3-Dimensional String based alternative particle model.

Leo Vuyk,
Architect,
Rotterdam, the Netherlands.
LeoVuyk@Gmail.com

Abstract,

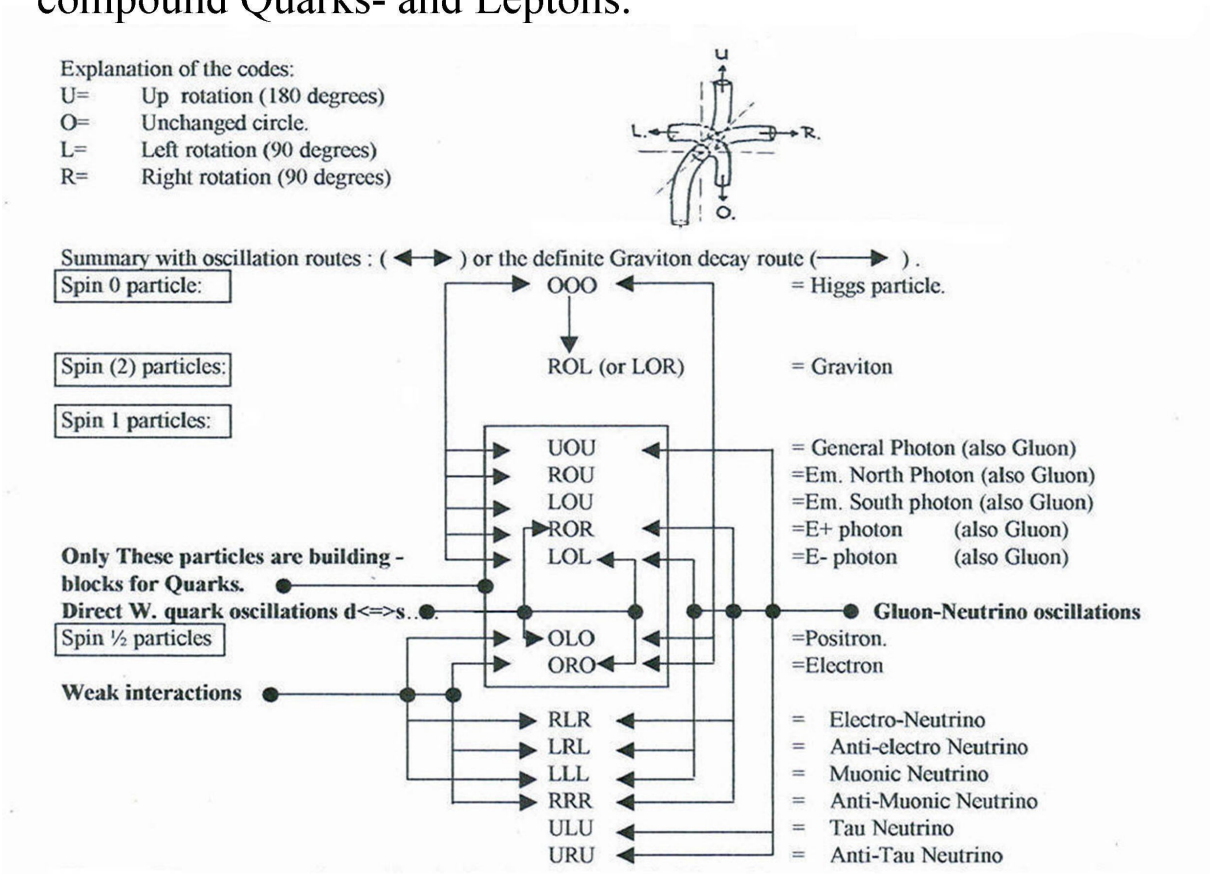
In particle physics it is an interesting challenge to postulate that the FORM and structure of elementary particles is the origin of different FUNCTIONS of these particles.
In this paper we present a possible solution based on complex 3-D ring shaped particles, which are equipped with three point like 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.

Introduction,

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 fist 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: 6)
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.



