Instant Broglie-Bohm Pilot Waves, the Origin of all Entanglement Effects in the Lab and Wavefunction Collapses in our Universe as related to our opposing Anti-COPY UNIVERSE(S) according to Quantum-FFF- Theory

Leo Vuyk
Architect,
Rotterdam, the Netherlands.

Abstract,
According to Q-FFF theory, we material humans live in one of an even number of CPT symmetrical copy universes however, then we need an instant correlation medium between these universes to synchronize all wavefunction collapses and even our conscious decisions. Thus, we need an INSTANT timeless Broglie Bohm pilot wave.
Then Schrödinger’s Cat and correlated anti-material Copy Cats, are alive or dead in all universes at the same time and God plays dice in an even number of correlated universes.
The main characteristics of the Quantum-FFF Theory are:
1: Sub Quantum Microstructure of elementary particles including photons, being convertibles of the oscillating dark energy Higgs particle shaping the vacuum lattice.
2: The energetic oscillating Higgs is by collision the origin all particle motion and spin states and even dark energy (125 Gev) inside a truncated tetrahedron shaped chiral vacuum lattice.
3: The lattice chirality (left or right handed) is the origin of our material universe and the asymmetry of some decay phenomena.
4: The Higgs vacuum lattice is transportation medium of all photonic information and able to mimic relativity rules down to a measurable level.
5: Nothing sucks in physics and everything is Entangled by INSTANT communication between at least two anti-copy Universes or the Multiverse, being entangled since the big bang. (the Broglie-Bohm pilot wave) or between entangled particles in the lab.
6: Black holes of all sizes (down to ball lightning) can not emit gravitons themselves, as a consequence, they must be massless but also counter intuitive the origin of all dark matter due to a gravitational Casimir pressure effect.
**Introduction.**

FUNCTION FOLLOWS FORM in Quantum FFF-Theory. The Microstructure of elementary particles, is supposed to be the origin of Functional differences between Higgs- Photon- and propeller shaped Fermion particles. Something Small is missing in mainstream physics: a NEW splitting and pairing Massless black hole, the origin of all dark matter, Ball Lightning Micro Comets, Comets, Sunspots up to Galaxy external Anchor Black Holes and the Big Crunch of the CP symmetric pulsating raspberry shaped multiverse. The multiverse is a huge pinball machine, with dark energy in the form of linear oscillating double Higgs pins as the origin of photonic collision products with the propeller shaped Fermions as balls. All forces are the result of this entangled Pin-Ball interaction. The 125GeV Boson recently found in the LHC is not a single but a double massless 3rd generation Higgs boson linear oscillating in tandem as opposing boxer engine pistons in a chiral truncated tetrahedron lattice. The 125GeV energy is the base for universal dark energy, the frequency is the base for local time and the length a base for the Planck scale. (Twin Higgs, Dual Higgs, Duplex Higgs, or Tandem Higgs) An unstable Higgs vacuum seems to be present around all black hole horizons by observed H2 production and annihilation radiation created by pair production of positrons and electrons. (Instability of the Higgs field)

In the Q-FFF model, mass is interpreted as the capacity of real shaped and spinning Fermions to produce gravitons, as the resulting (form) information products of collisions with an alternative (non-Standard Model) Higgs vacuum lattice system. Consequently the Higgs system itself can have no mass, it is supposed to be the transportation device for graviton- and other photonic information. Thus the Higgs mass found in the LHC at Geneva of 126 GeV, is interpreted as pure oscillatory energy of real “new Higgs” vacuum particles. The new Higgs particles are supposed to be convertible by an internal rotational structure they are responsible for the creation of “Something” out of “Nothing”.

Thus the Big bang nucleus should contain already all particles of the multiverse in the form of a knot of “virgin” Higgs particles able to form different chiral but entangled the Higgs fields inside different chiral space bubbles expanding into the form of a raspberry. If the new Higgs field has chiral lattice structure (left or right handed) then the origin of a material- and anti-material universe is secured by the prevalence for left or right handed Fermions to merge with photons to form left or right handed Quarks with larger stability than Fermions with the opposite handedness are able to.

The raspberry shaped entangled CP symmetric Multiverse seems to be the logic result of the quest for symmetry and inter-multiversal entanglement between anti-copy universes could be the base for the collapse of all wavefunctions (Schrödinger’s cat) including consciousness.

