

The Book ARCUS III

The Alternative Solution of the Problem of the Elementary Particles

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Some parts of this work are written in "Helvetica" by copies of given "The Book Arcus I and II", another part is newly written in "Times New Roman".

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1 Conditions and Theses

Dear scientists, first of all, thank you very much indeed for your hard work. You have provided a variety of metrics and ideas classifying them into the so-called “standard model“ of the particles in microcosm and into the “standard model“ of the macrocosm. That’s what made it possible for me as a philosopher with a degree in natural science to verify those results. I had to do this because my own theory and my models of the solutions of my theory over the complete universe from micro- to macro-cosmos made it possible to draw completely different conclusions. Now I have no choice but to introduce you to my unique alternative for both “standard models“, though not with such an etiquette that you are used to. I also offer it to the common sense reader. Follow me, now and here, even things of quantum models are understandable for everyone!

Dear reader, I thank you very much that you even dare to approach this topic. The following theses here reform a summary of my results of my script “The Book ARCUS I“, which is my source 1, briefly called “TBA I“. So this will be a somewhat extensive argumentation in the following. Here you don’t read a scientific work about universe physics like a dissertation, written dryly in the third person, but you’ll read a representation of my thoughts about the universe. If that becomes too difficult for you: It is not my fault.

I’m writing unconventionally and I’ll make it short right at the start: **my model of universe as the complete understanding of microcosm and macrocosm is unified. At this solution the universe is a spherical, spatial, and hierarchical system of oscillating Black-White Holes BWH (in German SWL). Mostly they are protocosms PK. As long as they carry an excess of energy, I call these PK energy cosms (or radiation cosms) EK. I took over the abbreviations PK and EK from my German language.**

You will certainly be amazed why I listed again the solutions of General Relativity Theory GRT (that impressed me) in my book from 1998. Perhaps you mean, as it is often usual in mathematics, to continue to use only one single and realistic solution of a math problem. But I am convinced that all the solutions of GRT are realistic. They just simply reflect snapshots. These are different standing “pictures” of the reality. This is not more than Einstein’s geometry! I showed that there can be an ideal oscillator among all the solutions.

Einstein’s snapshots of the matter (which is energy and mass) lead to static or motionless opinions. This includes the static **Black Hole BH**. Also this includes the rosette movement of objects while circulation around a cosmic object. This question remains now. How do the rosette movements actually come about? Are they caused by Einstein’s equations? No, they don’t! You can calculate them by his equations. Without rosette movements an object would circulate around a static BH following Newtonian inertia and Kepler’s laws where rosette orbits are unknown. Consequently, why is everything dependent on pulsations? The reasons are oscillations and dynamics!

There are no static BH inside of the universe! Now I only know about pulsating **BWH**. You can find them next to you here as electrons, protons and neutrons, and not far away from them between the stars, inside of the star cores and the galaxy cores! Let’s remember the year 1905. Albert Einstein had found the **Special Relativity Theory SRT** and his Light Quantum Theory. Most of the physicists showed him a bird (called him crazy), back then. As he in 1916 introduced his **General Relativity Theory GRT**, previously supplemented by Professor Schwarzschild, there were really choirs of laughter. In 1919 Einstein’s prediction of curvature of a light beam was proved by measurements at the sun.

In principle, Einstein is right. Only his ideal fundament – the total relativity – was a conceptual mistake. Something has emerged in my writings that is spot on in a new way, despite the error in Einstein’s winged saying “Everything is relative!”

I discovered that even outside and inside are relative! Relativity always is a relativity in relation to a reference system, no matter if you recognize it or if you just accept it. It is existing! And nothing here is eternal! This way, everything is in movement, as I found out: **in pulsation!**

Exactly 100 years after the proof of gravitational light curvature, in the U.S.A at the University of California, a new proof was made that light at a “Black Hole“, using my model it rather is a BWH, will be gravitationally shifted to red. Though, it is not caused by escape velocity but by gravitational density! The denser the mass the more the escaping electromagnetic radiation is shifted to the longer wave

length – into more of red spectrum. This prediction of Einstein was and is an important base of my theory, especially now! I mean that galaxies do not escape with next to light velocity of vacuum! They do not keep getting faster. No, they will be unpacked from the protocosms PK. That is why we do not need dark energy! We do not need dark mass (“matter”) because it is present everywhere inside of the dark-gray BWH as packages of normal matter!

My opinion is something different than pure physics. My work is vaguely comparable to the idea of Immanuel Kant, who wrote of the universe “nebula”, which later turned out to be galaxies. A long time before him the geocentric worldview was valid, comprehensively expanded by the epicyclic theory. It was an extreme mathematical artwork, comparable to the quantum theory and the quarks theory. This complete work was also a “standard model”, at that time. Doubts about such a definite designation are therefore entirely appropriate. My theory and my models start from completely different conditions than present science, which approximately imagines the following. I do not claim to be complete with my objections.

While the physical perfectly mathematically supported “standard model” is a point and a surface model, starting from a common coordinate system of all structures, my philosophically and partially mathematically supported cosmos-model starts from spatially oscillating worlds. For this I had created a detail **oscillator solution of the General Relativity Theory**, and I explained it by the Friedman-solution of this theory (4, p 246), allowing an oscillator. This solution, my solution, I see it definitely as physics: everything is pulsating across three dimensions by x , y and z !

The solution is really simple. Already in the books of preparing for the High School of Germany (Schülerduden, Die Mathematik II, S. 456, Meyers-Lexikon-Verlag) you find that a cosine is inscribed of a cycloid. Therefore a Friedman-cycloid was actually enough solution that the world could be an ideal oscillator. I think it is an undamped, harmonious, and spatial oscillator. Even the opposite of this movement could be deduced from an offset rotation of the unit circle, this way that at the rise of the first cycloid the fall of the second cycloid is following. Together, both inscribed oscillators would be compensating every physical sizes. This way, we find usual matter (ordinary matter: ordinary mass and energy) and antimatter (anti-mass and anti-energy).

My oscillators are both microcosmic and macrocosmic worlds. They make a hierarchy of cosmoses and also different coordinate systems with a spatial separation of cosms. Now here are some of the supposed theses of the present science as I think I have understood them:

The proton would consist of three **externally applied** partons. They would be called “quarks”, they could not separate themselves and they could not let them separate by external forces. From this actually a trigonal structure may follow in the sense of tri-quarks better. Consequently, there were tetra-quarks, penta-quarks etc., too. All of them would be given into a common coordinate system in one or more levels. The features of “quarks” should be the electrical one-third and two-third charge and more special “charges”, which made the firstly simple model of Gell-Mann successively more complicated. Gluons should hold together these quarks. They would not let them free, at all.

Scientists also assume that the particles should be open systems *because they wouldn't* have any spaces. They should be systems of points lying together next to each other. One thinks that electrical charges would also be point-like. The masses of the particles would be made by Higgs-bosons, which would collect masses. In addition, physics use so-called “exchange particles”, explaining interactions or the exchange of angular momenta. In the center of all the explanations, the interpretation of Heisenberg's uncertainty principle is placed. The “exchange particles” should be virtual, what means that they only exist for a short moment. Then they would disappear (as they were not existent) – this would be a credit from vacuum anyhow. Vacuum would be “polarized”. This may mean, it would consist of points of charges.

My opinion to this you may read here: I think, these theses of present science are not in accordance with the reality because one neither could prove “quarks” nor their “mass”, nor their “one-third electrical charge” directly. These three “quarks”, mislead on proton decay into a positron (from baryon into lepton), which process is **impossible** if you use my theory. One combines quarks to “brilliant predictions” and finds out then energetic areas next to the predictions. But really daring predictions they don't dare as hex quarks from “uudduu” into a proton p^{++} charged twice, or a proton as “penta quark” with a broken positive charge $p^{5/3+}$. They only allow integer charges and meaningful solutions. Why just do they do so, one could ask himself? Nevertheless, are there limitations of combinations?

My opinions are therefore completely different because there are spatial realities all over the universe. Only at the origin of the beginning, I have to assume a point-like order of “nothing” or of “zero” matter (mass and energy). This “nothing” is really “something”, it is the **real substance from the Creator’s world**. This real substance we cannot prove by using our physical media. Yes, even if it sounds “Spanish” to you, I investigated with my researches that behind all the things there is a great program, a software, which came together with hardware from the “world” of the Creator. The opponents may think about it in a very simplified way. They often mean, then God had to create himself by his creation process. But I think, no, he don’t! He built all the things here, the principles and laws from HIS primary substance movement of which we cannot dispose directly.

The contradiction of the present particle physics is included by the opinion that particles are point-like and at the same time, they would have an aligned self-rotation what should be the spin or a rotation around the own axes with the effect of eternity. And now I ask you, where does a point actually has its axis? If you set premises like particles would not have any spatial expansion and they are point-like and one could not measure any expansion, then only one conclusion can follow: particles cannot rotate around themselves. They consequently, as assumed for the electron, cannot let arise a magneton by self-rotation. So I thought firstly that particles would not have any spin. But next I say in accordance to this contradiction: the elementary particles and their descendants must be spatial!

Analogously, things are similar to the assertion: the universe would be infinite! This statement does not match to the definition: “dividing infinite by any number is always infinite.” And these results lead to infinitely much contradictions inside of the finite reality. If universe would be infinite then anything here would be infinite! If particles really would be dimensionless points, then all the things here on our world would be point-like. Also this is no reality because of the definition: “dividing zero by any quantity is zero again!”

Does the spatial particle of my construction actually rotate around its own axis? Where is the axis on this sphere? Is there only one single axis if two forces are working, gravitation und electrition? It will take a few pages until I will have been explained these both kinds of magnetons.

The point contradiction of particles has not yet been resolved. Let us say, there are trials to wind out of this problem. In my theory it found its solution by the spatial construction. At the beginning of all the matter, I also had to assume points, which make the spaces from the zero dimension into our three dimensions in way and time t_x, t_y, t_z (spacetime) by moving! The fourth dimension j^2 only then appears if this spacetime of three coordinates must be overcome. All the first spacetimes are packed in the electrons, protons, and neutrinos. This is why an immediate contact is impossible to these real elementary particles, which are more roughly quantized objects at extremely high energies. Yes, so that our world here is possible and that it does not burn right away.

I explain all matter as a hierarchical system of spacetimes – of cosms – exactly seen – of three dimensional oscillating **spacetimes**. Consequently, “quarks” cannot build a proton from themselves and from their trinity, but the proton is a cosmos, in which inside life (!) are partons (smaller particles), which, on base on curved orbits rotating there, act to the outside. **Five of** a multiple number of balanced parton features as a block determine their e. m. properties. But their internal area and their external area are not equivalent. They are separated by the internal coordinate system (by the fourth dimension j^2_{xyz}).

All the 3 types of cosms fit to the solutions of GRT

1. Stable, undampedly oscillating cosms = stable elementary particles, the universe, **stable Black-White Holes** (actually dark gray holes), called **BWH**,
2. Unstable, dampedly oscillating cosms = BWH with **much internal energy**, which become almost white as a result, if they evaporate and radiate (gamma ray bursts) and becoming BWH, if they have nothing else to submit: these are **energy cosms EK**.
3. Unstable BWH, which are packed with **overfilled mass** until they submit this package together with energy radiation again. These are the **protocosms PK**.

It is essential: stability between inside and outside is given while a balance of matter falling in and matter emitting out has arisen! This includes mass (particles) and energy (radiation).

I find an inside and outside life at all stable elementary particles. A particle is a microcosm like a **micro-BWH**. So it has a definite space (1, pp 323, 373). This space you cannot measure directly, that is certain. Between inside and outside, for mass and energy there are **reciprocal** relationships, by what a **packing system** arises, it is externally light, but internally heavy.

This way, one has not found a proof of Hawking's prediction of "missing matter" (in my theory absolutely nothing of matter is missing!) in universe to be micro-black holes. Later I come back to these facts, that one searches for BH where they aren't. Black holes with their external masses m and their energies \mathcal{E} are depending on their internal masses M and energies E . If they open up themselves for some time, only then their internal masse M is externally measurable. The reciprocal math in the states of internal and external properties will put your mind to the test, dear reader! Internal mass of cosms, of BWH, of EK and PK is externally zipped away, but not completely disappeared. I have to remind you here of my equation 2.7,1 from my book (1, p 338) for BWH:

$$m_o = d / M_o \quad \text{with } d = \hbar c / G ; \quad d = 4.73715505 \times 10^{-16} \text{ kg}^2. \quad (1a)$$

With \hbar reduced Planck quantum, c light velocity, G is Newton's gravitational constant.

Using newest data from Wikipedia, year 2020, we get: $d = 4.7368664482 \times 10^{-16} \text{ kg}^2$ (it's a small difference). There are really somehow "Black Holes". These are the BWH. They never get really black, but dark gray. **You may say "dark anthracite". This is real! Therefore they never lock completely or they are only temporarily close because next to open.** When you know this that they never are really black, you can going on to say "black holes" to them. In my model they are "crematoria" for "coffins of matter". They carry the matter into the reprocessing furnace so that from condensed matter or/ and energy in the meantime **new protocosms and/ or radiation cosms** arise, which are emitted into the environment. New PKs renew (freshen up) external matter! At the very end of the time of the objects, when everything is absorbed from the environment and then radiation is coming back from the radiation cosm, then a new world like Phoenix from the ashes is born by that PK. Then these "crematoria" are places of a new birth. By the way, this is a philosophical clue of **rebirth** from the complete system!

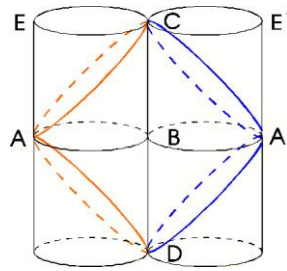
In this cohesion, I see a cycle. Let us begin at zero, there where the pendulum of a wall clock is hanging at the deepest point. We could start it in any position to get the clock working. But rather you like using to start from the center:

First, there is an amount of most different protocosms, which are climbing up while evaporating one after the other. That process starts from the center beginning with extremely homogeneously distributed miniature-PK (what is the illusion of the single Big Bang!). Getting a smaller number of PK, that process of opening is continuing to the highest radial size of the top PK. At last the amplitude of the receptacle cosm has been reached. While evaporation, equally distributed matter (ordinary matter) and antimatter are destroyed into radiation (annihilation) going on a world trip. The special rest of scattered normal matter remains coming from the sub-protocosms, which behave the same way as the protocosms in this inextricably deep hierarchy of protocosmic substructures. On this way, everything is arising from that scattered rest. These results have to be seen that the proved "Big Bang" is just a propellant charge of the galaxies, the stars, the planets, even the organic life as special case of universal life. Now this rest begins its own time of existence until everything is prepared for rebirth by condensation.

Inside the invisible centers of the opened PK, this is in the centers of galaxies, in the centers of the stars, the remaining open rests of PK and their Sub-PK divergently to BWH, which are depleted in energy changes. As in the centers more and more mass and energy are falling in and getting "swallowed", in these very dense centers, from time to time new Sub-PK and Sub-EK were built from that internal material. They are distributed into the environment as a fountain of youth. Every invisible BWH, EK and PK (and Subs) with their mass and energy count to the universe matter. Though my calculations are following that no mass is missing. You do not need dark matter. These BWH even are crematoria of matter. In their centers but they are pregnant of new matter including PK (new objects) and EK (gamma-ray-burst, particle pair beams, quasars, young galaxies).

When these BWH have everything packed in from their environment they are falling into the gravitational centers of their local objects to be packed in there. When they even have packed within the back coming radiation, the complete system will be condensed back to that protocosm, which before set free these objects, which had their existence time just climbed up on this elongation height. It now is

falling down in a bow back next to zero of the receptacle cosmos. Seen from above, the way of bow is an elliptic bow with interruption, which sense of rotation remains the same. And the time of all the primary PK is the same, namely the half period time of the cosm oscillation. This idealized illustration 3.2.4;1 Cylinder model (1, p 471) would be applicable for the highest of all the protocosms:



Now the “Phoenix” PK climb up on a new height (elongation) where they evaporate, what means: open up and emit renewed matter. What a wonderful cycle! Fortunately, it does not know any singularities anymore! There are no infinite density in the centers of the objects. Nothing is falling into each other at once!

The way of one point, or one object over A-C-A-D-A would not be an ordinary roller coaster. It is not a flat eight like a number 8. If that point would really run on an eight, its rotation sense would be changed on its orbit. But, if the point runs on the projection seen from above onto the cylinder, then its rotation sense remains forever. We geometrically get two parity circles from both top views, once over A-B, the other over B-A'. These both circles together make an eight changing their rotation sense (spin vector). But the protocosms do not switch to the other area. Only an opponent on the other parity orbit could hold against the one (for example: matter and antimatter). Particles consequently are not open but **closed** spaces (spacetimes). A particle emits primary angular momenta into all directions. These effects are the primary **wavequanta** WQ as called by me, also to understand as **magneton**s. They transfer the primary mass/ energy out of the inside of the particle. The inside consist of a structure of sub-particles, which generate both half a sphere of positively directed wavequanta and half a sphere of negatively directed WQ (a dipole is resulting) because of their quantized movement.

