational motions and spaces for the production of L Continua and the C Frame. But in denseness irrationals sum and/or differ to find rationality for phase modes and velocities to find group modes and group velocities on base of RBL theory for coupling classical mechanics to quantum mechanics.) The opposing motions have divergent integrations of surrounding spaces for luminous opposing velocities down toward quanta (with stronger interactions with macro-space); so the sums of Br and Dk fields, waves and particles have composite finiteness and rarefied, nonzero magnitudes; so the bigger macro motions manifest luminosities and subluminosities. Also the luminous Ψs in L Frame $\rightarrow$ subluminous classical inside nuclei. These and other reasons explain why changes in size change motions and interactions. The changes in motions from L Frames to NS Frames and RS Frames also create stronger interactions as distances are smaller. Smaller distances then are correlated with slower composite speeds. But if speeds slow in rotations via counter motions of CCW and CW composite inner revolutions, then accelerations are larger for spaces in spaces (for bending spaces into spaces); so motions internally are smaller but composite motions of internal and external motions are smaller for coupling classically to bigger C Frame. Such compounding (grouping) of CW and CCW (phasal) motions as macro space $\rightarrow$ submicroscopic spaces for CM to QM are further consistent with matter in C Frame incorporating Dk fields and Dk matter as matter is reduced from macro-spaces to submicroscopic spaces and from CM to QM. The incorporation by RBL theory involves changes in interior motions to fuse the outer Dk fields and of course the outer Br fields to modify the internal motions of the L Frames and NS Frames and LS Frames as by RB Little's Rules. So the reductions in motions as sizes are reduced are compensated by motions in motions which are revolutions. The revolutions + orbitals have same velocities as bigger orbitals. So care should be taken with reasoning changes in motions from L Frames to NS Frames with slower orbits. The changes in orbits from L Frames to NS Frames involve motions in motions or orbitals within orbitals and are phase changes of spaces. This too is a distinction of CM from QM as the CM has spaces and motions slow inward as outer moves faster. But from C Frame to L Frames, the spaces and motions become discontinuous so that in order to slow with smaller sizes then

the spaces have to conform by RB Little's Rules 1 and 2; but with compressions and stretches with slowing with smaller sizes, the spaces cannot conform but they disconform to manifest L Continua by RB Little's Rules 1 and 3. So the motions within motions arise with smaller sizes as the smaller sizes involve faster motions with faster motions with the inner developed motions in motions with CCW with CW so the composites move slower relative to bigger rotations. So orbitals form; so C Frame macrospace is subluminous. So with nuclei the orbitals form inside orbitals.