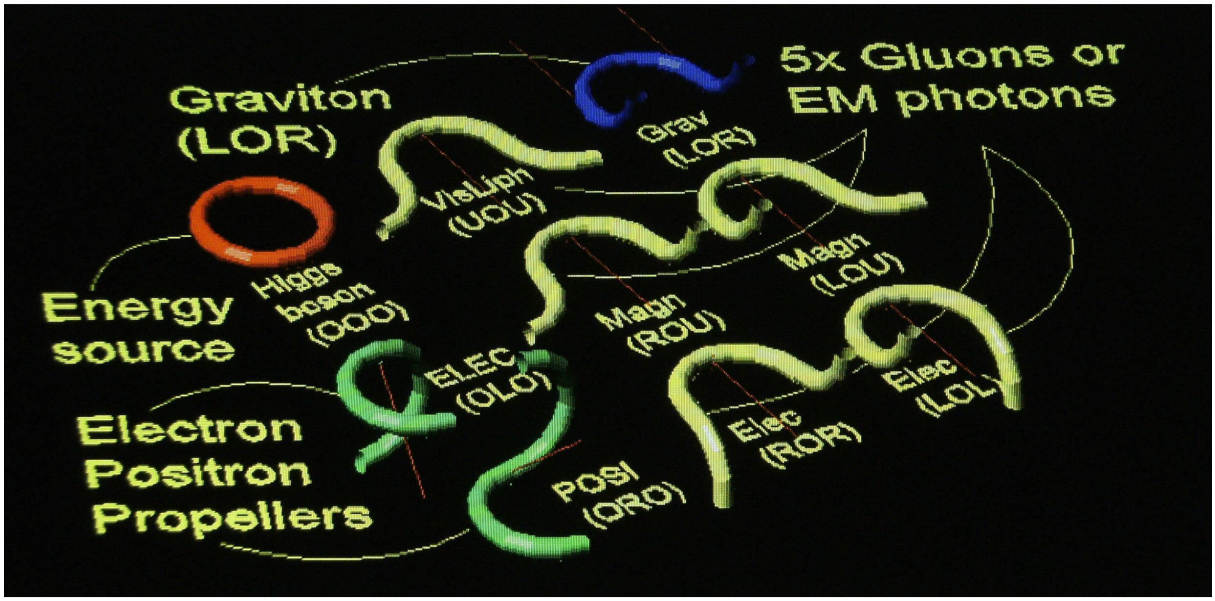


Figure 1, 3D image of Basic Singular Particles;
ONE Higgs boson (OOO), TWO basic single mirror symmetrical Fermions: the Electron and Positron (OLO and ORO), ONE Graviton (LOR), TWO sets of mirror symmetrical monopole Gluons/Photons (ROU-LOU, ROR-LOL) One symmetrical Gluon Photon (UOU).

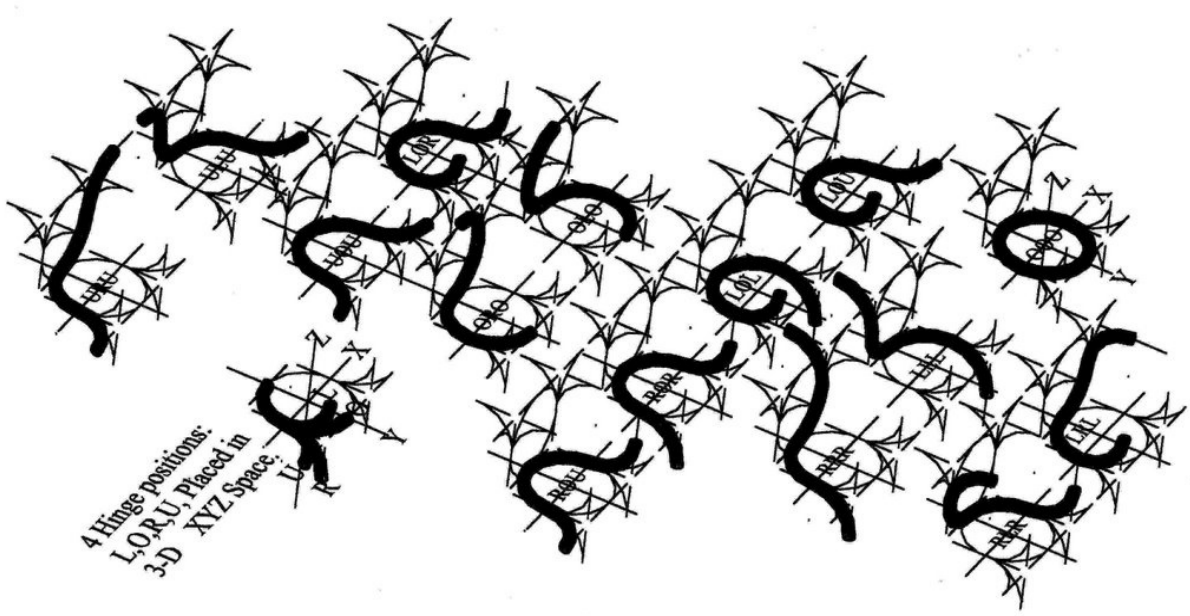


Figure 2, 3D image of all Singular particles including 3 sets of mirror symmetrical Neutrinos: RLR-LRL, RRR-LLL, URU-ULU.