The couplings between the particles are primarily adjusted, so that they cannot turn around after the very first adjustment. This is why the static gravitation and the static electric charge effect, that I call electrition, seem to be monopolar from the point of view of one single observer. If such a sphere is pulsating and radiating, the left ray is negative and the right is positive observed from arbitrary direction. Seen like this, every spherical pulsation is an ideal and an all-round effective dipole. This is exactly what we expect from gravitation’s behavior. Just like this, electrition also behaves. Every pulse emits and receives primary wavequanta. This way, the static forces of gravitation and electrition are generated. To turn around this pulsating sphere that these primary couplings break off is impossible, because the speed of $v > c$ is impossible!

I could tell you another parable: I’m driving on a car having a submachine gun while I’m shooting into all directions also into the space above. If I’m driving on a straight, all the bullets are distributed equally. If I’m driving in a circle, so everybody simply can imagine what then will happen. The bullets density will be smaller in the space opposite the center of the circular roadway. But they are denser in the direction to the center of the circle. This central midpoint now is the new effective center of a newly created wavequantum WQ behaving like a particle itself but being a secondary WQ (it is exchanging bullets with all the other transmitters and receivers, never there is standstill!). When one of these WQ will be moving, then it will cause a tertiary dispersion of the exchange-WQ. This way, the system of WQ-hierarchy theoretically continues to infinity.

We are in a receptacle system where the near environment is open for us. If we go into a receptacle system like a theoretically stationary “Black Hole”, then all the hierarchies stay closed. Also in a so-called dark gray hole, BWH, the matter of mass and energy is ordered in hierarchical sub-systems until the center of an extremely innumerable variety (1, p 316). That is why I don’t know “intermediary particles”, but **exchange wavequanta** WQ in the sense of photons (e. m.) γ_{em} and fallons (g. m.) γ_{gm} and their analoga in different areas of angular momenta. They do not only pass on impulses (momenta), they give information of the positions of the objects.

On problem of the momentum p, I especially think that it is a special case of the angular momentum I (1, p 315). Since Einstein explained all the geodesic lines (all the “ways”) to be like a bow, no object

of mass m is able to move on a straight line with the speed v . It always will run on a bow with the radius r . Therefore this is an orbital radius r_B . And in the same moment an "own" intrinsic angular momentum I_S of the object (named "spin") arises over its orbit rotation sense I_B (called orbit spin):

$$I_B = m v r_B = p r_B \quad \text{and not alone anymore} \quad p = m v. \quad (1b)$$

So I think, there are actually just **angular momenta**: orbital angular momenta and intrinsic angular momenta. At their sub-structures, they also continue hierarchically. But it is not absolutely necessary that something has to rotate around its own axis. It relatively can stand still.

Then you can speak of the momentum p . Let us observe our moon. It always shows the same face to the earth. But it also is running around the earth. Its orbit angular momentum I_B is in the center of the earth. Consequently, even if it is hard to imagine, the moon is one time rotating around the earth with every full round. One calls this a "bound rotation". Then this is its spin I_S with the angular momentum center inside of the moon. Also the moon has an angular momentum, a momentum, which is synchronous to the earth.

Yes, and this you also will find inside the particles, cosmos, microcosms, protocosms, and black holes. Anyhow, rotation is an immanent thing of all the features of matter. Therefore I think that matter, this is mass and energy and not material, is signed of a closed movement. My definition of matter in my TBA I was consequently this:

Matter (mass and energy) is the closed movement of the "moved unknown". Presently, I complete this: cycles cause finite sections of existence (oscillation periods) so-called "finiteness" inside of infinity. But it is a kind of "finiteness" (repetition of a circle) running into real infinity until the creator switches this oscillation on "turn out".

We do not know what actually is moving as "moved unknown". This real substance of the base of all must be something real, otherwise we all, the complete universe would be unreal. Our ideas also are real. But they are no matter. It is the same origin of matter and idea. If ideas are stored at matter, they form a unit. But they are still no matter. Therefore I gave the soul the following definition (1, p 302):

Ideas are open movements of the "moved unknown". The moving unknown substance is the true substance from the creator's world. This real, true, and unique substance is everlasting in its infinity.

With this ideal introduction to my considerations, I would like to leave it at that for now. Before it gets more specific, I recommend you cautiously to read my book TBA II. It gives you purely verbal information about the content of TBA I. When you could understand TBA II, then you can read TBA I. My theory book "first" is not actual anymore. I had to change some content in the course of time, especially these positions:

There are no proton neutrinos and no derivatives of them. However, there are intermediate states of matter being dynamic BH, but no static black holes, which are only eating and never really fast evaporating again. The states of elementary particles I have explained hypothetically. My common hypotheses are actually right. But the special trials of explanation like for the construction of protons, electrons, neutrinos are not really correct. I tried in the year 1998 to set some base hypotheses. Also I could not explain the forces better. All my imperfections I tried to correct now here in my books TBA III-V. At the same time, quarks theory was refuted and replaced by my "model of lepton shifts (ΔL^{+0-})".

What did I have to say in my book TBA I? At the beginning I talked about well-known hypotheses of universe physics and of measurements, which stand in conflict with normal understanding. Then I explained my positions. Starting from the theoretical black hole I showed that this state cannot be an absolutum. Already a German saying goes "But you can wait until you turn it black!" An absolutely black state does not exist in our matter. This is caused by infinity of waiting for this expected effect. Consequently, only according to logic, such a hole would be closing itself while an infinite time until it will be getting real black in the end. My idea directly is bound with real black and the disappearing of the whole world. Universe would be disappeared and would never come back again, if it would not oscillate!

Today the idea prevails, only e. m. radiation would stay captured and the interaction of gravitation would pass unhindered the theoretical black hole. My solution says something different: e. m. inacts

and g. m. inacts are running over wavequanta WQ, which both are not let through by a nearly completely curved geodesic line. This line in the spacetime is the problem! Therefore my hypothesis is very important for me! Such static objects like theoretical BH would not be identified externally. There were no gravitation and no electrition, no gravitomagnetism and no electromagnetism!

If we follow this idea, such BH should not be a fact of reality but only dark gray BWL remaining open partially and getting a new property. But if they should be temporarily or stably closed then their internal and spatial up and down going leads to an externally measurable oscillation that is exactly one Planck-quantum h . This was and is my next important hypothesis! Under these circumstances such a dark thing is not a dark gray hole anymore but a **spatial wave oscillator (and receiver), that I called protocosm, radiation cosm, or cosmos at all.**

In my first book, I yet called the radiation cosmos EK “cosm seeds” KS. This led to confusion of the terms. Then I disputed about inaccurate terms of quantum theory applying my hypotheses.

My next theme confused many readers in relation that I am a fan of Einstein. But in my thoughts I have to contradict him. Why has he called his wonderful theories “relativity theories”? So it seems as everything would be relative. But this is not true. Using my equations related to a reference system by resting vacuum, I proved mathematically that both results are the same (1, p 280 - 292). I also showed that these both relativity theories tell us about two things: an oscillator movement order SRT and an oscillator hierarchy order ART. Therefore I understand our universe as a precision clock, in which all oscillators are coordinated with each other. I then called the world also to be an “ideal transmission“. My theoretical imaginations already got the name “Ideal Oscillator Theory IOT” (1, p 292),

After doing this, I thought about red shift of the e. m. spectrum in universe. Until page 299 I showed the possibility that the Doppler-shift leads to identification of small speeds in universe. But the gravitational caused red shift is the only sign of past by the interaction of spatial wave oscillators (receivers), which give free their internal mass and their e. m. radiation (naturally also their g. m. radiation) in portions while their opening (evaporation, or anti-collapse). Running this process of opening, the structures in universe, or in every other cosmos, or in microcosm are made. To increase my positions, I have told about fundamental theories from p 299 till 338. At the same time I gave some own hypotheses, for example the equivalence of the original e. m. and g. m. charge.

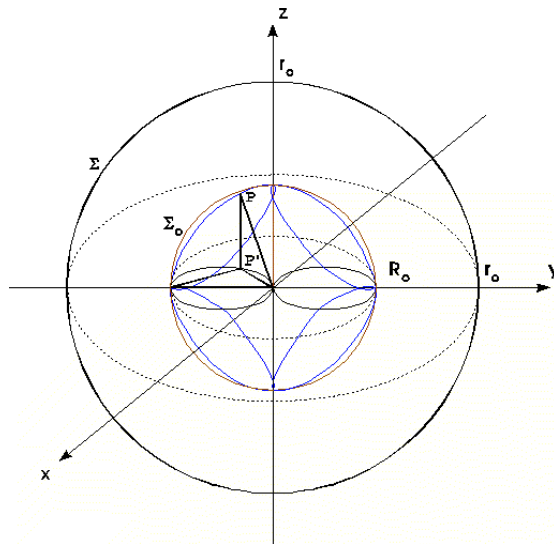
My base equation 2.7,1 follows on page 338 explaining the relation of internal mass M and external mass m in an arbitrary temporarily stable cosmos (BWH). Later as here in this work, I found the special cases of opening cosms: protocosms PK, energy cosms EK. BWH also open themselves getting immediately back the same. This way they are stabilized, or they especially are stable elementary particles. Naturally, I also had to explain their internal construction, which I only could imagine quantized after the base principle of Niels Bohr analogously to the electron shell. That such a system has to work, there should be clues in the solutions of Einstein’s theories. So I found various parallels, which I constructed on page 346ff. But on p 349 I made a mistake in thinking. Surely, the radiations will have a chance to come off at r_k of $1.125 r_o$. There the maximum red shift of 2 were possible to observe in this moment. BUT only then if this radiation would not be shifted to a high value on its way before. Before reaching r_k it had to overcome the gravitational horizon r_o . That’s why it is not impossible that gravitational red shift could have been taken extreme values, extremely higher than 2. My mistake was that I started from smaller red shift. The internal mass M already is externally effective at $> 1.0 r_o$.

Here is my most important thesis.

Explicitly, electron neutrinos, electrons, and protons as also electron antineutrinos, positrons and antiprotons are the only ELEMENTARY PARTICLES. Every other particles, for example muons, pions, neutrons, lambda Baryons are descendants of them, they are DESCENDANT PARTICLES.

The elementarity of the hierarchy area “universe” lies in the stable elementary particles!

Just want to tear it up, on p 355 I dealt with the common relativity principle. I could find some theses of my own. With the help of these thoughts I was led to my mathematical oscillator solution of the GRT on pp 362. The possible positions of the substructures I showed in illustration 2.9.2 on p 367.



This picture I yet brazed from wire in the German Democratic Republic. I put it on a cork. It remained my model of the universe. On the following pages I described harmonic vibrations (oscillations) of cosms. At this position the most important of my ideas was given.

Now I concluded theses, which weren't always correct. But they pointed in the right direction. The scheme of p 410 I could keep well even though the assignments of the particles were not right. My ideas about macrocosm corresponded very well with the reality. But my results of thinking about microcosms did not hit particle's transformations.

The most important was that the universe is consisting of a hierarchy of cosms. In this system, the protocosms, radiation cosms, and their sleeping states as dark gray black-white-holes BWH play a significant role. Consequently, every microcosm also must be sub-structured with the same laws. A straight line of theory was necessary: from the smallest and heaviest particles up to the structures of universe so that my model can be rightly a unit theory of matter. Therefore "quarks" are unreal. Only protocosms and cosms and their quantum leaps are remaining real.

The knowledge is not entirely unimportant that "dark matter DM" already is explained with the evolution of protocosms, radiation cosms and BWH of my model.

But I was not right in my TBA I while explaining the subtlety of microcosms correctly by protocosms instead of those so-called "quarks". I only succeeded to describe macrocosm. At the end of my book I tried to explain the Big Bang. I didn't yet succeed. Today I know and I say: **any Big Bang is only a propellant charge!**

Now I know: **inside of every cosmos, if in an EK or in a PK, there is a propellant charge, which is a kind of Big Bang. But THAT single "Big Bang", which only would have created ALL the universe things from itself – this kind of bang never was real!** In every tiny fraction of a second, every elementary particle experiences its birth after its own "Big Bang", and after the following structuring evaporations of internal protocosms. So it experiences its death by condensation of all the emitted matter back to these origin protocosms. This is the rebirth: an infinite sequence of undamped spatial oscillations leading to exchange wavequanta with immeasurable sub-structures behaving the same of oscillating, resonating, receiving, and exchanging wavequanta WQ. This is the world as I imagine! And I think so: **this is the Creation!**

According the strong interaction (inact) I found something strange (1, p 511): the internal gravitation is in contact with the gravitation of every other nucleon. So neutron and proton get the tremendously strong attraction force in the atomic nucleus. Pions do not "convey" this strong force. The fallons as g. m. exchanging wavequanta do it! But the nucleons do not rotate or move externally visible around each other. Only the internal movement is crucial. See the model: two plastic spheres will be glued together, fixed and static. Internally there are two smaller spheres. Their invisible movement I called phenomenal rotation. This WQ is to measure with the average resting energy of pions. So the measurement of this particle arises. At the same time, it is the condition that real pions can be formed by decay. On base of this idea, I suggested a completely different atomic nucleus model than it was ever known (1, p 542). Nucleon's area dip into each other and move or rotate internally. So they make ring-

and chain-structures with side branches and degrees of freedom. However, to that time I did not know nothing about this important last conclusion: neutrons alone give binding energy to the atomic nucleus.

Regarding the electron shell, I tried very hard to prove that electrons really are running on trains (1, pp 373 - 391). But these orbital-trains are not verifiable directly. Only the interactions of the electron movements produce interaction spaces, which are coupling or contacting with each other. These so-called "orbitals" now even are "optically" proved. Certain editorial offices wrote according to reports: "Electrons seen." That's just how they are, the editors. They always make a spectacle. Let us say it so: the interaction spaces of electrons were seen. But the electrons directly weren't. Electrons themselves you cannot see with the media of interaction, **never!** The light point on a screen, caused by a single electron, does absolutely not reflect the electron directly by point, but its **interaction hit**. At this position of the shining point, its wave quantum WQ_A hits another wave quantum WQ_B there on the screen, **and it has shifted it!** There you see the light. But the electron remains hidden!

I hypothetically yet explained large PK in universe, too. As they are stopping, evaporating, setting free the inside world while it then experiences its own time called as "evolution". So I explained that new star systems result from supernovae and from their successor processes. The old material becomes new matter. Even organic substances are formed (1, p 578). It is therefore no wonder if one found now in the year 2019 organic substances on the Saturn satellite Enceladus, suitable for the syntheses of amino acids.

So the main thing is that amino acids do not turn into a living being by themselves. Just again my PK with their special internal programming produce organic life from lifeless supply on chemical substances! But they also make every other life forms so that I found the important conclusion: the whole universe is living! It means that the complete universe is a living body. It is full of information. So it is an informational system, too. I also called it a

Hierarchically structured and totally programmed hologram.

Did something like this coming about by accident? I mean, no, it cannot not!

The complete thing is a creation! I absolutely stand by that with 100.0 %!
The creator or the creators are not members of any religious community. But HE or THEY are all over here and give us strength.

Here at this position of my script you get a short information about my solutions now.

About previous ideas

About my ideas

Macrocosm:

Macrocosm:

Big Bang Theory

IOT

Any quantum fluctuation leads to such an explosion of matter from energy and mass, which should have made all the objects in the universe while an escaping speed (expansion speed) of nearly light velocity is acting.

The universe is a building of innumerable sub-cosms – of BWH, of PK and EK. They are packed into each other. In every of these cosm types there is an own "Big Bang". So innumerably delocalized original start-explosions are following. In the end of all the decays stable particles result: protons, electrons and electron neutrinos and their antiparticles. Yes, inside of them are particle-big-bangs. If you observe every of these "Small Bangs" as an emitter of matter, then there are innumerably packed and hierarchically sub-structured transmitters. If only they would send, then this bang material really would expand into eternity. That everything have to stay stably, transmitters are receivers at the same time. Every cosm type is a resonator as an oscillator to be a wave quantum emitter and a wave quantum receiver.

Universe Theory

Cosmos Theory with BWH, PK and EK

Galaxies should have built by gravitation inside

The "Small Bang" in the center of universe is not the producer of the whole structures of matter in the types of cosms. It is the propellant

of own spaces in spite of extreme speed of matter. They should have been flying away faster. Red shift of electromagnetic spectrum would prove it because one explains it with the Doppler-effect. So one gets problems, which are only to be explained by dark matter and dark energy.

From a black hole never would come free larger amounts of mass than Hawking's radiation quanta.