Negative NMMs FR Fiss and Fuse to Rarefied Wavefunctions

The – NMMs with their convexities relative to nuclei (but concavity relative to e^-) twist e^- away to decelerate the Ψs but such rarefy the Ψs. The more dense Ψs differ in properties relative to rarer Ψs as dense wavefunctions twist slower and rarer Ψs twist faster so the more dense Ψs concentrate e^- probability density and more rare Ψs diminish probability density of electrons. So this leads to the e^- in one orbital interacting with same e^- in same orbitals and e^- in other orbitals. By fields FR released e^- for interactions with e^- spin up and e^- moves in opposite directions + and – in Ψs with same spin up spin up or spin down spin down. There are finer motions that are important and play stronger roles as nuclei FR fiss and fuse more at higher temperatures and in rapid motions. So in same p orbitals, the e^- e^- and spin up --- spin down can go to spin up --- spin up with spin altering the orbitals as the e^- spin up causes e^- spin up to shift to orbitals with larger radii from nucleus for e^- e^- spin up --- spin up in different orbitals. This may cause Sommerfield orbits. Whereby the FR fiss and fuse of nuclei release more classical orbits into electron lattices. Thereby QM ⇔ CM based on diminished e^- --- e^- interactions as e^- internal spin spin up --- spin down attractions for fragmentations of e^- to Ψs and orbitals ⇾ e^- --- e^- spin repulsions spin up --- spin up or spin down --- spin down and Ψs ⇾ orbits. e^- --- e^- particles spin up --- spin up ⇾ e^- --- e^- wave attraction as spin up --- spin up ⇾ spin down --- spin up with particles ⇾ waves as in waves the CW ⇾ CCW for attractive fields to compensate spin up --- spin up or spin down --- spin down. (The most astonishing thing is particles create the spaces about them by which they can move and other particles create spaces to alter the spaces created by the particle to alter the particle's motions for mechanics and dynamics. And in this way particles cannot occupy the same space unless they have opposite spins or revolutions.) This may play a role in chemical reactions in transition states. And at higher temperatures, nuclei can interact with paired e^- e^- spin up --- spin down to cause e^- e^- spin up --- spin up with push of e^- spin up to bigger orbitals. This push involves e^- fragmentation, so it is wave existing simultaneously in the different orbitals. The – NMMs may help flip e^- spin to push e^- to bigger orbitals. The e^- would move v >c. The + NMMs would not support this. Such push of e^- to other bigger orbitals both p, s, d, f (as nucleus can absorb and release momenta) is mechanism for rehybridizing orbitals so e^- in different orbitals e^- can more readily mix orbitals of different amounts by nuclei and their pressures. But for fixed hybridizations, the – NMMs help rehybridize the orbitals. The + NMMs can act on e^- more strongly to concentrated e^- e^- densities for e^- fragmenting to waves and delocalizing into different hybrid orbitals. Such manifest a general principle as outlined here as with changing denseness of spaces, the spaces and their motions change. So v>c with hidden changes transiently existing as v>c. Orbitals, revolutions and spins are motions that form in motions within outer C Frame. So that composite motions are v <c. From this, it is therefore reasoned that deeper internal motions of + NMMs and – NMMs will affect L Frame changes in motions of delocalized e^- and rehybridizations in different ways.

Mechanics of Electron Fractionally, Reversibly (FR) Fissing and Fusing to Delocalize in Hybrid Orbitals

e^- in sp^2 (for instance) can delocalized in hybrid orbitals to pull e^- into different lobs of sp^2 hybridization. e^- is altered so it can then alter to change lobs. It is interesting to compare this to alterations of space during rehybridizations just as e^- during rehybridizations, the spaces of wavefunctions are altered. So e^- moving in one lob locally gets globally shifted to other lobs of sp^2 hybridization; so e^- fragments and moves in other sp^2 lobs. (The particles themselves as they create spaces, they fragment to the spaces and denser spaces of smaller particles for relativistic dynamics of their motions and interactions. The fractional, reversible (FR) fissing and fusing of quantum particles are fundamental dynamics of nature and related to quantum fluctuations and are basis for coupling strong forces and weak forces to electric and magnetic forces and coupling further to gravitational forces and thermal fields. This causes complex motions and interactions and equations as the equations alter as the dynamics manifest in ways not currently captured by physics and mathematics. Equations accumulate and deplete terms superluminously and infinitely and infinitesimally for miraculous solutions…) But how and why the nucleus twist the e^- locally inward and the e^- --- e^- interact so they exchange between the sp^2 lobs? Such exchange is greater for compressed orbitals. For examples, orbitals compressed by large + nuclear charge but also e^- orbital compressed by large + nuclear charges and also large + NMMs both pull e^- e^- inward.