Figure 3, 3D image of the Leptons: Electron, Positron, (singular) Muons and Tau particles (Compound particles).

Figure 4, 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.

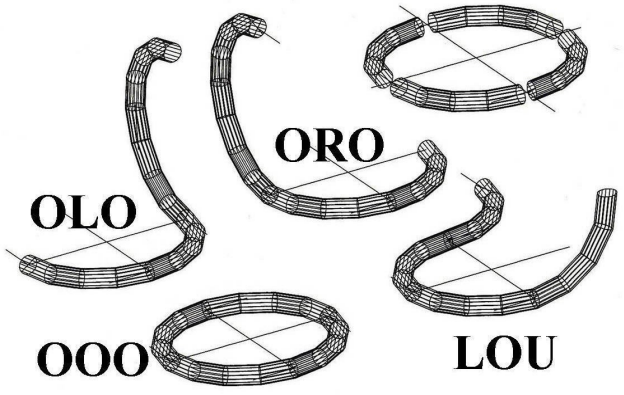


Figure 5.

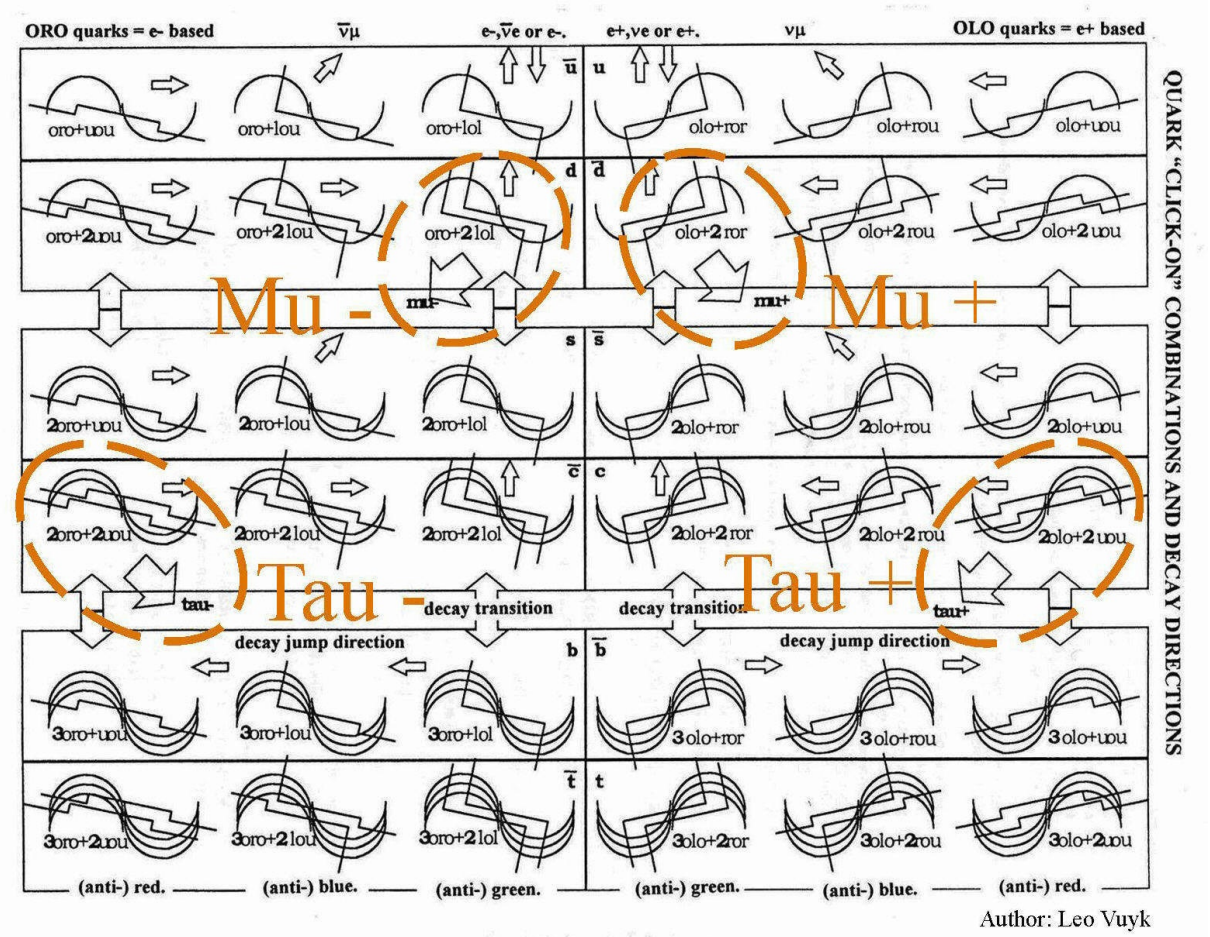


Figure 6, Simplified 2D image of Leptons and Quarks including indications for Decay routes indicated by arrows.