With these constructs inclusively all the unsolved problems science created the standard model of the world – a universe theory.

charge, stopping in the center but accelerating the areas above. There, above of them more PK and their "Small Bangs" are running. Inside of the PK, the Sub-PK and their "small original bangs" the Sub-Sub-PK and their "original bangs" are running etc. down into the hierarchy. A rotation structure is formed out from this processing. It is sub-structured as long as stable particles and their combinations over neutrons are shown. So really a completely structured world is arising – our world!

Every cosmos types are in a way "black holes", temporarily next to black but then also temporarily next to white because they radiate, open themselves, evaporate or emit parts of internal matter (mass and energy) as it is a surplus.

With this idea that so-called "black holes" are omnipresent but not just statically eating holes but eating AND excreting holes, my solution of non-stationary Black-White-Holes BWH resulted. A BWH exists as an arbitrary and stable cosmos, built up to unstable PK and EK. It emits and receives gravitational waves, exactly: gravitomagnetic waves.

Every core of a star or of a galaxy includes an active PK or EK (but no degenerated Fermi matter). This is why it is essentially heavier than just a sphere of gas working by nuclear fusion. Dark matter (mass) does not need to be constructed.

Galaxies are set free from protocosms PK as well as the stars etc. Though they are pre-programmed there. They do not escape with extreme velocity. And they radiate while opening the PK. But the PK with its extremely gravitational starting density is shifting this radiation spectrum into extreme red. This is why with the mistaken interpretation of the Doppler effect, the red seems to be an effect of escape speed. But it is not! It is clear that the construction of dark energy is now omitted.

But if BWH filled of radiation energy are open, namely EK, they emit consequently gigantic values of radiation and particle pairs. It is possible to explain Gamma-Ray-Bursts with them.

Explosions of stars (SN) one can explain to be a result of PK-explosions of the core. While this event, new PK are exported into the environment generating new objects of matter there like new stars, new planets, satellites etc. up to new organic life.

When every object and subject has run its existence time, its own radiation is coming back. This matter and the environment matter are absorbed from the BWH pulse for pulse until the environment is empty. The new PK, which was just made is accelerated by the momentum and directed by the central gravitation to start now with next to light speed.

The packing of matter leads to an apparent paradox: there is more matter inside than outside. If a PK is opening, a gigantic internal mass is coming out. According to the law of conservation of momentum the PK stops its extreme velocity against next to zero. Now it emits its internal structures. This means: galaxies nearly stand still while their formation, only referred to the center of gravity of its creating PK. After this starting process, rotation movements begin. If all the matter is absorbed and the PK has packed everything again, the outer mass now has arrived the inside. This PK complex now is running with next to light velocity in vacuum to the gravity center of universe. This is really a transport to the rebirth, to the new start of the complete oscillation from all the PK.

By getting the gravitational explanation of cosmos and protocosms, there is no cosmogonic red shift any more causing on a so-called "expansion" of the universe. The decoupling of the galaxy heaps from an

“expansion“, which is not existing will be explained here with the process of PK centers making their own gravitational red shift of spectra as they came free and generated their own world. Our universe is piled up by the PK. It grows layer by layer! If there was an escape of galaxies with next to light velocity, observed far away, then we had to prove optically that 2 of such galaxies lying next to each other would move away from each other within year by about 1 light year. So far nothing has been known of such evidence. Much more there are fantastic explanations of science why one could not prove such a feature.

Therefore I have to accept that cosmogonic red shift is understood mistaken. Consequently, this is the result of mass-density-reduction in universe because the universe itself is a black-white-hole. It behaves after the laws of this IOT over PK-evolutions.

Microcosm

Microcosm:

Quarks Theory

Model of Lepton Shift

Tree quarks should be a proton. However, by being composed of exchangeable quarks, it could decay like also the neutron. The proton would not be stable eternally. Quarks would have one-third and two-third electrical charges. Trying to explain every particle reactions, they have to assume further charges. All these constructs could not be proved. But they seem to fit better to the reality. Using adjustment calculations, the standard model of elementary particles was developed. With the hypothetical Higgs bosons would this model be the final solution of microcosm.

Neither one-third charges nor quarks have been proved. Using a unified theory, the microcosm should be also made from PK. The proton eternally stays stable. It receives energy and stores it at its PK by forming PK-pairs, which distribute on the particles (microcosms) involved. By this basic law, the microcosmic as well as the macrocosmic matter would be then explainable completely. A destabilized proton becomes to an energy cosm EK. It is an e. m. charged BWH then.

The relationship of electron and electron neutrino is the base principle. We see the electron made with its electrically negative and integer elementary charge and its elementary magneton. But the electron neutrino is totally acting on gravitation without an externally electromagnetic component. How can these two particles be related to each other? As points they couldn't. Only as spaces including PK and being PK, they really could.

The electron consists of a PK-body in which every charge, however, is equalized. This electron body therefore is purely massive resp. gravitationally interactive. It gives the large part of its internal mass to the electron. At the highest train inside the electron a single PK is moving having an integer negative charge. Its movement inside the electron causes its magneton: this object is an electrical negatively charged BWH.

The electron neutrino consists of the “gen” of the electron, exactly of the above told electron body and an own body, which I called neutrino body. Both bodies are electromagnetically (e. m.) equalized. Consequently, only the oscillating internal mass of both bodies is acting to the outside while they determine the external mass. Externally, the electron neutrino is acting purely gravitationally: this object is an uncharged BWH.

By interactions both these PK and these pair bodies of the PK (as they were Higgs particles) the interactions of elementary particles can be explained. Protons load themselves with energy and partially with lepton-shifts. This way their own PK will be loaded with energy. Then the lepton-shifts are built into the inside. From protons become unstable and heavy Baryons (EK). Electrons do so and become muons or tau leptons. Neutrinos are changed by gravitational energies (gravity waves) into muon neutrinos and tau neutrinos. While this, all the reactions with electrical charges are actually electrogravitational interactions where e. m. and g. m. interactions are involved. The conversions

of neutrinos (“neutrino oscillations”) only is acting gravitationally, so-called gravitomagnetically, g. m.

With this model interactions are explainable without quarks:

- Beta-minus and beta-plus process
- Reactions with neutrinos
- Reactions with pions, W and Z bosons
- Baryonic processes
- Mesonic processes
- Leptonic processes.

The entire content can be found in this work “The Book ARCUS III”.

2 Why is there the Weak Interaction?

I think it is there because protons are eternally stable. Now a different system must be constructed that the conversions only makes possible running over leptons and of their insides. As I thought about products of decay of pions, Z and W bosons, and I red again my hypotheses from my book (1, p 521) I found another idea.

First area: we find the weak interaction with electrons, positrons, electron neutrinos and their antiparticles.

Second area: we don't actually find the strong interaction with minus pions, plus pions and zero pions. No, we find the transport of the weak interaction on a higher step. The pions carry away partial structures of electron pairs and of neutrino pairs. Possibly they decay into those particles of the first area.

Third area: we find a package of the partial structures of the first area with W^+ , W^- and Z^0 . They decay into particles of the first area but just in the reverse spin relation, not to zero but to one.

From this 3 ideas, I see a line direction! **All the leptons are descendent with each other.** This fact is well known but one actually doesn't know why. This is the reason that I found the following premises a and b in the end.

These are though the entry in another particle theory with integer electric charges and mass of the particles where the proton is standing in the center.

An **electron neutrino** already internally consists of an **electron body** (the mass block of the electron – a kind of “Higgs block” but without the electric charge for an electron resp. for a positron by inversion) and an **electron neutrino body** (the mass block of a neutrino):

$$\text{Electron neutrino body} + \text{electron body} = \text{electron neutrino.} \quad (2a)$$

Together with the electron body, the negatively charged protocosm of the electrons becomes to an electron:

$$\text{Electron protocosm, negatively} + \text{electron body} = \text{electron.} \quad (2b)$$

Only through this, **through the shared electron body**, **electron** and **electron neutrino** can be descendant with each other. Only through this, the weak interaction is following consequently. Always both partons fit spatially into each other, by what their internal masses also have part at the internal mass balance sheet (of additional mass M). It follows an elementary particle full of integrity – a stable *lepton*. *The explanation of the weak interaction without “quarks” is now possible with the electron neutrino and its antineutrino.* You will get a demonstration from me below. The inversions apply to antimatter.

Because – as I'm always saying – God did everything to make the world as complicated as possible.

3 Why is there the Strong Interaction?

The strong interaction, the so-called “strong nuclear power”, is a completely different thing. Yukawa Hideki (1907-1981) predicted in 1934/ 35 “exchange particles” of about 300 MeV/c². They would hold together the nucleons. Later they were discovered “next to” (what one understood as “next to”) his energy prediction. These particles were called pions at 135 and 140 MeV/c². Today in the model of “quarks” this exchange is placed as an exchange of “virtual pions”. There should be no changing of nucleons, only that they actually exchange “virtual pions”. By this action, nucleons would hold together with such a tremendously strong force in spite of the repulsion potential of protons.

This model fits to the conception of open partons of particles but it does not fit to my spacetime model: [Protons with radii of \$2.1 \times 10^{-16}\$ m cannot exchange real pions, which have radii of about the 7times of the proton!](#) Using a negatively charged kaon, it was experimentally possible to couple two protons with each other, but really not virtually. What is actually “virtual”?

Since that time the idea rules the sciences that “exchange particles” would make forces. They do not understand the quantum acceleration of rockets because the origins are shifted. Additionally, one began to explain all the interactions with the wave-particle-dualism: particles would be as well as waves and vice versa, sometimes like this, sometimes like that. Applying this model, the corresponding statistic and the suitable math were constructed.

But I ask you: Is this all real? They often say, Quantum Dynamics would not be real, it would not be for the normal human mind. Perhaps is this kind of unification of wave quantum and particle nothing for the normal mind? Because I think, these constructed cohesions are absolutely wrong. How do I do this? Everyone works with these models perfectly cemented together by the also perfectly math. What do I do? I think particles are particles and wave quanta are wave quanta. And what did one thought back then? Starting from the classic physics, one saw the momentum of the football inside of the football. Nobody even suspected that the momentum of a particle in the microcosmic area has not to be insides of the particle but in certain circumstances dependent on the conditions even far away from it. And nobody suspected that it is not the ball as a thing what is exchanging that the players hold together. No, the momenta inside of the ball make it! These momenta are inside!

So I found the idea to divide particles and wave quanta again. Particles have a body, which is a kind of rump needing hands and fouts for interaction. Yes, but the particle has not such organs. Then what does it interact with? I answer that it interacts with the angular momenta (with the wave quanta), which it emits and receives! How does that go?

A defined particle is a spherically oscillating cosm. But today one could think: that is just the formula of Heisenberg's uncertainty principle misused by Ackermann who interprets it vice versa, it is not more.

No, it isn't! I describe the spherical extension of the particle cosm as a primary spatial wave using Heisenberg's equation! This is a completely different thing. While the internal microcosm of a particle oscillates primarily, it is externally emitting wave quanta as primary photons or fallons. Every other cosm is receiving them, resonating with them and reacting on them adjusting its own position of movements resulting force and changing this forces and the movement itself from this process.

This also is something different than the exchange of the pure “virtual” bodies of particles. I exchange lepton shifts and wave quanta, either photonically or/ and fallonically, though electromagnetically or/ and gravitomagnetically! The real particle is able to hide from exact observation. Because one observes angular momenta in reactions – the interactions between wave quanta, which I also call interactions but understanding very differently.

So I don't need no pion exchange for explanation of “strong force” but only the interaction of wave quanta. How I did it, you find in my book (1) on pages 511-516 and my resulting hypothetical model of the atomic nucleus on the pages 542 bis 565. The so-called interaction is the [internal gravitation of nucleons, coupled by their internal fallons](#) exchanging between them because partons are “rotating” internally (falling and climbing) and therefore they set on an energy interval between 137 and 142.5 MeV. If that is the average of 139.75 MeV, or the proximity to the mass of a charged pion of 139.57 MeV/c², in any case it's really closer to the real pions than Yukawa's particle of 300 MeV/c². And it is something different namely a wave quantum exchange – no exchange of our well-known particles and also not the cause of the strong force but a byproduct being the energetic resonance of the formation

of real particles and of the real pions with their electric charges or zero charges. In addition to this process, it is possible to change lepton shifts.

To justify all of this special sections of the IOT now follow starting with the section four.

4 The Particles, their Interactions and Forces

4.1 The most Important Natural Law – the Elementary Law of Packing of Mass and Energy

And now it's getting really crisp. The world is completely different than previously thought! **The elementary packing law** of oscillating cosms BWH is in mathematic form, taken from "TBA I" eq. 2.7,1, (1, p 338) and extended by the mass variable ϕ by myself:

$$m_o = d / (\phi M_o) \quad (4.1)$$

with $d = 4.73716 \times 10^{-16} \text{ kg}^2$

m_o external rest mass or external rest energy $E_o = m_o c^2$,

M_o internal weighable surplus mass against anti-mass or energy $E_o = M_o c^2$

Mass variable ϕ of PK: $1 \leq \phi_{PK} \leq 2$, or in single case of PK-opening $\phi_{PK} = d / M_o \phi_{PK}^2$

Mass variable ϕ of EK: $0 < \phi_{EK} \leq 1$.

A physical size, oscillating by its sum up and reducing as the internal mass M_o , is building a **spatial oscillator** being itself as well as an external mass m_o and a **spatial resonator or receiver**. What however is mass, actually? I say: nothing but an oscillation of something that is moving.

The constant d is following from $\hbar c / G$, consequently from the reduced Planck quantum \hbar times light velocity c divided by Newton's gravitation constant G . These relations were born in the IOT I (in TBA I) by setting the equality of half the radius of a "black hole" $R_o = \frac{1}{2} r_o$ and of the oscillation amplitude R_o of a momentum mass.

In this equation, the mass M_o does not oscillate by compact movement but by stacking from the minimum up to the maximum of its size in relationship by metrically climbing steps of elongation ΔR to R_o and back. In the meantime, and this is very important, the relationship of mass and elongation is developing under the condition of density so that it anytime makes a closed cosm.

When the stacking of the mass M has reached its maximum M_o then in a stable cosm is this the amplitude R_o . Above it, up to the second times R_o , there is the radiation space. Now it is possible, 1st to overfill this radiation space with mass M and 2nd the central space of masse M_o to overfill with radiation. Consequently, we find 1st the PK and 2nd the EK. Introducing the variable ϕ , I wanted to make selectable the different internal mass states. I inserted it with random as I saw that the BWH change their states by running in mass and/ or kinetic energy.

Stable cosms oscillate harmonically. Unstable cosms realize only a single quarter wave for evaporating and a further quarter wave for condensing back to its origin state. Or they oscillate more than one period reaching then the decay with emitting their disturbing surplus. In the PK, the SPK arrive the double value of the stable amplitude $2R_o = r_o$ or r_g . By, which the first sub-cosm SPK overcomes this horizon, the protocosm is opening, also every following SPK do so. All the inside is open at once, radiates, and contacts with its internal mass M_o the outside space. If BWH are oscillating this way of up and down going of sub-cosms from mass and energy, they produce their own spacetime of own internal and external properties.

So the BWH appears oscillating ideally. But nothing lets itself pack ideally if it is further interaction with the environment. What is on with the solution of the absolute black hole? Quite simply! Only then if exactly the same comes back as it was emitted or radiated, the system is able to keep itself. It seems

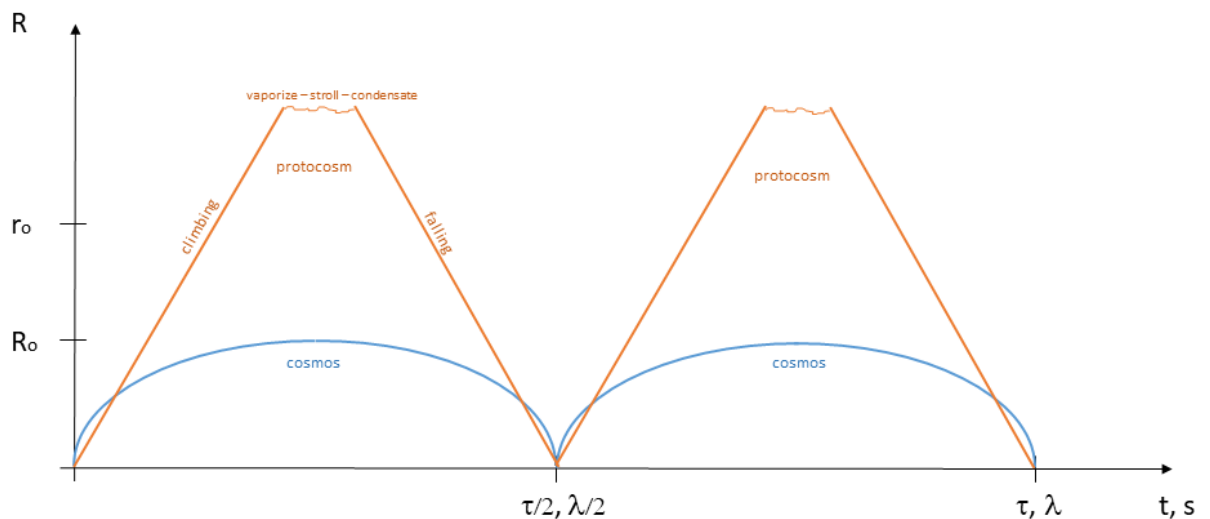
to be stable or “black”. Really, it is both open and also closed in one. Without the continuous exchange **pressure** from outside the system would be open. It would expand. You can understand the equation (4.1) also as an energy relationship of outside and inside for stable particles. Even the universe should be supported from the outside, or it would be an ideal oscillator itself, a system, which would hold closed everything in it. Whatever, in every star a central BWH is remaining keeping only a part of the starting masse of the PK.