The compressed e^- e^- then accelerate so they form internal motions and fragment to waves for pieces moving CW and other pieces moving CCW; so the composite motions remain $v<c$. So in C Frame they move $v<c$. p orbitals are composite motions of s orbitals. p hybrid orbitals are composite motions s orbitals of e^-. d orbitals are composite motions of s and p orbitals. The f orbitals are composite motions of s, p, d orbitals as e^- accelerate into many motions CW and CCW by fragmenting to waves in the smaller spaces both by e^- --- e^- interactions and e^- ---- + nuclear charge and e^----- with + NMMs. – NMMs rarefy the e^- waves. As for compressed orbitals, e_A^- --- e_B^- FR fiss and mix space and FR refuse so pieces of $e_B^- \nrightarrow e_A^-$ and by this the nucleus resonates the e_A^- and e_B^- in spaces between the lobs of the hybridized orbitals. (The formation of diamond was discovered by the author (RBL) at very very high temperatures in plasma and formation of graphene in plasma on the basis of H and p^+ and the positive NMMs of protons at high temperature fractionally, reversibly (FR) fissing and fusing to release + NMMs into electronic lattices by proton solvated C atoms to delocalize electrons about the carbon atoms into hybrid orbitals sp^2 and sp^3 so under selective conditions of higher temperature the protons FR fiss and fuse to rehybridize the carbon atoms to sp^3 hybrid orbitals to nucleate and grow diamond from the carbon in the plasma as the C atoms in the plasma are coupled and entangled to the growth edge of the diamond to manifest single crystal diamond growth.) – NMMs are more changeable than + NMMs as – NMMs are in background of excessive + NMM bath. Such exchange in the sp^2 orbitals are as nuclear fields as the leptons cannot fuse to one space but lower energies by moving $v \nrightarrow c$ with mixing and exchanging in bigger spaces. So the + NMMs assist this as they FR bind like protons (p^+); so they FR bind like – charged electrons (e^-) in sp^2 hybrid orbitals. As the e^- FR fiss to bigger spaces; they FR refuse to mix their parts. The FR fissing is caused by surrounding – NMMs. But the + NMMs FR refuse to sp^3. So thereby the ^{13}C favors exchange and resonance of whole e^-. The hybridization of the central C is sp^2 but the ligand O has mixed sp^2 and sp^3 hybrids. The – NMMs help change hybridizations. The + NMMs help FR fuse e^- into different orbitals. This is consistent with superconductivity as – NMMs help FR fiss to lift e^- from HOMOs for conduction but the + NMMs then prevent the e^- from dissipating the energies of their motions in LUMOs by pulling e^- and E_{act} back into HOMOs. In this way, the combinations of +

NMMs and – NMMs cause quantizations and confinements not only for superconductivity but also for novel chemical transformations and nuclear transmutations. So ^{12}C and ^{16}O are dissipative so they ⇾ $^{12}C^{16}O_2$ to support life. But ^{13}C and ^{17}O in CO_3^{2-} (discuss phosphate more later) are less dissipative and lead to diseases like cancer and diabetes. So the moving e^- in the orbital FR fiss and fuse and these FR fissed fields contribute to the wavefunctions (Ψs). The waves FR released are v > c and gravitational and thermal fields and surrounding nuclei and e^- FR release gravitational fields to alter the fields released by e^-. These fields for Ψs are determined by the Hamiltonian of space as outlined here. Space has PE with v ⇾ ∞ and the space has KE with v ⇾∞. So HΨ = EΨ or energy of orbital times orbital.

Motion Transforms Spheres to Sinusoidal Waves and Many Sinusoidal Waves Approximate the Wavefunctions