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

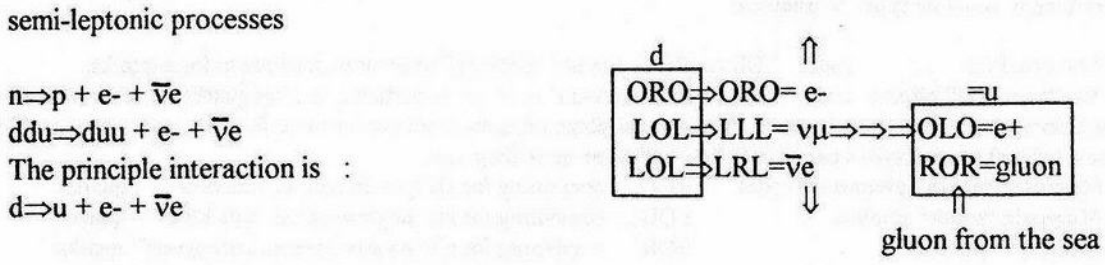


Figure 7, The WEAK force in action by a complex exchange of particles and without a clear sign of the Weak particle. Conclusion there is no need for a massive Weak particle in this system. The massless Higgs particle, seems to do the job properly by transformation of two compound Gluon particles (LOL) 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** LOU. combining for all "**negative/blue, anti-blue**" quarks
5: **Electric + photon** ROR. combining for all "**positive/green, anti-green**" quarks.
6: **Electric - photon** LOL. combining for all "**negative/green, anti-green**" quarks.
Quarks are "click-on" combinations of e- and e+s 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 LOL, 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.
(OOO+lepton/quark= photon/gluon+lepton/quark
B: spontaneous pair production (OOO+OOO=ORO+ OLO (e- and e+)),

Z	=ORO+OLO	Z-boson (electron + positron can "click" together, without anihilating each other)
Wo, W+ and W-		don't excist as particles.
e-	=ORO	electron.
e+	=OLO	positron.
νe	=RLR	electr. Neutrino.
$\overline{\nu}$e	=LRL	anti-electr. Neutrino.
νμ	=LLL	muonic neutrino.
$\overline{\nu}$μ	=RRR	anti- muonic neutrino.
ντ	=ULU	tau neutrino
$\overline{\nu}$τ	=URU	anti- tau neutrino

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

e- → $\overline{u}$ → d → s → $\overline{c}$ → b → $\overline{t}$
→ ORO→ 1 ORO→1 ORO →2 ORO→2 ORO →3 ORO →3 ORO.
1gluon→2 gluon →1 gluon→2 gluon-→1 gluon→2 gluon.

e+ → u → $\overline{d}$ → $\overline{s}$ → c → $\overline{b}$ → t
→ OLO→ 1 OLO→1 OLO →2 OLO→2 OLO →3 OLO →3 OLO.
1gluon→2 gluon →1 gluon→2 gluon-→1 gluon→2 gluon.

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 $\bar{u}$,	is one gluon,.
$\bar{u}$ and d,	is one gluon,
d and s,	is one gluon changed form into an e-
s and $\bar{c}$,	is one gluon,
$\bar{c}$ and b,	is one gluon changed form into an e-
b and $\bar{t}$,	is .one gluon .

Quark "down-grading or decay" is going down the energy ladder, "spitting out" e-, e+'s 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 prefered (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 (anihilation)

$\bar{u}$⇒e-,$\bar{\nu}$e	ORO⇒ORO = e- LOL ⇒LRL =$\bar{\nu}$e	u⇒e+ ,νe	OLO⇒OLO= e+ ROR⇒RLR=νe
$\bar{u}$⇒e-	ORO⇒ORO=e- LOL ⇒ gluon sea	u⇒e+	OLO⇒OLO=e+ ROR⇒ gluon sea
$\bar{u}$⇒$\bar{\nu}$μ	ORO⇒RRR=$\bar{\nu}$μ LOL⇒ gluon sea	u⇒νμ	OLO⇒LLL=νμ ROR⇒ gluon sea