Additionally, for a stationary black hole was calculated (for the idealized solution of a geometric snapshot) that it would be open for radiation of e. m. spectrum while transgression of $1.125r_o$ or $2.25R_o$. This radiation is strongly shifted into red with about 2. The value of 2 can be confused with the Doppler shift, which is indeed depending on the velocity. A gravitational red shift however is depending matter density, or of the gravity potential using GRT of Einstein. A cosm already is gravitationally open at $\phi > 2$ (internal mass surplus of $1M_o$ up to $2M_o$). Here already the protocosm evaporates by emitting mass and radiation, which it gives free later with extreme red shift up to infinite values.

Eq. (4.1) is also valid for the mass of protocosms. While a stable cosm with its mass M_o has a mass m_o by use of d , a PK with its mass $M_{oPK} = 2M_o$ has only half the external mass $m_{oPK} = m_{oBWH} / 2$

$$m_{PK} = d / M_{oPK} = d / 2M_{oBWH} \tag{4.1a}$$

Illustration 4.1: A stable Cosm in eternal Sequence of Pulses and an escaping Protocosm



An **unopened cosm** remains below the amplitude R_o . But it is able to rise up with something more incoming mass M up to a value of below $2R_o$. After this, it falls down again. An unstable cosm will leave by **its PK**. They climb up, evaporate, rest matter makes strolling (“loitering”) structures, which condense later and fall down into its BWH. This happens while one half period, and this repeats itself analogously while the next half period. Every next period repeats itself the same way.

The conclusion is that the acceleration energy $\epsilon_w = m_{PK} v_{PK} c / (1 - v_{PK}^2/c^2)^{1/2}$ as a relativistic momentum energy of the protocosms will be equalized while climbing up and falling down. Now this balance is zero. And the balance of evaporation and condensation is also zero. The propellant charge given to a PK in the form of matter and antimatter with equal parts emits radiation, which as an intrinsic radiation cosm rotates one round through its receptacle cosm. It grows to the maximum and condenses again to the minimum. In the meanwhile, the surplus of matter – the remaining ordinary matter – develops its own structures. However, they move at a down-right strolling speed in relation of light velocity. While this strolling time and the tiny strolling way, the radiation is coming back. It is captured by that remaining ordinary matter inside of the dark gray holes BWH reconstructing to PK. In this way, the absorbed radiation “burns” the external structures back to the PK through further compression (destabilization of particles and pair formation of them). The recovered PK now is falling down to the “gravity center” of the universe (or any cosm). On the strolling way, irreversible thermodynamics is valid. After this way, it is not valid anymore. Both balances are the expression of a perpetual motion machine. **The**

stable cosm is an ideal oscillator with reversible thermodynamics. Only its completely added mass M_o , remaining after evaporating of protocosms and temporarily taken values of elongation, is the expression of the oscillation and its rest energy $E_o=M_o c^2$. It also is externally called the rest energy $\mathcal{E}_o=m_o c^2$.

Only therefore it is possible that the stable particles can store momentum energy what is supported by a surplus of energy. But every PK can store this energy inside, too. The PK of the particles like also the SPK of the PK are accelerated and prevented from evaporation by supported momentum energy. Consequently, they are prevented from emission of mass M steering them to lower tracks. They just reach lower amplitudes R_o by what the mass m_o of the unstable particle is arising and also the external mass of the PK and their subs. **For point-like particles, the storing of energy would not be explainable.** Now an EK was created, living of **movement-energy-surplus** (kinetic energy surplus) instead of a PK living of mass surplus. This is not the rest energy from $E=Mc^2$!!

Much more interesting is the relationship of rest energy between inside and outside because already a tiny change of external energy $\Delta\mathcal{E}$ is causing a gigantic change of internal energy ΔE of the receptacle cosm or of the protocsm. Cf. 1, eq. (2.7,12), p 340:

$$\mathcal{E}_o = b / (\phi E_o) \quad (4.1b)$$

With $b = 3.826489 \times 10^{18} \text{ J}^2$

\mathcal{E}_o external (rest) energy, E_o internal energy

And $1 \leq \phi_{PK} \leq 2$, or in a single case $\phi_{PK} = b / E_o^2$ with $0 < \phi_{EK} \leq 1$.

If the expansion exceeds the radius of $2R_o$, for example at a protocsm, then the internal energy becomes external energy. This basic equation is valid:

$$\mathcal{E}_{PK} = b / E_{oPK} = b / 2E_o \quad (4.1c)$$

Energies in microcosm are measured with electron volt eV, masses with eV/c^2 . It is now necessary to show the conversion here:

$$b = 3.826489 \times 10^{18} \text{ J}^2 = 1.49066 \times 10^{38} \text{ GeV}^2. \quad (4.1d)$$

Only related on mass, the constants then are these:

$$d = 4.73716 \times 10^{-16} \text{ kg}^2 = 1.49066 \times 10^{38} (\text{GeV}/c^2)^2. \quad (4.1e)$$

It is most important by internal rest energy $E_{o(p)}$ of a proton of $1.5887 \times 10^{41} \text{ GeV}$ or the mass M_p of $2.83213 \times 10^{11} \text{ kg}$.

These are externally 938.2796 MeV energy $\mathcal{E}_{o(p)}$ or a rest mass $m_{o(p)}$ of $1.6726 \times 10^{-27} \text{ kg}$. Both values follow the conversion of energy and mass using $E=mc^2$. The acceleration energies and the deceleration energies of the PK and their subs are not yet taken into account. But they have tremendous influence on the internal state.

Changing external energy by 1/1000 of about 0.9 MeV causes an internal change of about $1.6 \times 10^{38} \text{ GeV}$: unimaginable ten to the power of 38 GeV! **If you stroke the proton, it thunders tremendously inside!**

Unfortunately everything is much more complicated than these relations of mass and energy between outside and inside can reflect. Why is this complicated? Which conditions do we have to take into account?

Let us start from a stable receptacle cosm, which PK and its internal structures all open themselves reaching the amplitude. They give free internal mass and a gigantic value of radiation by annihilation to the complete balance. As soon as the top protocosms have evaporated, they are condensed again and formed back by the returning radiation. The complete system is on its own and has to work like a perpetual motion machine. But it is dependent on the outside. Each of its oscillation reacting to the outside is emitting energy $\Delta\mathcal{E}$ and receiving back this amount $\Delta\mathcal{E}$ from its environment.

But what does happen inside a protocsm? It is firstly developing next to a closed system, which density is as high that follows a dark gray black hole state. Just in that moment when the uppermost SPK, just closed, is moving out of r_o (arrives above the gravity horizon), the internal density of matter is lower because the uppermost SPK with its expected density is missing at the internal balance of a black hole. The SPK is already outside while evaporating. This way it drags the complete rest of all the PK into the evaporation! This process only is reversible by energy and mass from the outside. If it is running in equilibrium, the PK will be restored in the same way.

The opening is stopping if an equilibrium is adjusted between the emission of internal mass M_o and the absorption of external mass m becoming into mass M_o . Then the system exists as a BWH like a seemingly stable elementary particle.

If now the protocosms of the receptacle cosm are condensed by collision energy, then the internal mass M is decreasing. The external mass m is increasing. Consequently, the energetically destabilized state of a BWH becomes heavier. It now is an EK striving to get rid of this surplus in form of radiation and forming of particle pairs. While exchange of their partons, an asymmetric interaction can follow named weak interaction.

Definitely, pairs decay into radiation again. As strong as the EK wants to emit, it is dependent on how much it gets in. I think, the universe is in total equilibrium so that electrons, neutrons, protons and nuclide neutrons are stable because of the equilibrium of receiving and emitting energies. Is this state a little bit next to the equilibrium like at the free neutron, then a small instability follows.

In the neutron we find the strange partons like the electron antineutrino body and the electron protocosm, which are inserting themselves by condensation. These inversions of outside and inside make the structures more complicated. It is why we now have a relativity of outside and inside! I like to understand that such a thinking will be disturbing you.

For example, we take an action of the energy of $\mathcal{E} = 190 \text{ keV}$ onto an electron neutrino with its rest mass of $1,9 \text{ eV}/c^2$. These are 100,000 times the rest energy. We know, then without detours, immediately a muon neutrino being an EK is formed from this electron neutrino. But what happens with the received energy to the inside? Here I want to calculate the gigantic changes from outside to inside. The internal energy E_o of an electron neutrino must shrink down to E_1 of $1/100000$.

With eq. 4.1d we get this relation:

$$E_o = 1.49066 \times 10^{38} \text{ GeV}^2 / 1.9 \times 10^{-9} \text{ GeV} = 7.85 \times 10^{46} \text{ GeV as complete internal rest energy,}$$

$$E_1 < E_o / 10^5 = 7.85 \times 10^{41} \text{ GeV. This energy internally remains to the muon neutrino.}$$

Such a fantastic energy of $7.85 \times 10^{41} \text{ GeV}$ is stored in the protocosms of the electron neutrino while its half period, so strongly condensed that only one extremely small active body remains. This body now is the measurement of the oscillating muon neutrino. Certainly, the mass M of this body is thinned and consequently, it is *lesser* than expected with eq. 4.1e. The muon neutrino will decay very fast by emission of g. m. energy because there is no stable equilibrium between inside and outside.

Let's look now at the transmission from the electron neutrino into the tau neutrino. Outside, there are 18 MeV . Then the internal energy of the electron neutrino of $7.85 \times 10^{46} \text{ GeV}$ has to store more deeply. We calculate: $18 \text{ MeV}/1.9 \text{ eV} = 9473684$ as the divider of nine and a half million:

$$E_2 < E_o / 9.47 \times 10^6 = 8.286 \times 10^{39} \text{ GeV. This internal energy remains for the tau neutrino.}$$

The step 2 of the remaining energy volume has to form the remaining condensation, which extremely comes next to the particle "Big Bang" of the electron neutrino. So you don't find more externally heavier leptons than that tau neutrino. Analogously, I expect this relation at the transmission of electron, muon, and tau lepton. That sounds really strange. But it shows that at the inside of the cosms is filled with extremely high energetic states fitting best to the well-known interactions. Today Heisenberg's apologists mean that in extremely tiny time periods of "accidents", these extreme energy differences would be occurrence, and nobody thinks therefore, they would be dreamers. But they have paved the way for my models of descriptive processes in universal matter.

The observations of so-called black holes, especially in M87, doesn't refute the given hypotheses of my IOT. Much more, it is proved by observations that black holes would emit jets. Seeing this effect, astronomers don't think the matter would *come out* of the BWH. They think and accept until now only interactions at the edge of the BH. Because, for them there is no solution known for a BWH, which would be able to open itself. But I know such a solution. It is mine. While a "black hole" totally cannot be built, the BWH is not eternally dark gray but as an EK white again if there is enough matter to be emitted. There is a phase transmission between open and closed. Such a continuous change between coming in and coming out in the meanwhile of short time periods, only my theory predicts (the Friedman solution suggested this transmission already). S. W. Hawking yet calculated eons of time periods until a stationary well-known black hole would evaporate a tiny bit (300 billion years). He supposed towards to the end of his life that these heaven objects are rather dark gray than black and that they could evaporate faster. So he came next to my model of IOT without ever noticing it.

Nevertheless, it doesn't run as simple as he thought. Pressure on the PK by mass and energy is filling it with a certain quantum of surplus mass until the external pressure decreases. Then the PK is able to emit some part of its Sub-PK from the proximity of the amplitude. Passing the star area, they are lighter than a neutrino wandering unnoticed out of the center. At their new place, they open themselves (evaporate) and produce new stars.

Look at the world from your proximity! Who would have ever thought that there is still so much packed stuff to be found under the outer skin of all things? Consequently, who would not want to recognize the plausibility of the hierarchical packing, even in the elementary feature of the particles? Both theories, SRT & GRT of Albert Einstein, are also immanent fundaments of this elementary order of the world. Without it the world would collapse! Without it also my theory and their solutions as a unified world model could not be existing. About the details of IOT and their solutions of my world model, the reader can find out at another place on internet (<https://www.arcusuniverse.com>). To do it here is going too far.

We observe now the proton. Here you get the sizes from my theory work. Its external mass m_p is about 1.6726×10^{-27} kg or 938.2796 MeV/c². Its internal mass M_p reaches to 2.83213×10^{11} kg. The proton's spacetime radius $r_p=2R_p$ is 4.2062×10^{-16} m; its amplitude R_p of its spatial pulsation in it is exactly half the radius r_p (what is called black hole horizon), which separates the coordinate system of the protons from the coordinate system of the universe.

The internal mass isn't a complete cloud but a quantized or portioned amount of unstable intrinsic cosms. These are packages, which have packed the physical matter of mass and energy. Their name is here **protocosms** because of their contribution to the formation of a cosm. They are sub-structured by SPK etc.

In microcosm, these PK either positively or negatively charged, but integer. For example, I sign a single positively charged protocosm simply **PK_L⁺**. An anti-PK is signed as followed in my text **PK_L⁻**.

Besides that there are as well as positively and negatively charged PK in every of both world forms. One shell has four **PK⁺⁺⁺** of the world and these four in the anti-world **PK⁺⁺⁺**. Therefore always there is a quadrupole (4, p 208, see Kruskal-metrics) if it is not disturbed by imperfections. In macrocosm the PK have multiple charges. You can see it at the discharges and the extreme magnetic fields of the sun.

Ordinary PK and anti-PK of the same mass, the same internal structure and opposite e. m. charge, as they were sub-particles, can directly annihilate with each other because all their sub-structures annihilate quasi sub-structured (hierarchically). Thus they make a structured annihilation result. The product of the "broken radiation" (the annihilation) are consequently not only 2 photons (2γ) as equivalents of external oscillation being mass and antimass. There are also 2 light cosms with all their internal radiations remaining at that location of their internal stationary vacuole. These are the light cosms, which I called **magons** (Einstein meant, all the photons could „gravitate" towards one other). They are electrically and/ or magnetically charged the same way as their precursor particles. These light cosms store the program of the destroyed particle PK and antiparticle PK until that time moment in what the e. m. energy is waking up them again.

Pair formation I see as a process of symmetrical clone of particles. Symmetrically therefore that the relation of ordinary matter to antimatter remains safe. **It is constant!** I think, it is 8 times more than remaining mass. Consequently, there in universe is a *basic law of constant relationship of matter and antimatter*. And now please, follow me and my impressive logic.

Premise 1: If there is such a law of conservation of the relation of ordinary and antimatter &

Premise 2: One observes only asymmetries in universe really, **then**

Conclusion: Both kinds of matter in their distribution to each other are **pre-given in factor 8 from the beginning** at the formation of the universe. Cause: Volume of internal mass to volume of radiation cosm at stable cosms is 1:8. At PK it is maximally 1:1.

There is absolutely no sense to want to theoretically transform symmetries into asymmetries if the asymmetry in any case is one of the constant bases of the universe. This here is my conclusion in contradiction to the present meaning! More of that logic we certainly don't need on this topic.

Particle pairs are not formed only externally as one today assumes. Internal cosms of any kind of pairs are formed out to pairs, so also the PK and their internal PK, called Sub-PK, and their Sub-Sub-PK down to the last Sub-Sub-... Sub-PK. They come before the stable particles (here in secret acting bosons really play its role, these are photons up to annihilation photons of 10^{18} GeV at 10^{31} Kelvin). Something like this only can be possible if the magons are sub-structured, if they are electromagnetically storing the disappeared pair, completely its fine structures. One magon pair as vacuum emits the former space-oscillation-energy of the real particle pair as a

pair of wave quanta (photons and fallons). Then it behaves stationary to the outside as long as no external impulse of energies touches it accordingly. In its inside also stationary magons are made as well as pairs of photons and fallons remaining now internally. Due the hierarchy of each PK, the magon pair system is continued as vacuum within each sub-cosm. The pairs of photons and special fallons remain closed in it.