It is possible to visualize how moving fields from nuclei and other e^- cause shapes of orbitals for a target e^-. The target e^- about nucleus would have spherical s orbitals but the other moving e^- cause the spherical s orbitals of target e^- to twist to p orbitals or d orbitals or f orbitals, ect. (RBL just reasoned the moving spaces v > c cause the spherical waves that escape the e^- and leptons and hadrons and quarks to shift and separate into sinusoidal waves translated in spaces and possibly translated in times. The translations in times cause Br and Dk fields and waves, but on different size scales the translations in times can couple so Br and Dk fields and waves ⇾ spherical particles. (This reasoning of the author explains the wave particle duality.)) But the FR fiss of the spherical shapes cause Br and Dk fields and waves in spaces and the up bends are moving when the down bends are stationary and the down bends are moving when the up bends are stationary. But as compress Br and Dk fields and waves then they slow and interact to manifest particles! Slowing as by slower tiny forming counter moving pieces for slower composite that couples to faster bigger whole in C Frame. The slowing via composite particles, fields and /or waves can be by rapid counter motions with slow composite motions of interiors coupling to bigger faster. The slowing and interactions cause space dynamics in space dynamics for sinusoidal waves within sinusoidal waves {Sin (Sin Θ) + Cos (Sin Θ) }. So also smaller sinusoidal waves can FR fiss the spheres in L Frames! And the sinusoidal waves move CW and CCW for positive and negative NMMs and Br and Dk waves and fields. The Br and Dk (CW and CCW) waves and fields of moving sinusoidal waves in sinusoidal waves cause L Frames ⇾ Nuclear Frames and Hadron Frames and Quark Frames. Many Nuclear Frames form rarefied Nuclear Frames for Quantum Fields and Ψs. So the motions of spaces in this way alter the spheres in different ways to FR fiss the spheres to moving sinusoidal waves in sinusoidal waves of gerade (CW) and ungerade (CCW) symmetries. So e^- move in one way in L Frames as gerade and CW. But Ψs in L Frames have spaces moving Gerade (CW) and UnGerade (CCW). This is different from C Frame and classical mechanics (CM). So the motions of spaces by + NMMs and – NMMs alter electrons in novel ways as discovered here! Br and + NMMs move in same sense as e^- but Dk and – NMMs move in opposite senses than e^- and they alter the electrons in different ways to FR fiss and fuse the electrons. The opposing motions cause divergent integrations. The like motions cause divergent differentiations as the e^-(s) become excessive. Here a vision is given of faster outer radii and slower inner radii by classical mechanics. It is good to picture quantum as smaller spaces developing as composites with counter velocities moving superluminously for net slower composites and picture portrays the smaller distances of interior and stronger forces and greater accelerations for severe bends to spherical shapes to vorticities to spinrevorbitals. Microscopic spaces develop composite motions so

they move slower than macroscopic. The interactions are stronger on microscales to also induce curvature accelerations for QM results from such.

Nuclear Motions Change NMMs Therefore Extremely Alter Electron and Wavefunctions

The fact that the nuclei and their NMMs are not from static interiors but from dynamic interiors leads to need to consider the internal motions of nucleons for fields FR fissed from nuclei and the effects on surrounding e^- and QFs. So because the NMMs sum and are sums of effects of motions of nucleons, then the changes in motions of nucleons change the NMMs. The surrounding temperatures and pressures can change the NMMs. As atoms collide with other atoms and as atoms move and FR fiss and fuse the motions of nucleons inside nuclei change and NMMs change. When nuclei are accelerated even by RF radio waves, the NMMs change and the chemistry changes. Radio waves inside nuclear magnetic resonance (NMR) spectrometer flip nuclei spin up ⇿ spin down and the energy gap (ΔE) is of order RF wavelength (λ). But RBL notes the flipping of nuclei release powerful NMMs into electron lattices to alter chemistry. Also RBL notes that high temperatures and high pressures cause energetic collisions of atoms, electrons and nuclei in molecules, macromolecules and nanostructures and even macrosubstances where domains are polarized for novel effects on transmutations, transformations, and transportations. High electric fields and strong magnetic fields also accelerate nuclei rapidly for more intense release of NMMs for altered properties of the materials. For instance, such theory of RBL led to prediction of hydrogen at high temperature in plasma FR fissing + NMMs for rehybridizing and delocalizing e^- about carbon atoms for sp^3 hybridization of C atoms and entangling C atoms to diamond growth edge for deposition of single crystal diamond. RBL also on this basis reasoned that the high temperatures and high pressures on hydrogeneous sulfides in 2007 (4) and carbonaceous hydrogen sulfides in 2014 (6) FR fiss + NMMs for inducing negative NMMs and positive NMMs to diminish dissipation from + NMMs at lower temperatures and pressures for manifesting high temperature superconductivity by the induced negative NMMs due to severe collisions under such conditions.