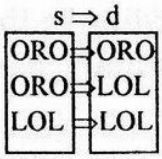
(d (anti-)green is also:μ)

d⇒e-,$\bar{\nu}$e,νμ	ORO⇒ORO=e- LOL⇒LRL=$\bar{\nu}$e LOL⇒LLL= νμ	$\bar{d}$⇒e+,νe,$\bar{\nu}$μ	OLO⇒OLO=e+ ROR⇒RLR=νe ROR⇒RRR=$\bar{\nu}$μ
π-⇒μ-,νμ d$\bar{u}$	d=μ- $\bar{u}$=ORO⇒RRR=$\bar{\nu}$μ LOL ⇒ gluon sea	π+⇒μ+,νμ du	$\bar{d}$=μ u=OLO⇒LLL=νμ ROR⇒ gluon sea
K-⇒μ-,νμ s$\bar{u}$	$\bar{u}$=ORO⇒RRR=$\bar{\nu}$μ LOL⇒ gluon sea	K+⇒μ,νμ $\bar{s}$u	u=OLO⇒LLL=νμ ROR⇒ gluon sea
	s=ORO⇒ORO ORO⇒LOL LOL ⇒LOL =μ⁻		$\bar{s}$=OLO⇒OLO OLO⇒ROR ROR⇒ROR =μ⁺

Three different kinds of Weak interactions.

Hydronic decays:

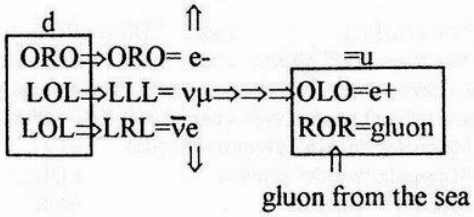
$\Lambda o \Rightarrow \pi^- + p$
$uds \Rightarrow udd \Rightarrow \bar{u}d + uud$
The principle interaction is:



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

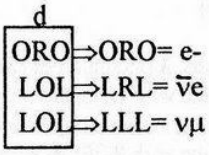
semi-leptonic processes

$n \Rightarrow p + e^- + \bar{\nu}e$
$ddu \Rightarrow duu + e^- + \bar{\nu}e$
The principle interaction is :
$d \Rightarrow u + e^- + \bar{\nu}e$



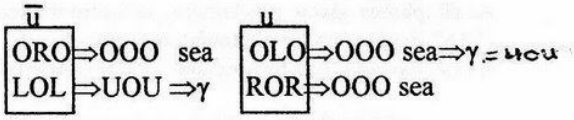
leptonic processes

$\mu^- \Rightarrow e^- + \bar{\nu}e + \nu\mu$
$d \Rightarrow e^- + \bar{\nu}e + \nu\mu$

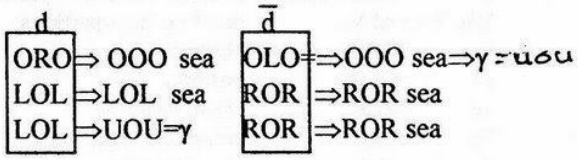


Some electromagnetic decays.

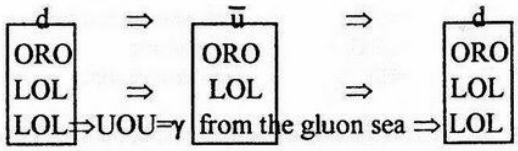
$\pi o \Rightarrow \gamma + \gamma$ **ORO+OLO anihilation⇒1x γ**
$u\bar{u} \Rightarrow$ **2 γ**



$\eta o \Rightarrow 2\gamma$ **ORO+OLO anihilation⇒1x γ**
only: $\bar{d}d$ decays⇒ **2γ**
so first: $\bar{s}s \Rightarrow \bar{d}d$.



$\Sigma o \Rightarrow \Lambda o + \gamma$
$uds \Rightarrow sdu + \gamma$ $d \Rightarrow \bar{u} \Rightarrow d$



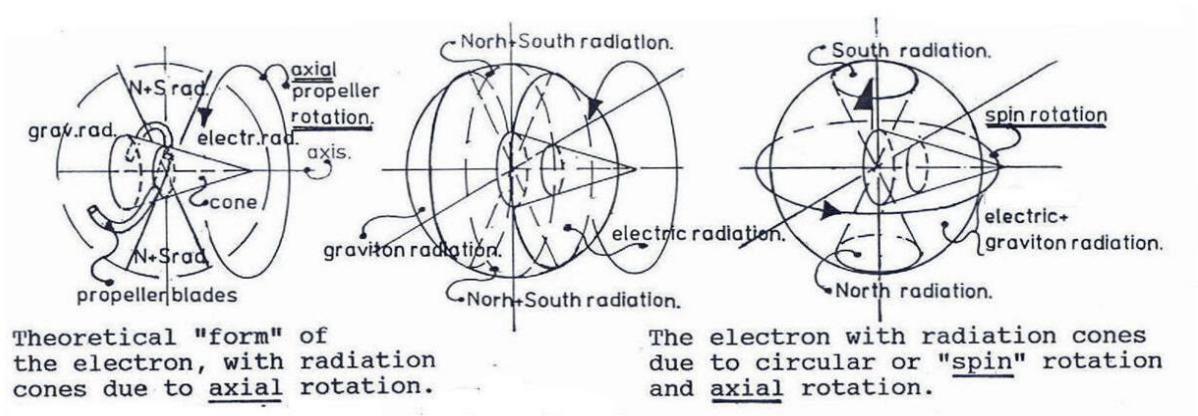
Some strong interactions.