**Higgs Lattice complexity**

Each Higgs particle itself is equipped with a complex internal structure and is energetic oscillating in linear opposition with one dual partner Higgs particle forming a singular lattice with the Planck length. Such twin Higgs lattices are connected with two other twin Higgs lattices, forming a helical lattice. One helical lattice is supposed to form one edge of a
tetrahedron, as part of the tetrahedral chiral space filling vacuum lattice. (fig.1-2) This alternative twin Higgs particle system is supposed to be the cause of the creation of matter in the universe by transformation of Higgs particles, after excessive energetic collision with opposing Higgs particles into entangled twins of electrons and positrons, which in succession are able to merge with real Gluon/Photon particles into Quarks. (fig.3)

The Chirality of the vacuum lattice in our Material universe is supposed to be the cause of preferential merging of positrons with gluons into u-quarks and less merging of electrons into d-quarks to form protons and neutrons with electron shells forming material atoms. Thus the chiral vacuum mechanism seems to be the cause of the preponderance of matter over anti-matter in our “material universe” without the existence of large amounts of residual anti-matter.

However, for big bang symmetry reasons, there should be also vacuum space with opposite lattice chirality, which I will call our entangled opposite anti-material copy universe at a large distance as part of a raspberry shaped multiverse with internal faster than light (instant) communication between anti-copy particles. (fig. 4-7)

Both entangled universes have Charge Parity symmetry and are supposed to be each others alternate at random observer solving Schrödinger’s cat paradox and other quantum weirdness. It seems that God plays dice with entangled dice separated inside dual CP symmetric oscillating pinball machines called universes.

**The Finite Multiverse.**

The multiverse is supposed to be finite caused by the finite amount of particles in photonic or Fermionic form in combination with the particle content of black hole nuclei. The multiverse seem to need a raspberry shape equipped with left or right handed vacuum chirality and a restricted number of CP (Charge Parity) symmetrical universes as berries or lobes.

Time is interpreted as the local oscillation frequency of CP symmetrical atoms and anti-atoms like Caesium, so time is not running backwards inside anti-material universes. One of the universal berry lobes is supposed to be OUR material universe which is has to be entangled down to the Planck scale (thus even at the human scale) with at least one opposing anti-material mirror universe inside the raspberry.

The raspberry multiverse is supposed to be pulsating. (fig. 8) due to the existence of a process of evaporation of the (non SM) Higgs vacuum particle system (Dark Energy) during the big bang inflation process and in succession, by the consumption of the same Higgs vacuum lattice by individual black holes (Clumpy Dark Matter) created at all scales from big bang remnant black hole splinters, (fig. 9) down to Super Nova black holes, Stellar black holes, Sunspots, Comets, atmospheric Micro Comets and even Ball Lightning.(fig 10)

Consequently the big bang inflation process is interpreted as the evaporation of the big crunch black hole, produced by the Big Crunch of the former multiverse.

The creation of Higgs particle based Quark Gluon plasma out of the “nothingness” of the oscillating Higgs vacuum lattice, seems to be not only possible direct after the black hole splitting big bang Multiverse, but even more at the Fermion repulsion horizon of smaller “new paradigm” black holes supposed to be proliferated as clumpy dark matter through the multiverse (Fig 11).

“Less Is More” and “Form Follows Function”. The Aphorisms: “Less Is More” and “Form Follows Function”, of Modern Architecture, introduced by Mies van der Rohe respectively Louis Sullivan, seem to be REVERSIBLE in
Why, because at the Planck scale, the shape of particles and the way particles are connected to each other and form compound quarks, seem to be the origin of the particle FUNCTION. As a result we may say: FUNCTION FOLLOWS FORM in particle physics. At the Universal scale however, CPT (Charge, Parity and Time) SYMMETRY between entangled copy Universes, forming a Multiverse with Raspberry geometry, seems the most logical solution for a theory of everything. Is Less More in the Symmetric Multiverse? No, as a result we may say: MORE IS BETTER in a CPT symmetric Multiverse creating particle and human Consciousness. (then we may solve the "Symmetry"- and “Schrödinger's Cat” problem). Ref [6]
As a consequences, we should not be afraid for Ockham’s razor who ordered to keep it simple as possible at the Planck- or Universal scale. In fact this Quantum FFF theory follows Ockham’s razor by keeping the choice system in nature simple. If we have a system of entangled symmetric copy universes, then I expect that by a sort of entanglement floatation by chance, one of the copy observers is the first conscious human to suggest a specific choice (and become the subject) about 300 m.sec later, the other observers in different (anti-) copy-universes are able to pass or veto the choice. (B.Libet Ref. [6] Wavefunction Collapse and Human Choice-Making Inside an Entangled Mirror Symmetrical Multiverse)

The pulsating Multiverse.