External Magnetic Fields Couple Strong Field of Nucleus to Surrounding Lepton Motions and Fields

So also the strong fields and weak fields have gravity and magnetic characteristics. So a B_{ext} can couple the electrons and other leptons about an atoms to the strong fields inside the nuclei. The strong fields exist inside nuclei are as quarks interacting with quarks and are as magnetism interacting with magnetism interacting with magnetism inside interiors of nuclei, hadrons and quarks for motions inside interiors, interior quarks move inside quarks and quarks move inside hadrons for magnetisms in magnetisms in magnetisms as quarks move to bind other quarks for strong forces and the strong forces involve interior motions in interiors and interior motions inside quarks and quark motions move. So magnetism of one quark couples to magnetism of other quarks and interior motions couple. By RBL Rules weak B_{ext} can couple to these huge internal magnetic fields and fermionic motions within nuclei, within hadrons, and within quarks so as to disrupt strongly momentarily so the fields of strong fields and nuclear fields escape or FR fiss and refuse from nuclei into electron, muon and other lepton lattices and from atoms into macro-spaces. On the basis of the author's (RBL) theory this is the origin of gravity even in C Frame of macroscopic classical mechanics. The surrounding thermal bath can couple to the quarks, quark fields, hadrons, strong fields, nuclei and nuclear fields to agitate to fractionally reversibly

fiss these fields with the applied external magnetic field B_{ext} then orienting the spins and fields of these FR fissed particles, waves and fields for prolong magnetic stretched states for prolonged interactions of the FR fissed fields with surrounding electrons, muons and other leptons by Little's Effect. Such FR fiss and fuse is the reason the nucleons can move. These momentary FR fissed strong and nuclear fields can couple to surrounding e^- and muons to alter electronic lattices and alter muon and lepton properties like muon and lepton magnetic moments. These momentary released fractional strong fields create Ψs about atoms.

Dark Field and CCW Cause Like Charges to Attract for Proximity to Nuclei and Fractional Strong Field between Electrons

As the motions of the e^- about nuclei are affected by motions of other e^-, so e^- FR fisses so parts of their motions are gerard (say CW) and part of their motions are with ungerard (say CCW). The e^- fragments and parts of them move backward so they can be near other e^- (s). The e^- (s) take on dark motions and natures as they orbit contrary to Br orbits. So in pieces, the e^- (s) move CCW; thereby the magnetic interactions to other e^- (s) are lost but their vibrations to nuclei are greater. In the CCW, the e^- interacts with other e^- (s) as by strong interactions just as two down quarks interact with up quark by strong interactions inside neutrons; so the e^- --- e^- attract rather than repel by the CCW motions. The other 2 e^- moving in s orbitals have CW symmetry. By moving oppositely, the motions become $v > c$ (revolutionary motions); so spaces are pulled inward to counter the $v > c = x/t$. So t is greater and x is less. {So for instance inside hadrons of say proton (composite particle) the two up quarks move in some same spaces and directions and a down quark moves in some same spaces with different directions relative to the two up quarks. The three quarks thereby form a composite so the counter motions of 2 up and 1 down quarks in the proton cause the superluminous motions of the ups relative to the down quarks so the superluminous motions cause a binding of both up quarks to the down and to each other with stronger force than the repulsion of the two up quarks moving in same space. So electric and magnetic forces of repulsions can become attractive as they form composite spaces of fields, waves and/or particles that accelerate opposite directions for superluminosities that bind the forces in contrary ways by Little's Effect contrary to their classical repulsions (of say two electrons) or attractions of say (electron and proton or positron).} The e^- with CCW and $2e^-$ with CW FR fiss into finer spaces with more rapid motions, revolutions or wobbles as they swell and spin faster. So by swelling the QF, B and E fields mix. So the $e^- \cdots e^- e^-$ repulsions are countered as they accelerate in counter motions (CW and CCW) for composite dressed electrons as the mixings bind the many electrons more than the $e^- \cdots e^- e^-$ particles repel. The swellings of e^- produce some CW to CCW motions with resulting attractive fields (strong) to counter repulsive fields so orbitals develop within orbitals of CW and CCW to counter repulsive fields. The twist along x axis is so the p orbital e^- can move in same space and along x axis as the $2e^-$ in s move, the twisting causes e^- in 2p to move in opposite directions relative motions of two e^- in 2s. So the counter motions cause $v > c$ and pull in spaces with swelling of e^- so the spaces revolve and the e^- --- e^- repulsion is diminished as the e^- --- e^- start to attract more due to counter motions. The revolving causes twist in relative motions and fissing or swelling. So the swelled e^- in 2p and two e^- in 2s cause strong fields between the three e^-. As the push parts are so huge that motions in opposite directions cause $v > c$ and fissing with swelling for pulling in spaces that bind the electrons by tiny fractional strong interactions. So in general e^- moving in multi electron atoms experience fractional strong fields as they repel each other they push so hard that they $v > c$ and twist spiral motions CW to