$\Lambda{+}{+} \Rightarrow p + \pi^+$: uuu⇒ duu +$u\bar{d}$
$d\bar{d}$ pair production from the Higgs and gluon sea

$\Delta o \Rightarrow p + \pi^-$: ddu⇒ duu + $d\bar{u}$
$u\bar{u}$ pair production from the Higgs and gluon sea

$\Delta o \Rightarrow n + \pi o$: ddu⇒ ddu + $u\bar{u}$
$u\bar{u}$ pair production from the Higgs and gluon sea

The double spin of Fermions.



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 8, double spin of Fermion and Quark propellers.

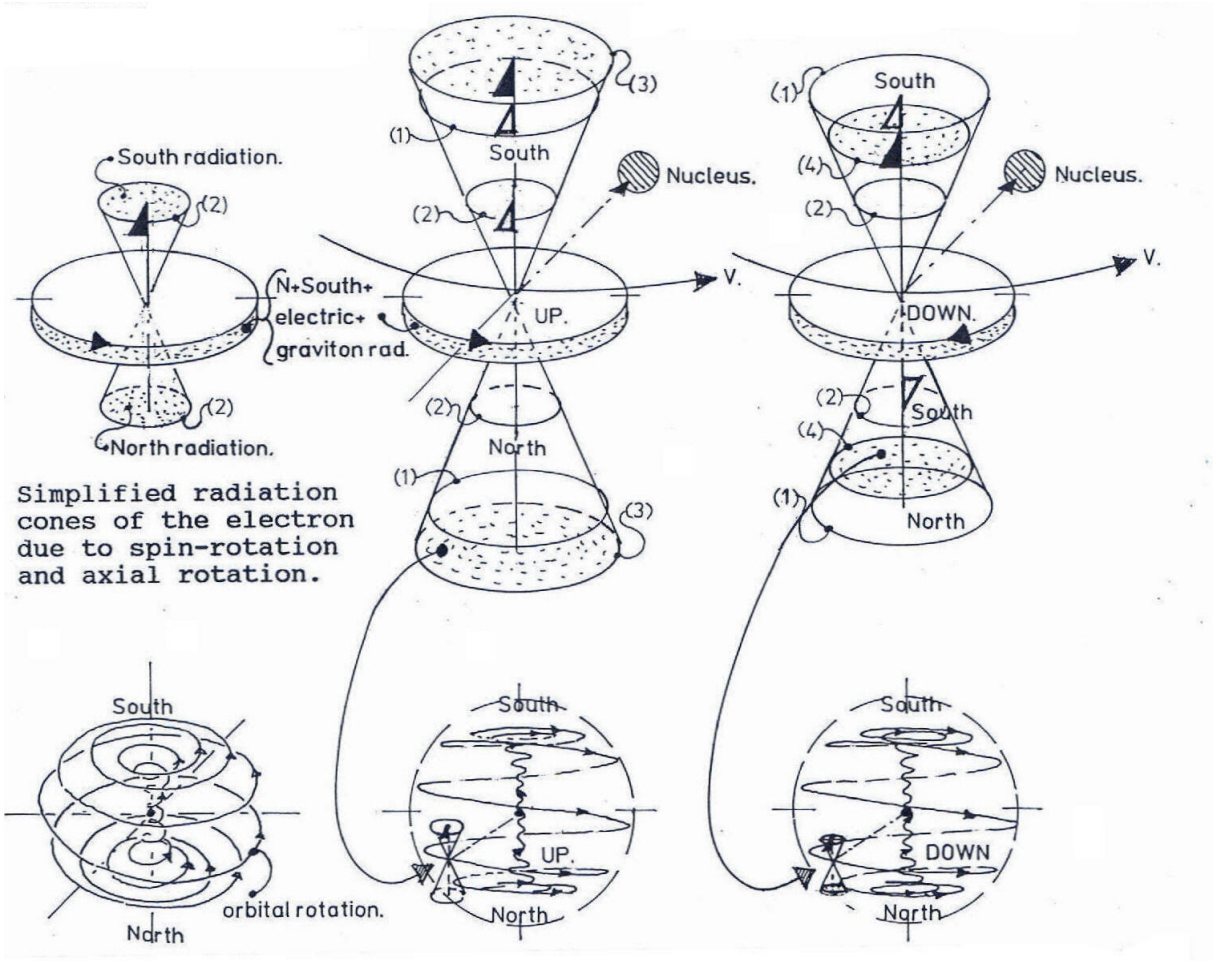


Figure 9, The difference between up and down Atoms.