We see at the inside of protons, neutrinos and electrons, there are at the end of the decay series just these stable internal particles, which belong there – the g-particles and the s-particles. Our stable inside particles like electrons, protons and electron neutrinos here in the area of the universe (what is a particle itself) are conserved consequently in the stationary vacuum to awake at according pair formation energy quite simply and spontaneously. Converted on the amplitude, the oscillation length of these particles let find me amounts of 10^{-13} m for electrons and 10^{-16} m for protons.

Because of the precision in universe, I assume a universal coordination of oscillations to each other. In the result of this assumption I found the idea to calculate the pulsations, for example the age of the universe. It has a complete time period, what is half an oscillation period, of about 17.6 billion years (1, p 507). A simple calculation led me to a mistake searching for a so-called proton neutrino. But such a kind of particle doesn't really exist. A few pages on, I give here corrected sizes of particles. Additionally, nobody is able to destroy stably programmed elementary particles. Not a single particle collider of the world can do this! And now, let us look first at the structure of a particle and its protocosms. It follows basically from the laws of quanta of Niels Bohr.

There are "PB" called to be parity trains of two protocosms, which carry an electric elementary charge "charge Q". Strictly speaking, these are figure eight loops from the illustration 3.2.4;1 Cylinder model of source 1. Their top view lets you look at the parity trains PB.

Additionally to those features there are the kind of mass M, or anti-mass \bar{M} of the protocosms, their rotation sense RS on the train R (for right) or L (for left), their magnetic orbital momentum $\bar{\mu}$ -B and their elementary orbital rotation momentum \hbar -B. They are called „spins“. The rotation is not external but internal on the train (\hbar then refers to half the period and instead the wave length to the amplitude, together is following h divided by $4\pi u = \frac{1}{2} \hbar$).

Then \hbar -S is well the spin of a protocosm, its intrinsic rotation – so the result of the sub-structured motion inside a protocosm. But I only found the bound rotation of a protocosm while its circulation on its orbit. That PK only rotates once around itself. Just why should it rotate multiply? Such a thought would make no sense. The orbit yet is an elementary part of the constant h , namely here half an h .

On this elementary orbit, the protocosm cannot dance like it wants to do so. Always and forever, it must move bound with the constant h . This is to note in every further sub-structure until the start of matter creation from points of the real creation substance.

Q	M	RS	$\bar{\mu}$ -B	\hbar -B	$\bar{\mu}$ -S	\hbar -S	Q	\bar{M}	RS	$\bar{\mu}$ -B	\hbar -B	$\bar{\mu}$ -S	\hbar -S
-	G	1R	-1/2	1/2	1/2	1/2	+	-G	1R	1/2	-1/2	-1/2	-1/2
+	G	2R	1/2	1/2	-1/2	1/2	-	-G	2R	-1/2	-1/2	1/2	-1/2
+	G	1L	-1/2	-1/2	1/2	-1/2	-	-G	1L	1/2	1/2	-1/2	1/2
-	G	2L	1/2	-1/2	-1/2	-1/2	+	-G	2L	-1/2	1/2	1/2	1/2
0	G	0	0	0	0	0	0	-G	0	0	0	0	0

Two parity trains of the protocosms facing each other but having the same orbit spin, make a **quadrupole**, which is a part of a **mass block**, in which every quadrupole gives its part to the complete mass. Earlier I called the quadrupole in my German IOT a **cosm sentence** KS. The sub-protocosms but have an internal direction depending the location on the PK in relation to its orbital spin. Such an orbital rotation momentum is caused by the motion of a protocosm. The magneton of the PK rotates into the orbital momentum. In this way, magneto-orbital-spin-coupling is following, called "spin-orbit coupling".

Certainly, it is not only dependent on electromagnetic e. m. interactions but on gravitomagnetic g. m. inact, too. So at the protocosms there are the *electro-magnetons* as well as the *gravito-magnetons*. Consequently, also by orbital curvature of the motion of the electrically and e. m. as well as the gravitationally and g. m. charged protocosm PK (or also of any cosm) is this feature of matter following.

The external action can be observed as spin of the protocosm, the next action as spin of the sub-protocosm, etc. In the Sub-PK of the Sub-PK etc., this spinning is continuing down to the g and s and of their last orientation of their orbital momentum. Always there is a spin-orbit coupling. Electromagnetic magnetons μ order themselves anti-parallelly. Gravitomagnetic magnetons, signed with h, order themselves parallelly.

On every quadrupole of a quantization is always a mass value differing of the other mass values. Additionally, all equalized quadrupoles make the mass block.

By the way, certain “mass blocks” one also finds in the genetics. They don’t determine the kind of living being! Only less of the genes decide about the species. What therefore exists in the common laws reflects these laws in all the special appearances. Because of that, present world models cannot fit to this specialty of programming the universe.

The quantum G – the gravitational mass – is given with different amounts. They decrease in quanta down from the amplitude to the center of the cosm or of the microcosm (particle). The electromagnetism completely is compensated with the gravitomagnetism. That is why I chose the name **MASS BLOCK**. It is statically gravitational and has an orbital spin and an intrinsic spin of zero, unless it would be in motion again. **Mass block and antimass block together make a vacuum block** where every size is zero. These blocks I called *Higgs blocks in honor to Professor Peter Higgs*.

On both parity trains what makes a quadrupole, four PK are moving together. Two of them do it with the electric charge of plus and another two with the charge of minus, or no one of them has a charge. All these four PK consist of ordinary mass, signed by g with positive gravity. On their four orbits, the protocosms have a rotation sense, signed with L as left and R as right. So their magnetic moments (magnetons) are resulting. The addition of the internal pulsations doesn’t always lead to an external pulse of a stable particle (every stable particles are fermions). Because of the elementary and spatial oscillation, the external „pulse“ is in relation of one period with an integer h and on half a period and the amplitude instead of wave length then $\frac{1}{2}h$. Every complete and temporarily stable particle only is signed by $\pm \frac{1}{2}h$. This quasi reflects the internal rotation at, which it itself can stand still. There is no common coordinate system for inside AND outside. Internal momenta have their own size and external their own size. Every oscillating cosm gives a size to the outside, which is correctly $\frac{1}{2}h$ on its half pulsation.

Momenta of zero or multiple sizes of $\frac{1}{2}h$ as 1, $1\frac{1}{2}$, 2 etc. follow **only then** if cosms or their early stages (PK, EK) are combined and orientated in directions **with each other**. They don’t have to come from rotations. *It is possible that partons rotate around each other*. And only the electric charge as also their magnetons and their e. m. wave quanta have a common coordinate system over all spacetimes, no matter if they are captured or released. Here also an equilibrium law is valid. *As much as goes in has to go out*. It leads to the state to be closed, although a total seclusion is not given, however. In the proton, the PK rotate and generate an e. m. magneton. In the neutron, also protocosms rotate. They generate an e. m. magneton, too. Following the classic physics, the neutron could not generate a magneton by so thought intrinsic rotation because of its equalized electric charges.

Every quantum numbers are compensated in a quadrupole. And every quadrupole has its own quantum number. Why should the mass remain ignored? Quite simply, without the SRT, in universe nothing is running! In the atomic shell, electrons are stable particles. In the meanwhile they are climbing onto their energy level (on their quantum orbit), they do not decay. But the protocosms are unstable partons being in a cosm, in a PK itself as SPK etc. They have to decay after living for a determined time period dependent on relativistic speed. Then while opening and evaporating, these dark gray holes must emit their internal mass. In a way they become “white” by their opening. This evaporation is decelerated by the extremely high speed of the protocosms, by the *relativistic speed* next to vacuum light velocity.

Flying with the same speed, a heavier unstable masse m_1 decays earlier than a lighter unstable mass m_2 . Because of eq. (5a), the heavier mass m_1 emits a smaller amount of mass M_1 than the lighter masse m_2 is emitting M_2 . On base of this reciprocal behavior in any cosmos and every protocosm, the energy levels also stand on their heads. Level $n=1$ is near the spherically oscillating amplitude R_0 of all the internal masses M_0 . Attention now! The complete series of numbers **with n against indescribably high diverging arrives in the center** of every cosm, protocosm and energy cosm. This shell does not grow out of $n=1$ amplitude! It grows into the inside!

So the *illusion of a “Big Bang”* is generated, which doesn’t have created the complete world or every micro-world. It just was a *propellant charge*. All “bangs” together created the universe above this first central bang. They made all the well-known structures! *The red shift of the relict radiation is a gravitational red shift of the spectrum*.

This is the reason why on every main level n must be sorted a different mass m . Following this building, the cosm is filling itself with mass M and energy E .

I asked me then, if also has to be a different mass m_{PK} on every secondary level. Consequently, it would distribute itself with smaller quantization. But always on the main levels from $1s$ bis ... s a narrow like a waist would arise because beneath are always only 4 protocosms. With $2p$ up to $3d$, $4f$ etc., the numbers of PK would increase into innumerable amounts, but always there were such a narrow on every head level.

Does this chain of levels makes a sense? Perhaps, these narrows could be stopping points of discrete energy steps. I've done my calculations with those premises and I had success by the results.

4.2 General Remarks of Implementation of the Protocosms

The protocosms are of use of the massive building of a receptacle cosm. In the proximity of the center, a protocosm starts with relativistic speed. It escapes from the starting area together with all the many other protocosms, which started with all the other PK into all the determined directions of the vacuum space. In the meantime of flying, it will be attracted by the mass M of all the other already opened (evaporated) protocosms and forced into a curved orbit. On base of the determination of all the other protocosmic orbits and orbital momenta, every orbit doesn't stay in the flat surface, but it will be curved itself. Before reaching the amplitude of the particle (or of the microcosm or macrocosm), the protocosm opens itself after the dilation of its intrinsic time period. I called the opening "anticollapse", but now more vivid **Evaporation**. After this, the emitted mass M , decelerated against zero km/h, now starts going on its **strolling way**. This way is a very small piece of that orbit on, which the protocosm would have continued to fly if it had not been tilted from relativistic to extremely slow speed by momentum change.

*This is the reason why seemingly there is a paradox: every quantum level beginning with $n=1$ and ending normally on n against infinite, had to multiply the first Planck quantum $\hbar/2$ with n . You could expect it like in the electron shell. But this hope is unfortunately not fulfilled because the protocosms are not stable like the electrons. Before reaching the expected train, the protocosms evaporate. Therefore they remain below the $\hbar/2$ sphere of that protocosm, which has reached the amplitude and, which describes $\hbar/2$ for itself. This PK now has reached level $n=1$ in the orbital $1s$. All the other PK but of $2s$, $2p$, $3s$ etc. up to X , do never reach their expected orbital above the train $1s$. They evaporate yet inside the orbital $1s$ and will be forced to return by what they all in the sum of their train ways only have described this single $1 \times \hbar/2$. **Nobody comes higher than $1 \times \hbar/2s$! And this, although they are spatially organized as they would reach the aim at, which they should come, however. We could count it by quantizations, which never really arrive the theoretical orbit but only their relativistic orbit below the level $1h$.***

Is this really paradox or even crazy? Did my thoughts feel like humor? I don't think so. But many readers will think I would be mad. Think! My idea ever is the pre-condition for the creation of a cosmos, which fundamentally and internally meets $\hbar/2$. That time, it has oscillated for two times then is \hbar . Every pulse always meets radially $\frac{1}{2}\hbar$, what I want to emphasize. After the strolling time of a BWL from the above called PK by emitting the maximal part of its internal mass M , this PK is reborn by radiation supported collapse or **condensation** (earlier I called it *collapse*).

Before rebirth, this remaining non-stationary dark-gray-hole (BWH) is eating its neighborhood but only if that neighborhood realizes the necessary pressure by falling matter. Otherwise the new built BWH evaporates once more. In the end, the radiation returns from the radiation area of the receptacle cosmos GK and burns the matter of the BWH back into a protocosm. Now it is flying with relativistic speed on its train into the center of the receptacle cosm falling steeper passing all the other protocosm's trains in the central area (this is no point!!!) and climbing again up into the second half period of the spatial oscillation. Observing all the rotations of the protocosms fulfilling the space by their amplitude, tangentially results a pulsation of the closed space. An own spacetime has been generated like a spherical wave with an irreversible bi-polarization (dipole)!

It only can exist stably as it gets back momenta from other spacetimes with the same size as it has emitted into the environment. This implicates the thought that the conservation laws are also valid for the space. A cosm like a microcosm, too, is never expanded infinitely, but it is finite by the amplitude. Also the amount of its partons is finite. Very important is that the exchange of these spatial momenta over primary and secondary fallons is that thing I call gravitation or gravitomagnetism. Otherwise, the exchange of spatial momenta over primary and secondary photons I call electrition or electromagnetism. Because there are moving masses at gravitation, there also must exist the gravitomagnetism.

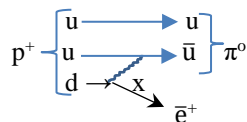
I assume that lepton momenta in collision with baryon momenta trigger a process of the weak interaction. That's a combination process to the energy cosm. The baryons change internally into EK while the leptons succumb a process of exchanges.

I write these particles into the equations, which are reacting with each other. But the particles themselves don't do it. They only are dragged along by their momenta. Really the momenta are hitting each other. A *MOMENTUM DELIVERY* (1, p 280) is the correct result. Consequently there is no proton-antiproton collision. **But there is a collision of the proton's momentum with the anti-momentum of the antiproton.** At the same time, the internal protocosms and anti-protocosms get their momenta reciprocally. So the firstly the photons and secondly the fallons of both particles collide internally and externally. And now they make something of the results: pairs of their rest energy with the kinetic energies and the binding energies, inside and outside.

What we just have explained with the stable particles at lower energies can run at higher energies. It leads to muon interactions and tauon interactions, even that protons in these processes let themselves be charged into heavier and unstable baryons. These microcosmic actions correspond to my conception of the formation of energy cosms. It is possible to generate protocosms inside the colliders without observing them.

In the meantime, the GUT predict the decay of the proton under use of the hypothetical X-particle. A d-quark of the proton would change itself by an interaction with the X-particle into an \bar{u} -quark and positron. The one u-quark and the other \bar{u} -quark would make the zero pion annihilating into both photons. In the balance, the proton would decay into a positron (a baryon into a lepton):

$$p^+ \rightarrow e^+ + \pi^0; \quad (\pi^0 \rightarrow 2\gamma) \quad (4.2)$$



But this hypothetic decay is impossible if we use my protocosmic model. The proton has its own kind of protocosms. These are baryonic protocosms PK_B or partons. Otherwise, the leptons have leptonic protocosms PK_L , which you can find at the loading of the baryons in their interactions. This is the reason why the ud-quarks never can be the partons of the leptons at the same time! GUT on basis of quarks are mistaken. One wrong premise as the quarks theory leads to the wrong solution “decay of protons” by using the laws of theoretic logics. My IOT leads to a different result. **The proton eternally remains as it is, even then if it is temporarily and energetically condensed into an energy cosm!**

4.3 The “Melting” of Protocosms as Condensation – the Inversion as Evaporation of the same

Universe is the largest receptacle cosm. The hierarchy of cosms inside the universe reaches down to the g and s particles being the smallest and heaviest cosms. Between this interval, the multiplicity of protocosmic hierarchies and their sub-cosms – the Sub-PK, etc., but also a diverse amount of energy cosms EK. Every Sub-PK are sub-structured down next to the infinity. In the end, they arrive the proximity of the stable particles. You can sign the Subs going on with SSSSSSSS...SPK. An ideal “black hole” can take unlimited amounts mathematically solved. Therefore my solution of an oscillating PK has unlimited solutions. In universe there are innumerable and many PK inclusively of elementary particles. You also can shift the energetic states infinitely into multiform of PK and EK. After this, the matter (energy and mass) is almost inexhaustible. My conclusion is now:

If a protocosm PK is opening (evaporating), this process runs over many steps from inside to outside by emitting its complete internal mass M_{PK} then. All the sub-structures open themselves and radiate going up to M_0 . But the center remains a BWH. The **radiation** of the above part of the protocosm I define as **evaporation**. But this process doesn't run after the well-known pattern. Supply energy and change from solid to fluid and gaseous. It is running such a way that the internal stored energy becomes free and decomposes this PK while it is given into the next higher coordinate system. Just the conversion of the evaporation as condensation doesn't mean an internal energy loss but the storing of external energy inside the protocosm by what this energy quantum is taken from the external coordinate system changing the protocosm into an energy cosm.

If more momentum energy E_w would be given to the protocosm from the outside to the inside, then it will be protected from further evaporation. This process seems to contradict the well-known states, but becomes real

because the internal matter is forced storing more of supported energy. The protocosm condenses more energy at its inside packing its internal sub-protocosms by mass M and taking energy away from the outside. The lights of its top Sub-PK fail. Each of the SPK inside of the protocosm now are flying faster. They *evaporate* later. The top SPK come as late that these objects cannot give their internal mass M_{SPK} to the outside into the spacetime of the protocosm while the quarter period of the protocosm's oscillation (while its pulse). Please, note: Less energy from outside to the inside generates a gigantic internal energy size! And this is valid in a quarter period!