According to mainstream physics, the universe is expanding. The expansion seems to be even accelerating for more distant galaxies. The Hubble redshift observed on Super Nova standard candles seems to be the origin of this misconception. However, if we take the features of Quantum FFF model into account, then only one solution seems to be possible: Our raspberry CPT symmetric multiverse must have a pulsating character. If the vacuum is described as a super dense oscillating Higgs lattice at the Planck scale (representing dark energy) and proliferated black holes (representing dark matter) have Higgs compressed nuclei constantly eating the vacuum, growing in numbers and size by Supernova explosions, then only one conclusion is to make: the universe is contracting into a Big Crunch black hole.
What could be the origin of the universal Hubble redshift including the acceleration effect? The most logical origin seems to be that dark matter black holes located between the light sources and our telescopes influences the structure (the Planck length) of the vacuum lattice by the continuous absorption of the vacuum by these dark matter black holes. Conclusion: The multiverse is pulsating.
The Big Bang is based on the splitting and evaporation process of an exploding Big Bang Black Hole (BBBH) created by a so coined Big Crunch Black Hole (BCBH) (fig. 6-7) For the nucleus of a microscopic “Q-FFF black hole” (fig 10).
Figure 1. The Chiral vacuum lattice. Three adjacent lattices are combined into one helical lattice (right) which is supposed to form the edges of all tetrahedrons being the base, for the three dimensional vacuum lattice structure (left).

Photon trajectories through the tetrahedral Chiral vacuum lattice.

A photon is created as a deformed Higgs particle at position (A), thus as a single (Photon/Gluon) particle which after some distance changes form back into a Higgs particle (B).

The photon energy is transferred into the oscillating Higgs system and travelling through the vacuum lattice in the form of a BUNCH of entangled energetic Higgs oscillations with the local speed of light.

(To match the single photon double slit experiment)
After collision with a second Fermion, at locations C,D,E,F, the BUNCH of energy collapses and change the FORM of a local Higgs particle into the shape of the original photon.

Five different shaped Gluons after some distance are called Photons.

Thus five different shaped Photons start their journey as Gluon. Author: Leu Vuyk.

Figure 2. Wavefunction propagation and collapse inside the vacuum lattice.
Figure 3, Convertible Higgs system by rotation of three Higgs hinges.

Figure 4, All wavefunction collapses need at least an entangled CP symmetrical second universe.
The raspberry multiverse.

The CPT symmetric raspberry universe seems to be the result of Fractal shaped evaporation, of the content of a cyclic central big crunch black hole, into egg shaped bubbles with individual Cosmic Microwave Background. (CPT= Charge Parity and Time)

3-D suggestion for the solution of the so called "MISSING GALAXY SHADOWS". All the Galaxy (clusters) located behind the WMAP CMB boundary (outside our own universe) do not create some kind of SHADOW on the 2.7 Kelvin cosmic background radiation.

2-D Section through the raspberry multiverse, with huge void in the middle.
The void in the middle is supposed to be originated by the start of the Fractal process, when the vacuum density of the former cyclic multiverse was still too high for a fine grained fractal process (see my book)

Figure 5. Cone shaped section through a dodecahedron multiverse.

Future research should provide evidence for the globular anti-symmetric distribution of galaxy clusters without a CMB shadow. In the external half of the globular hemisphere all galaxy clusters will show up with a clear shadow in the CMB, because there are no galaxies located behind this part of the CMB. The angle which will be measured between these two hemispheres will be an indication for our observer location in our own Universe. (author: Leo Vuyk)
The start of the raspberry multiverse by the splitting of the Big Crunch black hole nucleus A, leaving a VOID behind in the centre of Egg shaped (anti-) matter entangled universes.

Figure 6. The centre of the Raspberry Multiverse without Galaxy formation or Lyman Alpha structure.

The black hole splitting and pairing raspberry shaped multiverse seems to need a BUSHY structure just in line with observation of the Lyman alpha forest and a large VOID in the middle.

If the Big Bang could be interpreted as the splitting of a former Big Crunch black hole, then the bushy structure represents the splitting black hole trajectories. (Author: Leo Vuyk)

Figure 7. Simplified Lyman Alpha “bushy” structure of one of the universes inside the Raspberry Multiverse.
The CPT SYMMETRIC MULTIVERSE CYCLE.