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.

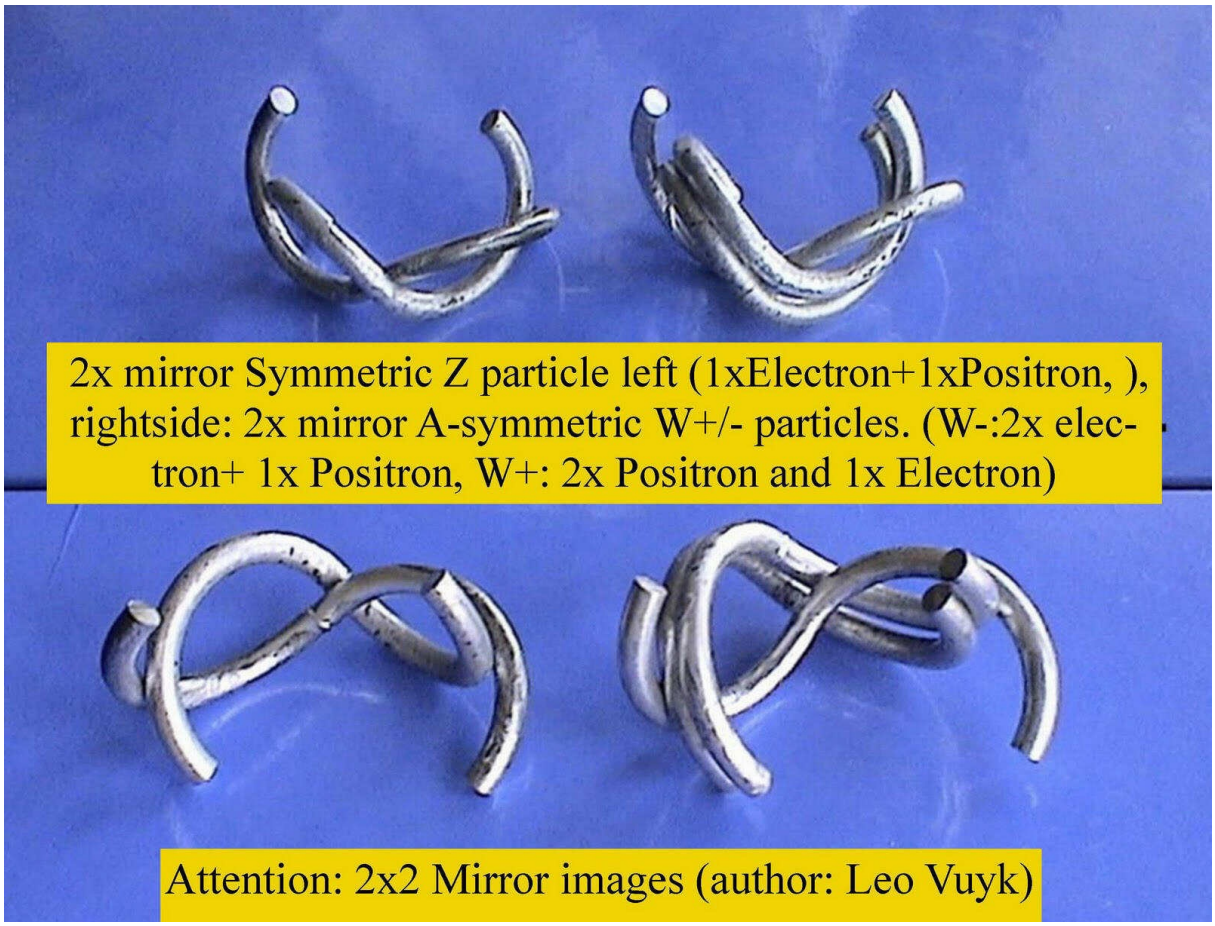


Figure 10 ,

As we are able observe below in the Q-FFF model images, there is geometrical room for additional Gluons to the Top Quark of the 36 standard models to create a heavier Top Quark. Even additional electrons or positrons could be the origin of additional so called TOP Prime Quarks recently found at the Tevatron.