CCW for Br spaces ⇀ Dk spaces. The author (RBL) here notes that current science has imbalance of strong fields of nucleus as strong fields act only to bind nucleons inside nuclei. But RBL notes for such strong forces there are counter strong forces and this counter is electric repulsions of nuclei and p^+, p^+ binding e^-, and e^- --- e^- repulsions for strong core. In Dk gravity, the e^- --- e^- attract rather than repel in L Frames. This says Dk fields and Br fields exist inside atoms. But how can these fields escape? During nuclear reactions, the nuclei FR fiss and the changes in e^- --- e^- interactions lead to release of Dk fields. In order to fuse nuclei, Dk fields are required in elements like Pd and Ag can give there Dk fields so $p^+ + p^+ \rightharpoonup$ He and $e^- + p^+ \rightharpoonup$ neutrons. The Dk matter is the particle revolving CCW; the Dk fields are the fields about such. When e^- --- e^- attract by Dk fields and Dk fields are used to help bind e^- --- e^-, p^+ --- p^+. When e^- --- e^- repel Dk is used. The author (RBL) proposes new experiments with nuclear explosions may produce and detect dark fields and dark matter.

CCW and CW Particles Fiss to Space and Many Particles Fiss to Space and Couple Mix Spaces

But wait RBL does have theory of + NMMs accelerating the e^- delocalizations and – NMMs accelerating rehybridizations. The + NMMs twist by Br fields and waves and pulls e^- to nuclei to FR fiss and twist e^- in Br Ψs. RBL notes that Ψs are waves and they move CW and CCW or as Br and Dk waves. The particles are composed of Ψs of Br Ψs and spaces compose fields, waves and particles. And particles fiss to spaces. So Br spaces affect e^- in different ways than Dk spaces as the spaces move CW and CCW. The motions may also be out of synchrony and couple in L Frames and in RS, NS, QS and LS Frames. Keep in mind these dense particles FR fiss spaces and many FR fiss spaces that combine to form coupled spaces. They (the Br and Dk wavefunctions) do not couple in C Frame.

Wavefunctions Twist Electrons and Electrons Twist Wavefunctions by RB Little's Rules

So now RBL reasons Br spaces twist the Ψs and the e^- (CW) and Dk spaces twist the Ψs and e^- (CCW). The Br spaces twist e^- and Ψs in CW sense; so e^- is twisted compatible with the internal motions of the Ψs. The internal motions inside Ψs are motions of spaces itself or Luminous Ether motions and these motions of spaces are previously noted by author (RBL) as revolutions in spinrevorbitals. The author (RBL) noted revolutions are superluminous revolutions can be Dk or Br motions, interactions of spaces and compressions to Br and Dk matters. Matter moves through spaces and spaces move through matter. The Ψs in our section of the Universe are (+ NMMs) with more Br spaces, fields, waves and particles. So Br spaces twist particles, waves, and fields CW just as Ψs are twisting CW. – NMMs twist the e^- (particles, fields and waves) counter to Br Ψs. So – NMMs lead to disruptions of particular hybridizations rather than redistributions of e^- in the hybrid spaces. This is Little's Effect. Br spaces push e^- with the moving spaces. The Dk spaces push e^- against the moving spaces. Pushings against the moving spaces cause the e^- to FR fuse surrounding spaces (divergently integrating surrounding) causing the e^- to FR fuse surrounding spaces. {How do you interpret inflations by divergent integrations or divergent differentiations? }. So the – NMMs and Dk spaces move counter to Br spaces and pull in surroundings to fuse to slow so $v > c$. But the reverse can occur; the Br spaces are accelerated as Dk spaces are slowed. So the Ψs can be twisted and untwisted by interacting with Dk spaces; so $\Psi s \rightharpoonup \Psi_1 + \Psi_2$ to rehybridize the spaces and Ψs to different symmetries. So Dk spaces are not dense enough to alter e^-, but Dk spaces are dense enough to alter Ψs to cause rehybridizations. Br spaces are combined