The Inflation epoch starts if the decreasing vacuum pressure equals the increasing Higgs tension of the Big Crunch black hole nucleus. Inflation epoch ends if all splintered black hole nuclei are evaporated, or left behind as Galaxy Anchor Black Holes.

The Pulsating Multiverse depicted as a continuous flow of increasing and decreasing numbers free oscillating and Black hole condensed Higgs particles and the amount of Quarks and leptons. The size of the pulsating multiverse vacuum is given in orange.

**figure 8**, The BCBH is able to explode again, if the oscillating Higgs Vacuum pressure on the BCBH nucleus decreases enough to equalise with the internal BCBH nuclear energy of the Higgs tension.

**figure 9**, The splitting Big Crunch Black hole, leaving black hole splinters as Galaxy Anchor black holes (GABHs) as the origin of the Lyman Alpha forest.

The origin of the Lyman Alpha Forest (15) and Higgs vacuum, by the splitting of the Big Bang Black Hole (BBBH) into smaller Splinter BHs (10). The splinter BHs (10) evaporate into smaller evaporating black holes at the Front (14) which compensate the pressure from the Backside splinter BHs (11). The BHs (11) are assumed to partly evaporate like BHs (14) also into a newly formed oscillating Higgs vacuum untill the Higgs vacuum pressure stops the evaporation and leave Galaxy Forming BHs (13) behind. However single BH will pair (16) with the nearest other BHs to form Dumbbell systems, which efficiently form Giant Stars and Galaxies (17) in between. (author: Leo Vuyk)
The Nucleus of the NEW Black Hole.

Figure 10. the black hole knotty nucleus (Dark matter) is a ball of Higgs particles compressed and condensed by the oscillating Higgs vacuum energy (dark energy).

The Fermion repelling horizon of new black holes

7x Higgs quantum curves (2) are depicted for Fermions (3) with different distance to the BH horizon. At location (10) the spin of the fermions will FLIP due to the propeller shape of the Fermion and an opposing force away from the horizon is created by the Higgs vacuum itself down to location (7). The zone between (7) and (10)...

figure 11, The new paradigm black hole has a localized Fermion repulsion horizon, depending on the antisymmetry of the local vacuum energy vector structure. Area (10) is supposed to be location of Quark Gluon plasma creation around single- and even dual black holes like Cygnus Alpha.
"All physical theories...... should lend themselves to so simple a description that even a child could understand them."-- Albert Einstein.

I hope that I am in the same line of thought by using only geometrical explanatory imaging (see the figures) and references to new experiments supporting the Q-FFF model.

Those experiments are:

1: Lightspeed drag and extinction experiment inside a double mirrored fast rotating cylinder in the lab. Ref [3]
2: CHAMP-GPS satellite distance outlier measurement focussed on GPS elevation angle to the earth. Ref [3]
3: Gravity drag related Lightspeed variation experiment between two balloons or satellites and the earth. Ref [3]
4: Multiverse number count by a renewed Benjamin Libet experiment focussed on RPI and RPII ratio. Ref [6]
6: Double LeSage gravity experiment by a new massive oscillator. Ref [7]
7: Monopole radiation based Magnetic field experiment Ref: [7]
8: The laboratory production and exploitation of a micro black hole or ball lightning. Ref: [14]

Some statements of David Bohm.

It was David Bohm (1917-1992) who constructed ideas in his attempt to reconcile relativity with quantum mechanics. He didn't call this new physics because he didn't expect observable and testable differences as this model does. There are much parallels between the Q-FFF model and Bohm’s ideas:

A: Bohm's Alternative to Quantum Mechanics : Scientific American May 1994. Page 39) stating: The Laws of physics are fully deterministic and that what they describe, are the motions of particles ... etc.

B: David Bohm and F. David Peat: Science, Order and Creativity, ( Routledge London 1987) (Page 6) .... David Bohm: It was really because the quantum theory, and to a lesser extent relativity, were never understood adequately in terms of physical concepts, that physics gradually slipped into the practice of talking mostly about the equations. Of course, this was because equations were the one part of the theory that everyone felt they could really understand. But this inevitably developed into the notion that the equations themselves are the essential content of physics. To some extend this began as early as the 1920s when the astronomer Sir James Jeans proposed that God must be a mathematician. Heisenberg later gave it an enormous boost with his idea that science could no longer visualize atomic reality in terms of physical concepts and that mathematics is the basic expression of our knowledge
of reality. Along with this went a whole change in the notion of what was meant by an
intuitive or imaginative grasp. This had previously been identified with the ability to visualize
ideas and concepts, but now Heisenberg was claiming that intuition and imagination provide
not a picture of reality but a mental display of the meaning of the mathematics. Now I don't
agree with these developments. In fact, I feel that the current emphasis on mathematics has
gone too far.... (Page 27) .... Aristotle's theory corresponds to what could be called a common
sense view of nature.