So the PK becomes an internally smaller amount of mass M and externally heavier of mass m , but more of kinetic energy E , of momentum energy, of radiation energy. If every SPK even includes SSPK, which then are heavier than SPK however, then they emit less internal mass M_{SSPK} to the outside with smaller packages portions. Packing away them (**condensing**), a lot of momentum energy is necessary. If it is small, at the PK will be packed well the uppermost and light amount of SPK. This way the PK will be externally heavier. This action is running continuously deeper until the penultimate SPK cannot open itself. The same is running over SSPK as long there are sub-structures. They get momentum energy by steps of quanta and fail. The SPK become heavier. They get more energy and fail now with more energy. By SSPK, the energy of SPK and at last of the PK is determined. The complete thing is a hierarchy. You can discretely and considerably determine every masses with the opening (evaporations with radiation and mass emitting) of the protocosms and their subs upon the unfathomable depth of division. After a quarter period of condensation, the quarter period of evaporation follows, which is prevented from complete evaporating if the returning energy (radiation) forces it to condense again.

This seems to be the cause of the three lepton types, as well charged leptons in ordinary and anti-world as also uncharged in both worlds, together 12 leptons. Certainly, from the openings (**evaporations**) follow the return of energy by closings (radiation supported collapse, **condensation** or closing) of protocosms and their sub-hierarchies. On this basis, protocosms can survive longer time periods, although they are fundamentally unstable decaying after a quarter period of their pulse existence, caused by an equilibrium slowly failing if the environment cannot support enough matter (mass & energy).

The partons of the stable leptons, *electron body* $\mathbf{e-R}$, *electron-protocosm* as PK_e^- and *antineutrino body* $\bar{\nu}_e\text{-R}$ are amplitudically as large that they don't fit into a neutron's amplitude (\mathbf{R} is the symbol of a **particle body** from the original German work). Almost by storing energy by condensation into the neutron state $e_n\text{-R}$, PK_n & $\bar{\nu}_n\text{-R}$, they temporarily fit into the baryon. The condition is reaching the amplitude of the neutron, they will be forced by radiation energy keeping locked and flying back to the center. Consequently, they only can expand on the neutron's amplitude. They cannot reach their own larger amplitude! This state lasts as long as the energy surplus is keeping present. It gets even crazier with antimatter. It pulsates the other way round! Therefore, in a pion, where matter and antimatter have each a parton, the matter body grows while the antimatter body shrinks. The same is running in the neutron by $\bar{\nu}_e\text{-R}$. Yes, we don't consist only of ordinary matter! And that's not all!

There are fix points of evaporation/ condensation of partons. As soon as they find themselves together forming in bosons like mesons (pions), or in baryons like neutrons, then every state of particles has its own energy threshold of its protocosmic partons. This means that the necessary number of such "quarks" would never reach to explain all the energetic states. It becomes craziest inside the atomic nuclei. My proton is stable. It will be changed into the neutron by lepton and antilepton partons. By this feature, the neutron can emit energy and mass from these stored partons by evaporation step by step. Neutron emits binding energy. The proton has no energy for this process. It can give nothing to the nucleon binding. After my model, only the neutron is able to emit stored energy. But it cannot do this eternally. At some energy level, the possibility of the evaporation is on its end. Therefore, there should be no isle of stability of isotopes but an end of isotopes.

Summary: **while a quarter period, the internal momentum energy discretely "melts" away the emitted mass M_{PK} of the protocosms and their sub-structures although you can see it vice versa as a condensation. It seems as would the light switched out when the momentum energy, the storage, and the speed of the protocosms increase in that cosm.** They are packing (zipping away) their emitted mass together with the radiation emitted before. **With this, momentum energy is stored for a half period.** So you really can speak of *switching off the lights* as well as of *melting away of mass M by the increase of the momentum energy of the protocosms* (analogously until the depth of sub-structures of the PK). You also can speak of the **condensation of a part of the internal mass $-\Delta M$ being then external mass $+\Delta m$** . Then they come later to the evaporation or to the anti-collapse (or not completely) while that time in which the receptacle cosm is pulsating from its Small Bang to its next Small Bang (one single pulse).

Therefore, it is possible to inscribe every protocosm into every kind of cosm by melting away, increasing of its external mass m and decreasing of its internal mass M , which is less able to be emitted. Three hypotheses are following from my particle model:

1. The completely opened PK-state leads to the stable particles, or to the stable cosms, or to a black hole state BWH building up. Stored momentum energy was emitted in different kinds of energy. That BWH-state is **equalized**, simply said *sucked out*.
2. The partially opened state of the protocosms leads to certain intermediate states.
3. The last and highest state of energy lies in the proximity of the particle “Small Bang”, or the own “Big Bang” in an arbitrary cosm. That “Big Bang” always is a **mini bang**. I call it best as a “Small Bang”. It makes the propellant charge of that cosm. But it doesn’t form out its complex structures.

In this way, protocosms and PK-complexes as bodies are generated fitting to every arbitrary system of cosm. A question is: why do they arrive quite special breakpoints where their rest mass size is given? Possibly, the answer is: it may be caused by the resonances from their environment (again by the necessary equilibria of exchange processes). With this diversity of protocosms, all the particle reactions can be explained.

Condensation demands its consequences. Parton-PK can be fitted by certain condensation under the condition of a free area inside an orbital or an energetic resonance. Therefore, they can be changed into muon and tauon protocosms by electron protocosms, but also into such lepton protocosms, which fit into the nucleons and pions. Compare this simply to the electron shell! *An electron really climbs metrically one orbital higher by energy support. Then it falls down from it and radiates a gamma quantum. See! A protocosm “climbs” one orbital “higher” by falling down from its given orbital. It is metrically reversed! This way its increased kinetic energy will be internally condensed or stored. If now this protocosm “falls” down one orbital “deeper” by what it really climbs up an orbital, then it evaporates by radiation of its momentum energy. Climbing up and falling down, both are part of one half period of a receptacle cosm, or of PK, or of EK. So that the condensation point and the evaporation point are always located at the same energy position, an equilibrium of absorbed and emitted matter (energy and mass) has to be installed!*

Conclusions

Because of the eq. 4.1a to e, for internal and external relations, point equation relations must be valid. Everything is in indirectly proportional cohesion. *The conclusion as equation 4.3:*

If the external rest energy $\mathcal{E}_o=m_o c^2$ of an arbitrary cosm increases to \mathcal{E}_o' as new rest energy level, then the internal rest energy $E_o=M_o c^2$ decreases by CONDENSATION of the protocosms in the same relationship onto E_o' :

$\mathcal{E}_o' = \mathcal{E}_o f_e$	or	$\Delta \mathcal{E} = \mathcal{E}_o' - \mathcal{E}_o$	$\Delta \mathcal{E} = \mathcal{E}_o (f_e - 1)$	Increase	$f_e > 1$
$E_o' = E_o / f_e$	or	$\Delta E = E_o' - E_o$	$\Delta E = E_o (1/f_e - 1)$	Decrease	

If the external rest energy $\mathcal{E}_o=m_o c^2$ of an arbitrary cosm decreases to \mathcal{E}_o'' as new rest energy level, then the internal rest energy $E_o=M_o c^2$ increases by EVAPORATION of the protocosms in the same relationship onto E_o'' :

$\mathcal{E}_o'' = \mathcal{E}_o f_e$	oder	$\Delta \mathcal{E} = \mathcal{E}_o'' - \mathcal{E}_o$	$\Delta \mathcal{E} = \mathcal{E}_o (f_e - 1)$	Decrease	$f_e < 1$
$E_o'' = E_o / f_e$	oder	$\Delta E = E_o'' - E_o$	$\Delta E = E_o (1/f_e - 1)$	Increase	

4.4 Qualitative Determination of Neutrinos

Neutrinos interact purely gravitationally. They externally have no electric charge and no electric magneton. At their insides, these electromagnetic sizes are completely equalized by protocosms in the mass block. From this equalization, there are features following like zero mass, zero electric charge, zero spin, and zero magneton.

You consequently cannot generate a pair of neutrinos by photons (by e. m. wave quanta). No, you only can have a pair formation of neutrinos at a location where are fallons (by gravitomagnetic wave quanta), there where the gravity density is high enough, for example in stars and inside the elementary particles!

After my opinion, the *graviton* is a particle, it is a microcosm but *not a wave*. Its exchange wave quanta consequently cannot be named “gravitons“. I called them **fallons** γ_{gm} . Using the own terminology of science, they called them “*gluons*“. But how weak is the fallons’ energy here in our hierarchy area of the universe? It is simply

too weak to start such a neutrino pair formation. Certainly, inside the protocosms of the stars, they would be able to generate neutrino pairs. We know that from there, enough neutrinos come here.

Common density of mass in universe would arrive the following amount, using my sizes of maximum mass of universe at its amplitude of $R_o=5.3 \times 10^{25}$ m:

$$\begin{aligned} M_o &= 7.14 \times 10^{52} \text{ kg, we find the density of:} \\ \rho &= 10^{-28} \text{ g/cm}^3. \end{aligned} \tag{4.4a}$$

$$\begin{aligned} \text{In a proton with } M_o &= 2.83 \times 10^{11} \text{ kg and } R_o = 2.1 \times 10^{-16} \text{ m follows a density of about:} \\ \rho &= 7.3 \times 10^{54} \text{ g/cm}^3. \end{aligned} \tag{4.4b}$$

This is a relationship of amounts of gravitation of about one to 7×10^{82} !

If the neutrino pairs are formed out, when and where to do they radiate themselves, somehow? Very seldom, neutrinos will meet themselves in relative rest annihilating into fallons and gravitative bodies, extremely seldom. If they are generated, then they are partner of the weak interaction, nothing otherwise. A little bit of mass is externally acting. “Weak interaction” is a totally inapplicable term because it is one of the strongest and most important interaction of the matter. But it is running inside the baryons.

Electron neutrinos are able to change themselves into muon neutrinos. Do they this simply? No, they don't. If the first of them are extremely and relativistically moved taking away a certain high gravitational wave energy, the smallest deflection **also** means a deceleration and an emission of a braking energy in form of fallon energy or of g. m. energy. This size should be enough to make the second neutrino from the first, and under special circumstances also the third – the tau neutrino. Back then, the decay also is caused by fallon interaction with emission of gravitational fallon energy from the inside.

According to my opinion, “neutrino oscillation” is a gravitomagnetic interaction!

Neutrinos are internally loaded of extreme amounts of mass M, externally then of mass m, which is extremely light. We know three types of them. Using g. m. wave energy, they can be changed into each other by support and emission of this g. m. energy form. More is simply not necessary.

4.5 Neutrino Oscillation as Gravitomagnetic Conversion of the Neutrino Types

From electron neutrinos of about $2 \text{ eV}/c^2$ will be generated muon neutrinos of about $190 \text{ keV}/c^2$ by absorption of gravitomagnetic braking energy (g. m. $\mathcal{E}_{wg(e-\mu)}$ or $\mathcal{E}_{wg(\mu-e)}$) and by condensation of a large part of their internal protocosms:

$$\begin{aligned} \nu_e + \mathcal{E}_{wg(e-\mu)} &\leftrightarrow \nu_\mu \\ \mathcal{E}_{wg(e-\mu)} &\text{ of about } 190 \text{ keV is g. m. energy from e-state onto the } \mu\text{-state and back} \end{aligned} \tag{4.5a}$$

From muon neutrinos of about $190 \text{ keV}/c^2$ will be generated tau neutrinos of about $18.2 \text{ MeV}/c^2$ by absorption of gravitomagnetic braking energy (g. m. $\mathcal{E}_{wg(\mu-\tau)}$) and condensation of more protocosms until the last areas:

$$\begin{aligned} \nu_\mu + \mathcal{E}_{wg(\mu-\tau)} &\leftrightarrow \nu_\tau . \\ \mathcal{E}_{wg(\mu-\tau)} &\text{ of about } 18 \text{ MeV is g. m. energy from } \mu\text{-state onto the } \tau\text{-state and back} \end{aligned} \tag{4.5b}$$

These processes are directly reversible analogously at antimatter. A jump is also possible:

$$\begin{aligned} \nu_e + \mathcal{E}_{wg(e-\tau)} &\leftrightarrow \nu_\tau . \\ \mathcal{E}_{wg(e-\tau)} &\text{ of about } 18.2 \text{ MeV is g. m. energy from e-state onto the } \tau\text{-state and back.} \end{aligned} \tag{4.5c}$$

“And that should be possible?” you would ask me. Nobody could prove other results until now. Measuring neutrinos is not an easy task. **We found above the relationship of electron and neutrino with eq. 3a and b:**

The electron and the electron neutrino are related descendants with each other by their common gene, what is the **electron body. An **electron body** also exists as a body from protocosms, without sum of electric charges, inside of the electron neutrino. Together with a non-charged **electron neutrino body**, it becomes an electron neutrino ν_e :**

$$e\text{-R} \ \& \ \nu_{e\text{-R}} = \nu_e \tag{4.5d}$$

An electron body exists inside the electron. Together with a negatively charged protocosm, it becomes an electron e^- :

$$e\text{-R} \ \& \ \text{PK}_{e^-} = e^- \tag{4.5e}$$

Consequently, the electron body without electric charge rotates as if it were a special internal protocosm of the neutrino. Its internal mass $M_{e\text{-R}}$ takes part at the internal mass of the neutrino $M_{\nu_{e\text{-R}}}$. But the PK_{e^-} of the electron rotates in the sky of the electron, in the proximity of its amplitude R_o . For example, to assume three protocosms of the electron in the level 1s is impossible. One of them would be an offer of selection. Such a modification of an electron doesn't exist. An electron only has one protocosm on its latest train above the body.

My premises are only possible because my model leads to spatial structures. **Points cannot be related descendants with each other. They cannot have common genes!** The special idea now is that the electron body $e\text{-R}$, without this one negatively charged PK from $n=1$ or from the s -orbital, *consists* of that one equalized mass block of undisturbed quadrupoles (cosm sentences) laying below the PK. In the anti-world, the antimass block of positrons also is inside the electron antineutrino: $\bar{\nu}_{e\text{-R}}$. Because of their oscillation, the blocks carry an internal mass M or antimass \bar{M} and an external mass m or antimass \bar{m} .

By supplying energy (momentum energy) to the neutrino from the outside, its protocosms condense. The more they are condensing by going down to the center of its receptacle cosm, the amplitude of that cosm is decreasing. The internal mass M decreases the same way while momentum energy is stored, and while the rotation radii of the closed protocosms are falling down below the new amplitude. While further condensation, the closed protocosms come to that location, where the electron body $e\text{-R}$ is rotating on its PK-orbit belonging to the inner workings of the neutrino. Now there, the momentum energy has to condensate both systems: a) the $e\text{-R}$ and b) the other protocosms of the neutrino body $\nu_{e\text{-R}}$ on this equal energy level. This start of the breakpoint makes the state of a muon neutrino externally. As soon as the protocosms are completely condensed, the tau neutrino state has reached, remaining less of particle Small Bang protocosms. Vice versa, the neutrino states will be relieved again. All in all, we find here the first and still quiet straightforward mechanism of matter:

To burden itself with matter (energy and/ or masse) and change itself this way.

Protons don't burden themselves just with energy but with particle pairs and asymmetric particle pairs. We ask now:

- a) **Why wasn't discovered the predicted 2 lepton bodies and their antis accidentally, until now?**
- b) **Why could one prove no structure at leptons?**

Possible answer: if the bodies as I described them, are internally equalized expressed by their external rest mass m_R or rest energy \mathcal{E}_R , then they should behave like neutrinos, too. They only should interact gravitationally. Being magnetons, they should exist in their *vacuoles inside the elementary particles*. There they should be generated as body pairs in the smallest space under extreme gravitation density, and there they should be radiated again into gravitational energy and vacuum magons. As bodies and anti-bodies, they should be identifiable – each kind for itself – at its mass m_R or its energy \mathcal{E}_R .

They couldn't be discovered because they are only interacting gravitationally because they cannot become free as a whole one, and inside an electron, they cannot acting as a whole thing but just as those single quadrupoles, which are well compensated with each other being pairs at extreme energies of hundreds of TeV (Terra electron Volt).

But one doesn't discover the rest mass in colliders, but the relativistic momentum masses of the partons. If the single PK of the electron has about 500 MeV/c², then its relativistic braking mass, which could be observed and measured would already reach multiple hundreds of Terra electron Volt!