with Br spaces to alter e^- irreversibly between resonance. So RBL realize + NMMs may be more difficult to rehybridize relative to null and – NMMs. But the – NMMs may be more difficult to resonate and null and + NMMs may be easier to resonate. ^{13}C resonates. ^{13}C and ^{14}N resonate and are good centers, good electrophiles and poor nucleophiles; as nucleophiles have to alter hybridizations of their electrons and electrophiles have to alter or delocalize the e^- e^- between their existing orbitals. ^{13}C and ^{14}N with their positive NMMs readily delocalize e^- but have difficulty rehybridizing orbitals of these centers. ^{13}C and ^{14}N do not do this as well but the ligands like O can help C centers rehybridize. And the carbon centers can resonate electrons between the forming orbitals. (Does C-$(OH)_4$ species exist?) But ^{17}O and ^{15}N are good nucleophiles and they rehybridize their orbitals readily for valence electrons to shift into different hybrid orbitals as nucleophiles attack. Nucleophiles have to change hybridizations as the unbonded and bonded states or break from water solvent and bind solutes for kinetics of nucleophilicity. Bases (like $:^{14}NH_3$ and the ^{14}N and its positive NMM) readily delocalize electrons into available or rehybridized orbitals for thermodynamics of basicity. Something that cannot rehybridize cannot attack and is a poor nucleophile. O is great nucleophile as it is e^- e^- rich and e^- e^- repulsions drive the rehybridizations to leave solvent and bond center electrophiles. {By considering these novel e^- --- e^- interactions via accelerated many electron CW to CCW motions and Dk interactions and FR fissing of nonzero NMMs for altering orbitals as by - NMMs and altering e^- delocalization in space by + NMMs leads to greater understanding of covalent bonding and covalent bond activations and metallic bonding and even ionic bonding. RBL discloses here that ^{17}O can introduce novel alteration of alkane functionalization as by say halogens as the halogen by its large positive NMMs are affective in altering e^- delocalization about ^{12}C during halogen fixation. But if ^{13}C are in the alkane and ^{17}O is present in the solvent or even in the alkanes say as an alcohol then the ^{17}O would due to its negative NMMs would alter the hybridizations during the reaction with halogen to alter the product distributions relative to the reactions occurring in presence of ^{12}C and ^{16}O. {So in biomolecules for instance having sp2 C, N and O like in nucleic acids; then the ^{17}O can induce sp^2 to sp^3 alterations of C, N, and O centers in nucleic acids during nucleophilic attacks by even water $^1H_2{}^{17}O$ to chemically alter DNA and RNA for genetic mutations.} C is poor nucleophile as it cannot alter its electrons to go into bonding. This is the diamond problem. So + NMMs of ^{13}C can accelerate its resonating e^- --- e^- in space for better delocalizations and ^{13}C may mix wavefunctions better than that of ^{12}C, if negatively charged. So ^{13}C may mix wavefunctions better than ^{12}C especially if it is negatively charged. So ^{13}C may mix wavefunctions better than ^{12}C especially if it is negatively charged. So ^{13}C acts on C^{4-} to rehybridize but ^{13}C acts on C^0 to pull electrons into core and favor sp and s p_x p_y p_z. So ^{13}C and ^{14}N (and also ^{10}B and ^{11}B) are greater centers accepting e^- e^- pairs and e^- negative radicals. ^{17}O and ^{15}N are great nucleophiles. ^{33}S is not as good nucleophile as ^{32}S and ^{33}S does not rehybridize wavefunctions as well as e^- e^- are shifted between AOs and MOs. So ^{13}C-^{17}O is more stable. ^{31}P-^{17}O may be less able to break to give energy as ATP. ^{17}O phosphate may cause aging. ^{17}O and ^{15}N may damage DNA.