No matter how hard a stone is thrown, experience shows that it eventual comes to rest on the
ground. 'Newton's system, which replaced Aristotle's, argued that the natural state (of matter)
is one of motion, in which rest, or zero velocity, happens to be a special case. An object
therefore moves in a straight line, or remains at rest, indefinitely unless some force acts on it.
Under the action of a force, the motion changes and its rate of change is expressed by
Newton's second law of motion. Newton's laws of motion appear, at first sight, to contradict
'common sense , for they suggest that if all opposing forces are somehow removed, then the
stone (and the cart) will continue to move in a straight line forever.

-----------------------------

Details of the 3D particle concept,

In particle physics it is an interesting challenge to postulate that the FORM and structure of
elementary particles is the origin of different FUNCTIONS of these particles.
In this paper we present a possible solution based on complex 3-D ring shaped particles,
which are equipped with three point like hinges and one splitting point, all four points divided
equally over the ring surface.
The 3-D ring itself is postulated to represent the “Virgin Mother” of all other particles and is
coined Higgs particle, supplied with the 3-hinges coded (OOO), which gives the particle the
opportunity to transform after some sort of mechanical collision with other particles into a
different shape, with a different function.
Thus in this Quantum Function Follows Form theory, the Higgs is interpreted as a massless
transformer particle able to create the universe by transform its shape after real mechanical
collision and merge with other shaped particles into complex and compound knots.

It is assumed that the vacuum is seeded with massive numbers of massless Higgs particles, all
energetic oscillating inside a chiral vacuum lattice system and as such the origin and bearer of
all energy in the universe. (reference: 1)
If by a local energy excess, two Higgs particles collide with enough energy, it is assumed that
at first an electron and positron emerges by the transformation of the two Higgs particles.
Due to the propeller shape of the Fermions, these Fermions start to spin by a constant
collision and scattering process with the Higgs vacuum, changing Higgs particles
continuously into different forms of Photon/Gluons.
As a result, we found, that many “elementary” particles should not be elementary, but
compound constructions or KNOTS of transformed Higgs particles.
Even the Muon and Tau Lepton should be compound particles having the same shape as one
of the different coloured “naked” Down- respectively Charm Quarks. (figure: 17)
Thus, Muon- and Tau particles seem to be naked Quarks!
ALTERNATIVE STANDARD MODEL

of elementary (single) particles with click-on potentials to form compound Quarks- and Leptons.

Figure 12, 3D image of Basic Singular Particles;
ONE Higgs boson (OOO), TWO basic single mirror symmetrical Fermions: the Electron and Positron (OLO and ORO), ONE Graviton (LOR), TWO sets of mirror symmetrical monopole Gluons/Photons (ROU-LOU, ROR-LOL) One symmetrical Gluon Photon (UOU).
Figure 13, 3D image of all Singular particles including 3 sets of mirror symmetrical Neutrinos: RLR-LRL, RRR-LLL, URU-ULU.

Figure 14, 3D image of the Leptons: Electron, Positron, (singular) Muons and Tau particles (Compound particles and also called FREE QUARKS).
Figure 15. 3D-Image of all 36 Quarks: UP-DOWN-STRANGE-CHARM-BOTTOM-TOP.

Geometry of the GOD particle based on four ELBOW MACARONI shaped arms connected with three hinges. These hinges are only able to rotate in steps of 90 degree rotation, coded with: O, L, R, and U relative rotations.

Figure 16.
The Weak force, how change a d-quark (ORO+LLL+LRL) into an u-quark (OLO+ROR) in the case of Neutron--Proton decay.

Figure 17, Simplified 2D image of Leptons and Quarks including indications for Decay routes indicated by arrows. See also the “Free Quarks”: Muon and Tau leptons.