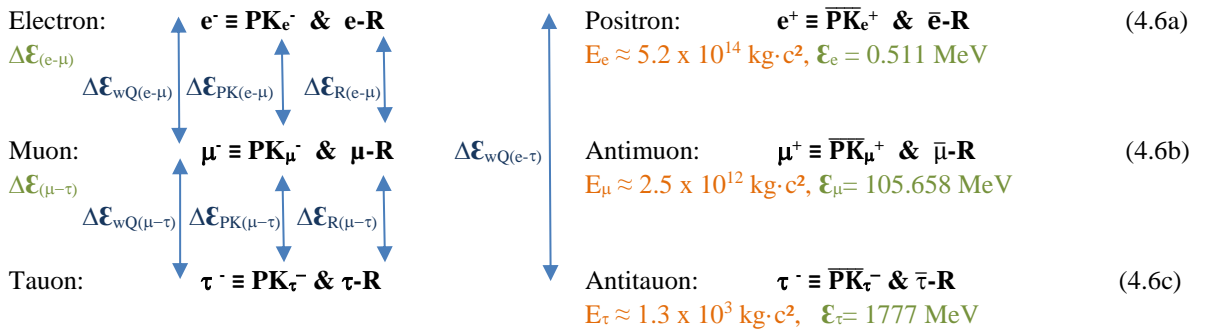
Both, the **proton** and the **neutron** consist of internal relativistically moved partons with a braking mass of just hundred times the neutron rest mass. W and Z bosons are indicators for that. In that way, one could discover this body because it cannot hide well behind extreme energies as the bodies of the leptons, obviously the proton is the heaviest stable particle with the smallest internal space.

4.6 The Qualitative Determination of the Electrons

Using eq. (4.1), the electron is 1836.15 times smaller than the proton with external mass $m_o = 9.10953 \times 10^{-31}$ kg or with $M_o = 5.2002 \times 10^{14}$ kg. But internally it is 1836.15 times heavier. Consequently, it is 1836.15 times larger than the proton radius and the amplitude $R_o = 3.86159 \times 10^{-13}$ m. At last, these amounts cannot be set exactly into a relation because one doesn't find a matching measuring point over orders of magnitude. Only at such a common point, interactions could be arise and determine the life time of unstable states. The electron doesn't load itself with momentum energy generating a muon. If we support an electron with energy \mathcal{E} , then it generates electron pairs externally. Higher energies lead to muon pairs (minimum 2×105.658 MeV/c²) etc. up to the tauon pairs (minimum 2×1777 MeV/c²). Always because determined electromagnetically, first there are made pairs. Inside the negatively charged muons μ^- are e-R-pairs condensed into μ -R-pairs. If now a μ -R-pair condenses into a τ -R-pair, from a muon now becomes a tauon τ^- then. I cannot correctly say, at, which steps of energy this process is acting because of the depth of the protocosms' amount.

Just this should be clear. In every case, if an electron pair or a muon pair or a tau lepton pair are generated, at the inside will be protocosm pairs generated making those expected central bodies. Generating an electron pair, one pair of electron protocosms have to be created: PK_e^- and \overline{PK}_e^+ and a pair of their bodies, e-R and \bar{e} -R. So we get first an electron and a positron. If we have more momentum energy, then the electron body pairs shrink down onto the energy of muon body pairs, μ -R and $\bar{\mu}$ -R. The same way, the protocosms of the electrons shrink down to the muon PK. Supporting energy, the electron firstly becomes to electron pairs and secondly to muon pairs and above at the highest energy to the tauon pairs. The condensation of its protocosms plays the decisive role.

Overview 4.6.1 Energy Differences **Inside** the Charged Leptons



Which energy step do we find in the neutron? Yes, it consists of the proton and both immigrated partons of both leptons (cf. sections 4.6.5 and 4.6.6 and eq. 4.8e, 4.9b):

$$n \equiv PK_n^- \text{ \& \ } \bar{\nu}_n\text{-R} \text{ \& \ } p^+ = \Delta L_n^- \text{ \& \ } p^+ \quad (4.6d)$$

Its energy differences relate onto eq. 4.6a of the stable electron based on the state of the protocosms in the neutron (in the anti-word there are the anti-PK in the antineutron). This is the increase of the external energy of the neutron protocosms from the electron state into the neutron state. These energies are only inside the neutron. They aren't measurable outside of the neutron:

$$\Delta\mathcal{E}_{PK(e-n)} \text{ \& \ } \Delta\mathcal{E}_{R(e-n)}. \quad (4.6e)$$

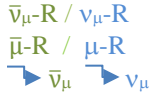
In their external protocosm rest energy, the highest partons of the proton or the neutron have about 9.7 GeV. So the stored momentum energy $\Delta\mathcal{E}_{PK(e-n)}$ and $\Delta\mathcal{E}_{R(e-n)}$ is next to that energy of the tau state $\Delta\mathcal{E}_{PK(e-\tau)}$ or $\Delta\mathcal{E}_{R(e-\tau)}$ of about 18 GeV. But it will not be arrived. I see in it a special evaporation point of the lepton partons in the neutron.

From this a further change of the energy of the PK_e inside the neutron is given, from the muon state PK_μ onto the neutron state PK_n , short before the tau state PK_τ :

$$\Delta\mathcal{E}_{PK(e-\tau)} = \Delta\mathcal{E}_{PK(e-n)} + \Delta\mathcal{E}_{PK(n-\tau)}. \quad (4.6e)$$

These processes express the storing of energy inside the protocosms. At the same time it is the expression of the way to the decay. The eq. 4.1.b to c always have to be taken into account by calculating them.

4.6.1 The Decay of a Negatively Charged Muon



$$\mu^- = PK_{\mu} + \mu-R + \bar{\nu}_{\mu-R} + \nu_{\mu-R} + \mu-R + \bar{\mu}-R$$

Energy Emission: $\Delta\mathcal{E}_{PK(e-\mu)} + \Delta\mathcal{E}_{R(e-\mu)}$ inside the muon yet and pair formation
Of both bodies $\bar{\nu}_{\mu-R} + \nu_{\mu-R} + \mu-R + \bar{\mu}-R$

Formation of $PK_e + e-R = e^-$. The muon consist firstly of only $\mu^- = PK_{\mu} + \mu-R$. From their energies, both body pairs, $\bar{\nu}_{\mu-R} + \nu_{\mu-R} + \mu-R + \bar{\mu}-R$ are formed. Now this is the reason of its decay.

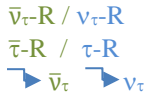
While the coupling of both bodies ν_{μ} -body and μ -body to be a muon neutrino, there will be g. m. energy for the escape of this neutrino ν_{μ} . Now the g. m. energy doesn't reach any more forming a second muon neutrino. The impossible $\bar{\nu}_{\mu}$ therefore escapes energy reduced as $\bar{\nu}_e$:

$$\mu^- \rightarrow \nu_{\mu} + e^- + \bar{\nu}_e.$$

The internal momentum energy is asymmetrically divided. It comes from ordinary matter $PK_{\mu} + \mu-R$ and naturally goes at ordinary matter $\nu_{\mu-R} + \mu-R$. This is the reason why a muon neutrino becomes possible. The expected hypothetical muon antineutrino energetically cannot be created. It only becomes an electron antineutrino.

4.6.2 The Decay of a Negatively Charged Tau Lepton

The tau lepton decays by pair formation of tau neutrino bodies and tau bodies:



$$\tau^- = PK_{\tau} + \tau-R + \bar{\nu}_{\tau-R} + \nu_{\tau-R} + \tau-R + \bar{\tau}-R$$

Energy Emission $\Delta\mathcal{E}_{PK(\mu-\tau)} + \Delta\mathcal{E}_{R(\mu-\tau)}$ inside the tau lepton and pair formation of both bodies

Formation of $PK_{\mu} + \mu-R = \mu^-$

While coupling of both bodies, ν_{τ} -body and τ -body to be a tau neutrino, g. m. energy is generated for the escape of this neutrino ν_{τ} . Now the g. m. energy doesn't reach any more forming a **second tau neutrino**. The impossible $\bar{\nu}_{\tau}$ escapes energy reduced as $\bar{\nu}_{\mu}$:

$$\tau^- \rightarrow \nu_{\tau} + \mu^- + \bar{\nu}_{\mu}.$$

The internal momentum energy is asymmetrically divided. It comes from ordinary matter $PK_{\tau} + \tau-R$ (this is one tauon) and naturally goes at the ordinary matter $\nu_{\tau-R} + \tau-R$ (this is a tau neutrino). The expected hypothetical tau antineutrino energetically cannot be created. It only becomes a muon antineutrino.

On base of energy decrease by radiation, the pairs are changing and with them the emitted temporary states. By what a tau state shrinks into a muon state, the tauon decays. The same is running with the muon. Because of the well-known "Neutrino Oscillation", I also see these lepton changes by my hypothetic g. m. processes. And I mean, that the muon is made from the rests remaining inside the muon from the decay of the negative pion (eq. 4.6.3b). The negatively charged pion consists of high energy protocosms of a muon state after emission from the neutron (cf. sections 4.3 - 4.5 and eq. 4.5a). Preferably, as well-known it decays into a muon. In this moment, the higher stored energy at both partons passes over from the neutron state into the pion state, if it is used for the formation of the muon body pair (of the Higgs-Block):

$$PK_{n^-} + \bar{\nu}_{n-R} - \Delta\mathcal{E}_{PK(n-\pi)} - \Delta\mathcal{E}_{VR(n-\pi)} \rightarrow PK_{\pi^-} + \bar{\nu}_{\pi-R} + \mu-R / \bar{\mu}-R \equiv \pi^- \quad (4.6.2a)$$

Only by inserting the muon Higgs-block $\mu\text{-R}/\bar{\mu}\text{-R} = H_\mu$, the lepton shift $PK_{n^-} + \bar{\nu}_n\text{-R} = \Delta L_n^-$ becomes to a real pion. This pion transports the surplus of partons $PK_{\pi^-} + \bar{\nu}_\pi\text{-R}$ completely out of the energetic neutron n^* . While this process, lepton bodies, $\mu\text{-R}/\bar{\mu}\text{-R}$ are generated by which the neutron becomes a proton. In that time, the internal energy stored at the partons $PK_{\pi^-} + \bar{\nu}_\pi\text{-R}$ is taken along to the inside of the muon. The external rest energy of the muon of 105.7 MeV is not proportional to that. Also the remaining external energy of the proton protocosms is not directly proportional to the outside. One always has to use the eq. 4.1b or 4.1c to calculate the external energy \mathcal{E} in relation to the internal energy E .

At the outside, the free neutron gets more energy. Either it flies away with high speed, or it becomes a lambda Baryon:

$$n (p^+, PK_{n^-}, \bar{\nu}_n\text{-R} \ \& \ \Delta\mathcal{E}_{(e-n)}) + \Delta\mathcal{E}_{(n-n^*)} \rightarrow \Lambda$$

$$\Lambda (\Delta\mathcal{E}_{w(n-n^*)})_A \underbrace{(\Delta\mathcal{E}_{PK(n-\pi)} + \Delta\mathcal{E}_{\nu R(n-\pi)})}_I \rightarrow p^+ + \pi^- (PK_{\pi^-} + \bar{\nu}_\pi\text{-R} + \mu\text{-R}/\bar{\mu}\text{-R}) \quad (4.6.2b)$$

This energy $\Delta\mathcal{E}_{w(n-\pi)}$ was used from the inside generating the pion. In the pion it is stored as $\Delta\mathcal{E}_{w(n-\pi)}$. The higher energy at the external lambda (1116 MeV) relatively to the normal neutron n (939.57 MeV) of $\Delta\mathcal{E}_{w(n-n^*)}$ with 176 MeV creates the pion externally with its rest energy \mathcal{E}_π of about 140 MeV.

From this result energy differences between the neutron state and the proton state (and vice versa):

$$\Delta\mathcal{E}_{w(p-n)} = \Delta\mathcal{E}_{PK(e-n)} + \Delta\mathcal{E}_{\nu R(e-n)} \text{ inside the nucleon} \quad (4.6.2c)$$

That's the special energy $\Delta\mathcal{E}_{w(p-n)}$ to change a normally free proton into a neutron by condensation of both, the protocosm PK_e and the antineutrino body $\bar{\nu}_e\text{-R}$ into the neutron state (and vice versa by evaporation to the proton state).

4.7 The Pion

I know now, the charged pion π^- (π^+) consists of one condensed electron protocosm $PK_{\pi-\mu^-}$ ($\overline{PK}_{\pi-\mu^+}$) and one condensed electron antineutrino body $\bar{\nu}_\pi\text{-R}$ ($\nu_\pi\text{-R}$) as well as one pair $\mu\text{-R}/\bar{\mu}\text{-R}$, that I'm calling a Higgs block. They have the pion state energetically near the muon state. While the decay down to the electrons, the protocosms of the pion energy evaporate down to the muons and in the end to the electrons. At the common gravitational center, mass and antimass equalize themselves. A pion would not have any measurable mass. Consequently, both developing real particles, arising inside the pion, are **not** congruent in their gravity center. Their cores from $\mu\text{-R}/\bar{\mu}\text{-R}$ are divided into a central area of $\mu\text{-R}_1/\bar{\mu}\text{-R}_1$ and into separated parts of $\mu\text{-R}_2/\bar{\mu}\text{-R}_2$ like two special clouds seeming as there was a particle "Big Bang" (a "Small Bang").

Every parton is its own cosm. The protocosm with the body $PK_\pi/\mu\text{-R}$ is polarizing the body $\bar{\nu}_\pi\text{-R}/\bar{\mu}\text{-R}$ using the e. m. force while internally e. m. sub-protocosms are completely equalized. So an e. m. partial binding between both beneath each other lying space times.

Their g. m. counteraction but leads to the repulsion (that's my repulsion axiom between ordinary mass and antimass of the IOT!). So both cannot be simply unified or partially annihilate. Yes, they are differently composed internally. While the protocosm is expanding, the antineutrino body is shrinking. One is climbing while the other is falling. For all the three pions, it looks like you would open your one hand and at the same time you would close your second hand: that's a changing pulse. Every pulse itself makes externally each a mass and each an antimass from the frequency of this pulse. That mass and the fitting and harmonized antimass have the same amounts. They were measured by laser resonance. Consequently, they are no weighable mass, but only a momentum mass as at the photon.

Now both spacetimes oscillate about 8.8×10^{14} times together as well as against each other. It seems to be, they are stable. But the appearances are deceptive. The internal energy generates one pair of neutrino bodies and one pair of muon bodies. This behavior gives them back the real structure of electron and electron antineutrino. Until then, inside the charged pion 2.6×10^{-8} seconds are passing.

In the meantime this compound has pulsated almost forever before the pion gets the chance to “decay” into the stable elementary particles, better said, to be built back. Now the PK-energy gets free by evaporation. Already the pion has arrived its own energy and evaporation states of its lepton pairs only being valid especially for the charged pion: $\mathbf{PK}_{\pi-\mu^-}$ and $\bar{\nu}_{\pi-\mu^-}\mathbf{-R}$, $\mu\mathbf{-R}/\bar{\mu}\mathbf{-R}$. Externally the minus pion is 4.59 MeV/c² heavier than the zero pion. I think, the cause is the following that the charged pion doesn't electromagnetically couple with its anti-parton as strong as the zero pion. That part of the antimass by the neutrino body compensates a further part of mass. Therefore, the internal mass becomes smaller, but the external one becomes bigger.

In the case of the decay, from the internal energy in the neutron, pairs of muon bodies, $\mu\mathbf{-R}/\bar{\mu}\mathbf{-R}$ come together (like a Higgs block). They generate the real particles and give them their real mass and antimass. The charged pion gets 139.57 MeV/c² of so-called rest mass by oscillation of both sides, mass on the first pulsating side and at the same time antimass on the second pulsating side.

Those zero pions π^0 or π^o , consist of a condensed electron protocosm \mathbf{PK}_{π^-} and a condensed positron protocosm \mathbf{PK}_{π^+} and again a Higgs block $\mu\mathbf{-R}/\bar{\mu}\mathbf{-R}$. Both protocosms come from the orbitals 2s. Their mutual oscillation is immediately harmonized from the beginning. I think of an energetic difference of the protocosmic energies: $\mathbf{PK}_{\pi-\mu^-} < \mathbf{PK}_{\pi^-}$. The zero pion consists of the preliminary stage of electron/positron or energetically more exactly of muon and antimuon plus condensation energy: $\mathbf{PK}_{\pi-\mu^-}$ and $\mathbf{PK}_{\pi-\mu^+}$, $\mu\mathbf{-R}/\bar{\mu}\mathbf{-R}$.

It could decay into a muon and an antimuon. Seldom, it decays into an electron pair from electron and positron and a gamma quantum descendant from the evaporation $\Delta E_{(\pi-e)}$. But extremely more the annihilation of the pairs is following. The zero pion has 134.98 MeV/c² and about 10⁻¹⁶ seconds life span. It pulsates a lot less than the charged pion coming to the decay by annihilation, about just 1.58 x 10⁸ times.