+ (-) NMMs Hybridize to Lower Hybrid (Higher) Order and Momenta

Resonance of spaces of dense + NMMs does not change the symmetry of the electron, but relocates the symmetry to similar spaces of + NMMs and bath of positive NMMs. The - NMMs cannot as well act on electrons and Ψs to relocate the e^- to spaces of similar positive NMM symmetry. As negative NMMs act they cause divergent integrations of surroundings and the surroundings can alter symmetry to rehybridize the initial and final states of the electrons. Positive NMMs do not act on Ψs to rehybridize

Ψs. The positive NMMs act on wavefunctions to divergently differentiate the Ψs as the Ψs FR fiss by the + NMMs and the fiss state of excess spaces cannot alter the hybridizations to higher hybrid orders. The FR fiss states cannot alter the momenta to higher order momenta. It may alter momenta to lower order momenta. $sp^3 \rightarrow sp^2 \rightarrow sp \rightarrow s + p_x + p_y + p_z$. In system of positive NMMs and Ψs, the + NMMs give excess positive and the excess will FR fiss the initial Ψs for divergent differentiations as the quanta FR fiss and divide out across the universe. Such stretching causes more classical mechanics and less quantum mechanics and will not sustain rehybridizing quanta but transmuting quanta to irrationality for most rapid thermal dissipations as in strange metals and rehybridizing Ψs to lower hybrid orders and momenta. So now the negative NMMs can mix with positive NMMs and Br orbitals to cause divergent integrations to fuse surroundings into the orbitals and to cause the orbitals to mix as twisting the orbitals against their original rotations the negative NMMs cause rarefied orbitals to interact and to pull in surroundings to mix the orbitals with higher angular momenta for higher hybridizations.

Global Nucleic Acids Structure for Explaining Biochemistry

DNA therefore having ^{13}C, ^{15}N, and ^{17}O may be less able to break (due to alter hybridizations and electronic delocalizations due to nonzero, and/or different NMMs of these isotopes relative to primordial, common isotopes ^{12}C, ^{14}N and ^{16}O) to cause disease like cancer and cancer has smaller FWHM in the data. Telomeres cannot unwind so cell keep replicating $(^{31}P\text{-}^{17}O)_n^{3-}$ and the phosphates of nucleic acids may be less able to break to give energy to replicate, translate, and transcribe. $(^{31}P\text{-}^{17}O)_n^{3-}$ may be less able to break to give energy to replicate, translate and transcribe. In normal DNA and RNA, $(^{31}P\text{-}^{16}O)_n^{3-}$ may break and add to induce methyl to turn on genes but the broken phosphate may better aminate to accelerate damage to DNA and RNA. DNA and RNA have the structure that it does with phosphate, sugar and base groups to provide the nucleic acids the 'all in one' necessary dynamics in interacting with proteins to replicate, transcribe and translate. The sugar group provides transient, reversible energy to interact with proteins to phosphorylate and dephosphorylate (Phos Group) and to interact with proteins to methylate, aminate and/or acetylate base groups. The phosphate has stored energy to interact with proteins to assist functionalizations of base groups, and breaking base pairs and reducing sugar intermediates. The base groups have reversible hydrogen bondings, methylations, aminations, hydrations and acetylations for altered interactions with proteins for malfunctions and disease. The prior nucleic acid researchers have more focused on base pairs. But the phosphate and sugar groups store and give energy reversibly by reversible chemical reactions. These groups in nucleic acids are better for explaining biology of nucleic acids by chemistry given here; as they are partially combusted, phosphorylated and dephosphorylated to give and take energy in interacting with enzymes to assist nucleic acid replications, transcriptions and translations. If the phosphate and sugar groups are altered by isotopic replacements then the replications, transcriptions and translations are altered. If the base groups are altered by isotopic replacements then the replications, transcriptions and translations are altered.

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