Figure 18, The WEAK force in action by a complex exchange of particles and without a clear sign of the Weak particle. Conclusion there is no need for a massive Weak particle in this system. The massless Higgs particle, seems to do the job properly by transformation of two compound Gluon particles (LOL) attached to the electron (ORO): (LOL into LLL) and (LOL into LRL). In succession, the (LLL) particle is changed into (OLO) a Positron, able to combine with a free Gluon (ROR) out of the SEA of Gluon plasma.
THE DECAY OF QUARKS AND LEPTONS

According to my model: elementary particles have a sub-quantum structure, caused by the postulate that a kind of Higgs particle is the basic elementary particle. (see the relation with the model page: 4 )

Two Higgs particles can change form by collision into an electron and positron pair (ORO+OLO)

Each Higgs particle can change form by collision with a quark or lepton into one of the 6 different possible types of photons:

1: The graviton code: LOR (or ROL) can not "click-on" to e+ or e- particles to form quarks.
2: The "general" photon code: UOU. can "click-on" to e+ or e- particles, to form quarks for all "red, anti-red" (the colors are my own choice) quarks. The general photon has no quark confinement function, so is not a real gluon.

The 4 (gluon) photon types can also "click-on" to e+ or e- they are:
3: Magnetic "north" photon (in code) ROU. combining for all "positive/blue, anti-blue" quarks.
4: Magnetic "south" photon ROU. combining for all "negative/blue, anti-blue" quarks
5: Electric + photon ROU. combining for all "positive/green, anti-green" quarks.
6: Electric - photon ROU. combining for all "negative/green, anti-green" quarks.

Quarks are "click-on" combinations of e- and e+ with 5 different types of photons: 4 gluon types and 1 general type. (so: quarks are not elementary)

Together with 1, 2, or 3 electrons, 3 photon types can "click-on" and combine into different negative charged quarks.
The electron: ORO can combine with LOR, LOU (gluons) and UOU (general photon)
Together with 1, 2, or 3 positrons, 3 photon types can "click-on" and combine into different positive charged quarks.
The positron: OLO can combine with ROR, ROU (gluons) and UOU (general photon)

Higgs boson (in code) OOO
The H-bosons is responsible for:
A: all photon/gluon production, as continuous collision product with all masscarrying particles.
B: spontaneous pair production (OOO+OOO=PHOTONG+LEPTON/QUARK)

Z =ORO+OLO Z-boson (electron + positron can "click" together, without annihilating each other)
Wo, W+ and W- don't exist as particles.

\[\begin{align*}
e^- & =\text{ORO} \\
e^+ & =\text{ORO} \\
\nu_e & =\text{RLR} \\
\bar{\nu}_e & =\text{LRL} \\
\mu^- & =\text{LLL} \\
\bar{\nu}\mu & =\text{RRR} \\
\tau^- & =\text{ULU} \\
\bar{\nu}\tau & =\text{URU} \\
\end{align*}\]

For quark click-on combinations: see page 25 (e-ee).

Quark "up-grading" due to subjoining of extra ORO's (or OLO's) (energy addition)
and extra gluons, joining from the "sea" of gluons (energy addition)

\[\begin{align*}
\text{e}^- & \rightarrow \bar{u} \rightarrow d \rightarrow s \rightarrow \bar{c} \rightarrow b \rightarrow \bar{t} \\
\rightarrow & \text{ORO} \rightarrow 1 \text{ ORO} \rightarrow 1 \text{ ORO} \rightarrow 2 \text{ ORO} \rightarrow 2 \text{ ORO} \rightarrow 3 \text{ ORO} \rightarrow 3 \text{ ORO} .
\end{align*}\]

\[\begin{align*}
\text{e}^+ & \rightarrow u \rightarrow \bar{d} \rightarrow \bar{s} \rightarrow c \rightarrow \bar{b} \rightarrow \bar{t} \\
\rightarrow & \text{OLO} \rightarrow 1 \text{ OLO} \rightarrow 1 \text{ OLO} \rightarrow 2 \text{ OLO} \rightarrow 2 \text{ OLO} \rightarrow 3 \text{ OLO} \rightarrow 3 \text{ OLO} .
\end{align*}\]

The muon is equivalent with the naked (anti) green d(own)-quark
The tau is equivalent with the naked (anti) red b(ottom)-quark
The differences between:
- e- and e+ are one gluon.
- u and d are one gluon.
- d and s are one gluon changed form into an e-.
- s and c are one gluon.
- c and b are one gluon changed form into an e-.
- b and t are one gluon.

Quark "down-grading or decay" is going down the energy ladder, "spitting out" e-, e+ and gluons in their original form (unchanged) or changed into neutrino's.

Quark stability is originated by the sub-quantum structure of the quark
If the structure has
1: an A-symmetric form (such as the (anti-)blue u-, s- and b-quarks), the ability to spin, and the stability is minor to those with a symmetric form.
2: more components, this will lead to decrease of stability and mass increase due to more protuberances (more vulnerability for Higgs impulses) resp. more production of gravitons.