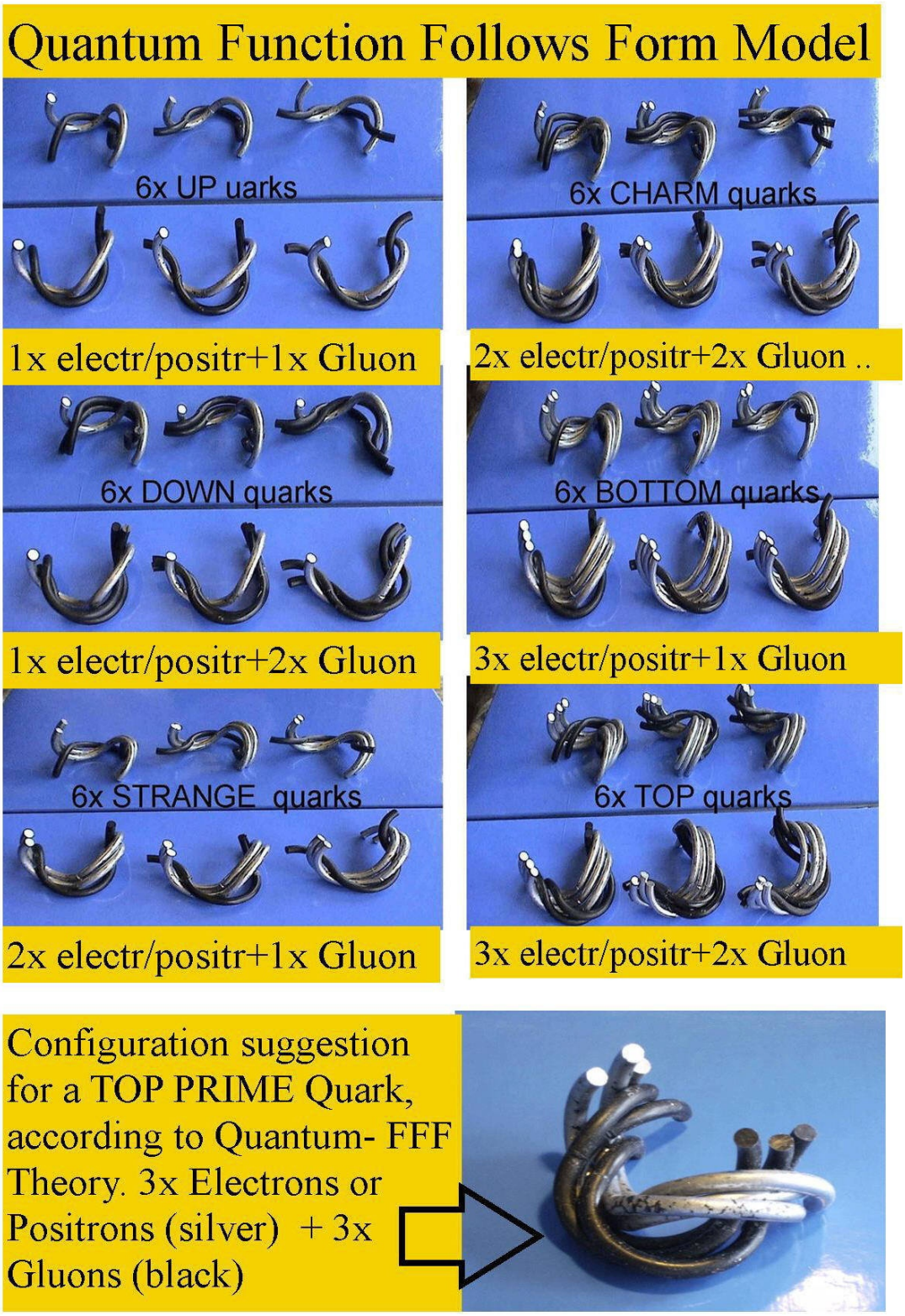


Figure 11,

References:

[1] viXra:1102.0052 *27 Feb 2011*
Construction Principles for Chiral "atoms of Spacetime Geometry".
Authors: Leo Vuyk
Category: Quantum Physics
[2] viXra:1102.0054 *27 Feb 2011*
Atomic Nuclear Geometry Based on Magic Number Logic.
Authors: Leo Vuyk.
Category: Nuclear and Atomic Physics
[3] viXra:1102.0056 *28 Feb 2011*
Experiments to Determine the Mass Related Lightspeed Extinction Volume Around the Earth and Around Spinning Objects in the Lab.
Authors: Leo Vuyk.
Category: Relativity and Cosmology
[4] The New God Particle and Free Will.
By Leo Vuyk, LuLu publishers, 2008.
ISBN number 978-1-4092-1031-3