Lifetimes and decay routes of quarks should be dependant of these rules, but we see interesting changes:
The preferred (anti-) red-blue green sequences of the decay ladders are changing between the charm and the bottom quarks.
The differences in the sequences of charges related to the mass ladder is not clear. Further investigation is needed.

**Systematic summary of basic quark decay modes.**
e- and e+→UOU = general photon (annihilation)

<table>
<thead>
<tr>
<th>Decay</th>
<th>Decay Mode</th>
<th>Decay Mode</th>
<th>Decay Mode</th>
</tr>
</thead>
</table>
| \( \bar{u} \rightarrow e-\bar{e} \nu_e \) | \( \text{ORO} \rightarrow \text{ORO} = e- \)
\( \text{LOL} \rightarrow \text{LRL} = \bar{e}\nu_e \) | \( u \rightarrow e+\nu_e \) | \( \text{OLO} \rightarrow \text{OLO} = e+ \)
\( \text{ROR} \rightarrow \text{RLR} = \bar{e}\nu_e \) |
| \( \bar{u} \rightarrow e- \) | \( \text{ORO} \rightarrow \text{ORO} = e- \)
\( \text{LOL} \rightarrow \text{gluon sea} \) | \( u \rightarrow e+ \) | \( \text{OLO} \rightarrow \text{OLO} = e+ \)
\( \text{ROR} \rightarrow \text{gluon sea} \) |
| \( \bar{u} \rightarrow \nu_\mu \) | \( \text{ORO} \rightarrow \text{RRR} = \nu_\mu \)
\( \text{LOL} \rightarrow \text{gluon sea} \) | \( u \rightarrow \nu_\mu \) | \( \text{OLO} \rightarrow \text{LLL} = \nu_\mu \)
\( \text{ROR} \rightarrow \text{gluon sea} \) |
| (d (anti-)green is also: \( \mu \)) | | | |
| \( d \rightarrow e-\bar{e} \nu_e \nu_\mu \) | \( \bar{e} \rightarrow e+\nu_e \nu_\mu \) | \( \text{OLO} \rightarrow \text{OLO} = e+ \)
\( \text{ROR} \rightarrow \text{RLR} = \bar{e}\nu_e \nu_\mu \) | \( \text{ROR} \rightarrow \text{RRR} = \bar{e}\nu_e \nu_\mu \) |
| \( \pi \rightarrow \mu_\mu, \nu_\mu \) | \( d = \mu_\mu \) | \( \pi \rightarrow \mu_\mu, \nu_\mu \) | \( \bar{d} = \mu_\mu \)
\( d \bar{u} \) | \( \text{ORO} \rightarrow \text{RRR} = \nu_\mu \)
\( \text{LOL} \rightarrow \text{gluon sea} \) | \( u \rightarrow \nu_\mu \) | \( \text{OLO} \rightarrow \text{LLL} = \nu_\mu \)
\( \text{ROR} \rightarrow \text{gluon sea} \) |
| \( K \rightarrow \mu_\mu, \nu_\mu \) | \( \bar{u} \rightarrow \nu_\mu \)
\( \text{LOL} \rightarrow \text{gluon sea} \) | \( K \rightarrow \mu_\mu, \nu_\mu \) | \( u \rightarrow \nu_\mu \)
\( \text{LOL} \rightarrow \text{gluon sea} \) | \( \text{OLO} \rightarrow \text{LLL} = \nu_\mu \)
\( \text{ROR} \rightarrow \text{gluon sea} \) |
| \( s \rightarrow \text{ORO} = \mu^- \) | \( \bar{s} = \text{ORO} \rightarrow \text{ORO} \) | \( \bar{s} = \text{OLO} \rightarrow \text{OLO} \) |
\( \text{LOL} \rightarrow \text{LRL} = \mu^- \) | \( \text{OLO} \rightarrow \text{OR} \) | \( \text{OLO} \rightarrow \text{ROR} \) |
| \( \text{ROR} \rightarrow \text{ROR} \) | \( \mu^+ \) | | |
Three different kinds of Weak interactions.

Hydronic decays:

\[ \lambda_0 \rightarrow \pi^- + p \]
\[ uds \rightarrow udd \rightarrow \bar{u}d + uud \]
The principle interaction is:

\[ s \rightarrow d \]

and pair production (addition) of u and \( \bar{u} \) from the Higgs and gluon "sea"

semi-leptonic processes

\[ n \rightarrow p + e^- + \bar{\nu}e \]
\[ ddu \rightarrow ddu + e^- + \bar{\nu}e \]
The principle interaction is:

\[ d \rightarrow u + e^- + \bar{\nu}e \]

leptonic processes

\[ \mu \rightarrow e^- + \bar{\nu}e + \nu\mu \]
\[ d \rightarrow e^- + \bar{\nu}e + \nu\mu \]

Some electromagnetic decays.

\[ \pi_0 \rightarrow \gamma + \gamma \quad \text{ORO+OLO anihilation} \rightarrow 1 \times \gamma \]
\[ \nu \bar{\nu} \rightarrow 2 \gamma \]

\[ \eta \rightarrow \gamma + \gamma \quad \text{ORO+OLO anihilation} \rightarrow 1 \times \gamma \]
only: \( \dd \) decays \( \rightarrow 2 \gamma \)
so first: \( \bar{s} \rightarrow \bar{d}d \).

\[ \Sigma \rightarrow \Lambda_0 + \gamma \]
\[ uds \rightarrow sdu + \gamma \quad d \rightarrow \bar{u} \rightarrow d \]

Some strong interactions.

\[ \Lambda^+ \rightarrow p + \pi^+ : \text{uuu} \rightarrow \text{duu} + \text{ud} \]
\[ \dd \] pair production from the Higgs and gluon sea

\[ \Lambda_0 \rightarrow p + \pi^- : \text{duu} \rightarrow \text{duu} + \text{d} \]
\[ \uu \] pair production from the Higgs and gluon sea

\[ \Lambda_0 \rightarrow n + \pi_0 : \text{ddu} \rightarrow \text{ddu} + \text{\bar{u}\bar{u}} \]
\[ \uu \] pair production from the Higgs and gluon sea
The double spin of Fermions.

Figure 19, double spin of Fermion and Quark propellers.

The “Eigen energy” distribution around the spinning Fermion propeller, is supposed to come in cone form. The Fermion spin and radiation is the product of a scattering process with oscillating Higgs vacuum particles. As a result, the Fermion has a double spin around two polar axes. This is supposed to be the origin of a dipole Magnetic field with North and South monopole photon radiation and the circular distribution of graviton and electric radiation. In addition it must be stated that all Fermions are entangled with their object/subject particle far away.

Figure 20, The difference between up and down Atoms.
Additional suggestion for the W+ and Z particles. The W particles could harbour one or two extra valence Electrons or Positrons to explain the recent so-called Tevatron Bump at about 145 GeV, inside Fermilab's Tevatron collider.

Figure 21, 

2x mirror Symmetric Z particle left (1xElectron+1xPositron, ), 
rightside: 2x mirror A-symmetric W +/- particles. (W-:2x electron+ 1x Positron, W+: 2x Positron and 1x Electron)

Attention: 2x2 Mirror images (author: Leo Vuyk)

Figure 22, as the start of micro black holes in nature or in the lab, growing larger by absorption (glue-on) of the local Higgs particles (by the Casimir effect) see figure 13.

Knot with 3x magnetic particles Symmetrical knot made by 4x X-ray particles
Figure 23 with the “Free Quarks“ or Mu (down) and Tau (charm) leptons in orange encircled.
References.

Construction Principles for Chiral "atoms of Spacetime Geometry".
Atomic Nuclear Geometry Based on Magic Number Logic.
Experiments to Determine the Mass Related Lightspeed Extinction Volume Around the Earth and Around Spinning Objects in the Lab.
3-Dimensional String Based Alternative Particle Model.
An Alternative Black Hole, Provided with Entropy Decrease and Plasma Creation.
Wavefunction Collapse and Human Choice-Making Inside an Entangled Mirror Symmetrical Multiverse.
Quantum Gravity and Electro Magnetic Forces in FFF-Theory.
Function Follows Form, at the Quantum Scale and Beyond.
ZPE Zero Point Energy Examples Around Black Holes.
Stellar Anchor Black Holes as the Remnants of Former Herbig Haro Objects
Ball Lightning, Micro Comets, Sprite-Fireballs and X-Ray/gamma Flashes According to Quantum FFF Theory
Quantum FFF Theory in Posters.
Mass in Motion in Quantum FFF Theory
Artificial Ball Lightning Production and Exploitation Device for Zero Point Electric Energy Usage.
Black Hole Horizon Curvature Dependent Balance Between Plasma Creation and e-e+ Annihilation in Quantum FFF Theory.
[16] The New God Particle and Free Will.
By Leo Vuyk, LuLu publishers, 2008.
ISBN number 978-1-4092-1031-3