Pions can change the fermion nucleons while their interaction because of their spin of zero: proton plus minus pion for example generates the neutron; a neutron plus a plus pion makes the proton. But with the zero pion it becomes a neutral current at most changing the momenta and rest energies.

Pions aren't a sideline while they transport their own microcosms as described above. **They do it only then if enough fallon energy finds together that the lepton bodies of both partons can be built as Higgs blocks parity, then this combination will be emitted. It decays into one charged and one uncharged lepton preferably into muon and muon neutrinos because of their high energy.** There is internally enough energy before the muon state changes into an electron state. “Quarks” don't play a role in my model but the real microcosmic components – the protocosms and their combinations of particle generating. Exactly into this direction, everything falls out of another.

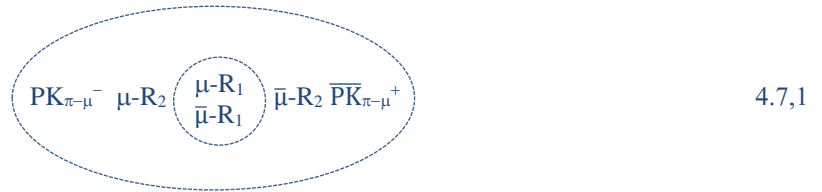
Then, a charged proton is not more than that box dragging away the storage (lepton shift may be called “virtual pion”) located in the proton as it was a lambda baryon before. The condition is that one Higgs block is formed. Mesons and also W and Z bosons do the same.

Inside the zero pion π^0 , a muon- and a muon antibody are partially bound at their own inside condensing into special pion partons. First there were the combined starting ball as the Higgs block of H_{μ} , a muon body pair, externally still like vacuum without interaction. It is formed by energy quanta like photons and fallons. In the beginning, it still hangs together, still compensated, but then it separates itself very fast while the first existence period. In the center of both protocosm clouds repulsing gravitomagnetically, the so-called particle “Big Bang” remains (I repeat: it is a “Small Bang”). Si I think, this is only one part of the muon body pair because of its smaller internal mass and its bigger external mass. I call this “part one” as R_1 .

Both kinds of matter, ordinary and antimatter; are very fine quantized there. After complete annihilation, they accelerate everything. Protocosms and anti protocosms rotate very far to the edge. As there is this constellation as a relatively stable state, the position of the electromagnetically attractive partons can be shifted. The protocosms begin to come next to each other leading to the complete annihilation in the next step. This means, because the particle “Small Bang” needs some parts of the muon energy, the energy amount only reaches for electron formation. One pair of electrons is formed while the particle “Small Bang” sets free a radiation cosm H_{μ} and a gamma quantum. But how does this process act?

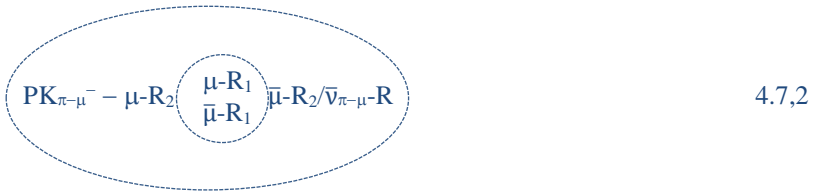
I think that the bodies are still centrally acting in the defined “part one” as they were a particle “Small Bang”. This way, they drive away the other of the “part two” (R_2) flying on the height of single PK. So there will **not** be emitted the **same internal mass M/\bar{M}** to the left and right side forming a muon of about 105.66 MeV/c² m/ \bar{m}

but **less**. All the rest is a radiation cosm with externally not measurable momentum mass. If there are internally less mass M , then externally there is more mass m , so more than $105.66 \text{ MeV}/c^2$. We say, there are the $134.98 \text{ MeV}/c^2$, we measured of each pulse, and we searched for. One plus of $29.41 \text{ MeV}/c^2$ (27.86% of muon)! At the decay, no muon pairs can be formed, only electron pairs with a gamma energy from the center of the zero pion OR but by complete annihilation of this into both gamma quanta. Zero pion:

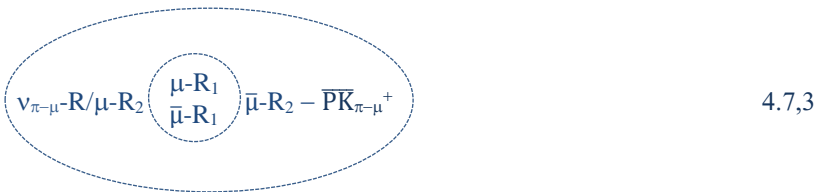


Only if ordinary matter and antimatter are compensated in their common gravity center, then the result can be: The mass is zero. In the center it is possible remaining the rest 1 of the muon body pair as $\mu\text{-}R_1/\bar{\mu}\text{-}R_1$ and as “Small Bang” center. In the beginning there was zero mass at all. And now, the separating parts of $\mu\text{-}R_2/\bar{\mu}\text{-}R_2$ each make an own momentum mass of the zero pion. It makes the own internal mass of the zero pion leading to an external oscillation mass m/\bar{m} of the pion together with the protocosm mass M_{PK}/\bar{M}_{PK} . So they externally swing the mass and antimass together while they are certainly measured by the laser interaction receiver (measuring just oscillations). Now one thinks of them as the “mass” m_π of the zero pion, but what it is not. The zero pion consists of 1:1 from ordinary and antimatter, which is in need separating each other while every pulse!

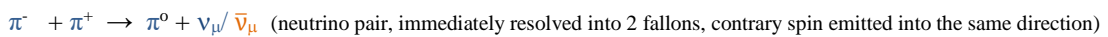
Let me now introduce to you the negatively charged pion π^- . In it, a muon protocosm and a muon antineutrino body are coupled. In the center, it seems there wouldn't have changed a lot of energetic amounts. Certainly, inside the right area of antimatter, the block is denser. By its coupling in the center, it forces the approximation inside the complete matter block (harmonization). This will be the reason that the center unites something more mass and antimass M/\bar{M} than inside the zero pion. Externally it means, there is less mass M/\bar{M} in the $\mu\text{-}R_2$ and more external mass m_π of the pion, 3.4% more, $139.57 \text{ MeV}/c^2$ (plus $34 \text{ MeV}/c^2$, 32.2% more):



The resulting internal mass M is a bit smaller than the internal mass M of the zero pion. From this follows that the external mass of the charged pion is heavier by $139.57 \text{ MeV}/c^2$ than the mass of the zero pion with $134.98 \text{ MeV}/c^2$. So I imagine the positively charged pion π^+ :



Now I draw the consequence: there is an order. But it is the spread of the protocosms inside of their receptacle space. By this building of the pions, it is interesting now that inside of them is enough place for a further pair forming a **quadrupole** as I theoretically justified it with my quantization. Instead of 2 partons above, in the best case will be 4. This should apply using the kaons. Particularly, the zero kaon should be interesting. We come back later to this topic. On base of different changes, the following reaction seems to be possible:



Otherwise it doesn't work. What should become of both pions if they have lost their neutrino bodies in the zero pion? Certainly, this reaction has been overlooked, which now is possible by my lepton shift model:

$$\pi^- + \pi^+ \rightarrow \pi^0 + \nu_\mu / \bar{\nu}_\mu \quad (4.7,4)$$

$$PK_{\pi^-} \& \bar{\nu}_{\pi^-}\text{-R} \& \mu\text{-R-pair} + \overline{PK}_{\pi^+} \& \nu_{\pi^+}\text{-R} \& \mu\text{-R-pair} \rightarrow \overline{PK}_{\pi^+} \& PK_{\pi^-} \& \mu\text{-R-pair} + \nu_{\pi^-}\text{-R} \& \bar{\nu}_{\pi^-}\text{-R} \& \mu\text{-R-pair}$$

This compound of $\nu_{\pi-\mu}\text{-R}$, $\bar{\nu}_{\pi-\mu}\text{-R}$, $\mu\text{-R-pair}$ becomes directly a muon neutrino pair with spin zero by energy emission and immediately a resolved magon plus a fallon in vacuum. Vice versa, we have to support energy to the zero pion by fallons generating the neutrino pair. Then from the zero pion would result a pion pair. Has somebody ever observed such a reaction? Or it could just go like this:

$$\pi^- + \pi^+ \rightarrow \pi^0 + E_{wg} \quad (4.7,5)$$

$$PK_{\pi^-} \& \bar{\nu}_{\pi^-}\text{-R} \& \mu\text{-R} + \overline{PK}_{\pi^+} \& \nu_{\pi^+}\text{-R} \& \bar{\mu}\text{-R} \rightarrow \overline{PK}_{\pi^+} \& PK_{\pi^-} \& \mu\text{-R-pair} + E_{wg}$$

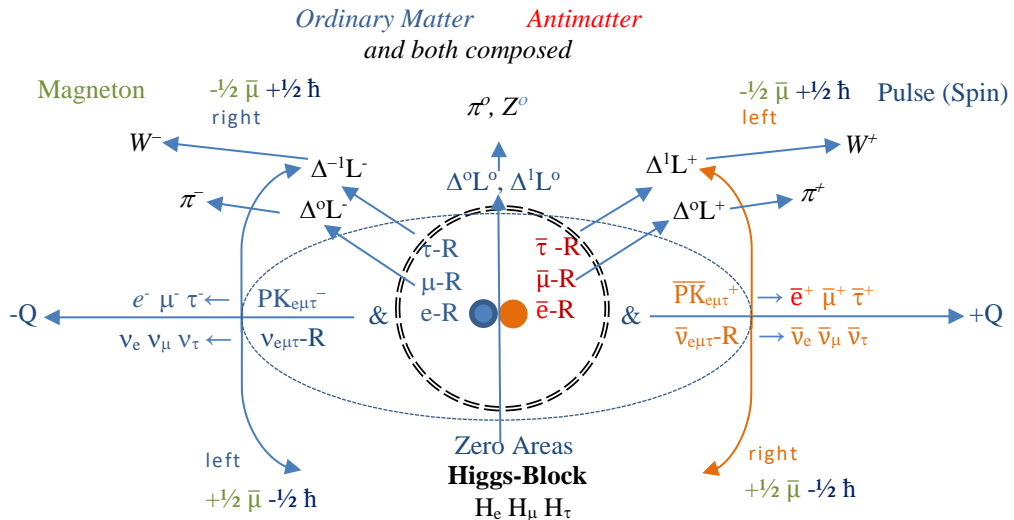
$\nu_{\pi^-}\text{-R-pair}$ and a $\mu\text{-R-pair}$ annihilate into E_{wg} (into gravitational wave energy)

My assertion would only be correct if also my prediction of the mechanism of "neutrino oscillation" would be right. It always runs over fallon energies. That would like to be checked at such a strange reaction as proton and antiproton make plus pion, minus pion and zero pion. But where do they get the neutrino bodies from? **I think that the proton pair with its interaction energy actually generates neutron-antineutron states before.** From these neutron pair it is possible to give birth to plus pion and minus pion and zero pion. The interaction is running as formulated here:

2 PK-pairs, 2 neutrino body pairs (like two lepton shifts) and matching it in symmetry 4 muon body pairs for the complete four contents of the shifts. They connect to 1 zero pion (1st PK-pair, 1st muon body pair), 1 minus pion (2nd PK⁻, 2nd muon body pair, 1st antineutrino body), 1 plus pion (2nd PK⁺, 3rd muon body pair, 2nd neutrino body of the 1st pair) and one pair of muon neutrinos (4th muon body pair and 2nd neutrino body pair of the 2nd pair). **Without a pair of muon neutrinos nothing is running! They are directly coupled with each other so that they don't stand out. In the end, they represent only a part of energy shift ΔE_{wg} .**

For this interaction I created a symbol illustration with the following graphics:

Symbol Illustration 4.7.1: The Partons of the Leptonically Conditioned Interactions



2-Area-Coupling → real leptons, above the charge line Q are charged leptons; below the Q-line uncharged leptons or there is the area of the „neutrino oscillation“:

Uncharged: \mathbf{V} made from $\nu\text{-R}$ and $e\text{-R}$; $\bar{\mathbf{V}}$ made from $\bar{\nu}\text{-R}$ and $\bar{e}\text{-R}$, of three types of e, μ, τ .

Charged : \mathbf{L}^- made from $L\text{-R}$ and PK_{L^-} ; \mathbf{L}^+ made from $\bar{L}\text{-R}$ and \overline{PK}_{L^+} , of three above called types e, μ, τ .

Simple Coupling → *Lepton shift* ΔL_e

$\Delta^0 L_e^-$ from PK_{e^-} and $\bar{\nu}_{e^-}\text{-R}$, with $e\text{-R-pair}$ or H_e become an electron e^- and an electron antineutrino $\bar{\nu}_e$.

$\Delta^0 L_{e^+}$ from \overline{PK}_{e^+} and ν_{e-R} , with e-R-pair or H_e become a positron \bar{e}^+ and an electron neutrino ν_e .
 $\Delta^0 L_{e^0}$ from \overline{PK}_{e^+} and PK_{e^-} , with e-R-pair or H_e become a positron \bar{e}^+ and an electron e^- .

Cross Coupling \rightarrow Lepton shift ΔL for creation of mesons, baryons, Baryons

$\Delta^0 L_{\pi^-}$ from PK_{π^-} and $\bar{\nu}_{\pi-R}$, with μ -R-pair or H_μ become a pion π^- .

$\Delta^0 L_{\pi^+}$ from \overline{PK}_{π^+} and $\nu_{\pi-R}$, with μ -R-pair or H_μ become a pion π^+ .

$\Delta^0 L_{\pi^0}$ from \overline{PK}_{π^+} and PK_{π^-} , with μ -R-pair or H_μ become a pion π^0 .

$\Delta^{-1} L_{W^-}$ from PK_{W^-} and $\bar{\nu}_{W-R}$, with τ -R-pair or H_τ become a W boson W^- .

$\Delta^1 L_{W^+}$ from \overline{PK}_{W^+} and ν_{W-R} , with τ -R-pair or H_τ become a W boson W^+ .

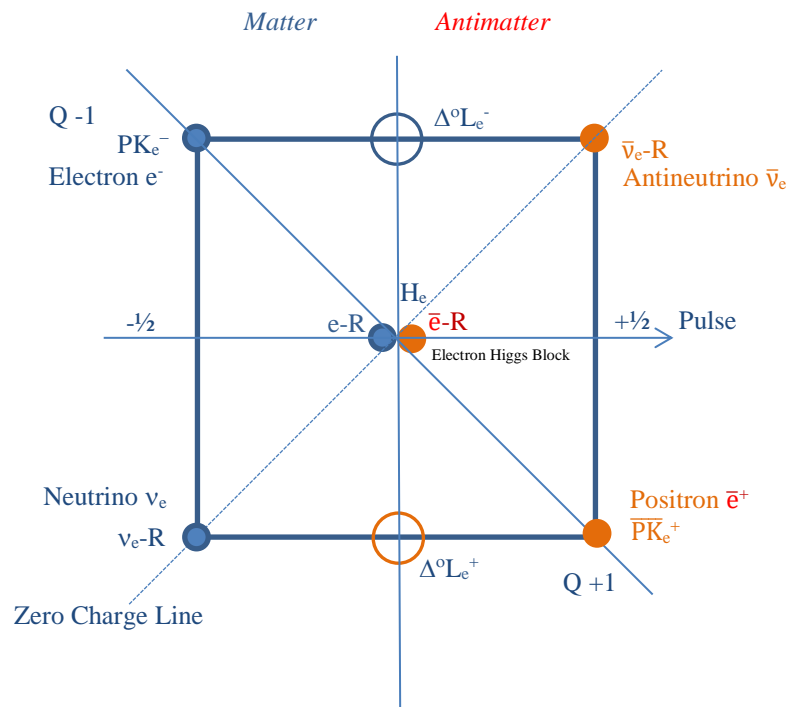
$\Delta^1 L_{W^0}$ from \overline{PK}_{W^+} and PK_{W^-} , with τ -R-pair or H_τ become a Z boson Z^0 .

W and Z bosons are real appearances after the collision of baryons and leptons. There is no virtual variant of them to be an exchange model of particles. I see them like also the other real particles to be a coupling with lepton shifts.

There were even cross bed combinations of lepton shifts of e-state, μ - and τ -states so that squint boson states are forming themselves, also as baryons with squint Baryons as well as dipole-quadrupole states certainly decaying fast because they are senseless. Though the combinations don't reach to generate the quantity of bosons. My conclusion is now: The classification of a muon state and a tau state to the lepton shifts is not correct. The result of the decay is running over these leptons, but the internal energetic state is running over innumerable protocosm quantum leaps being energy shifts inside the mesons!

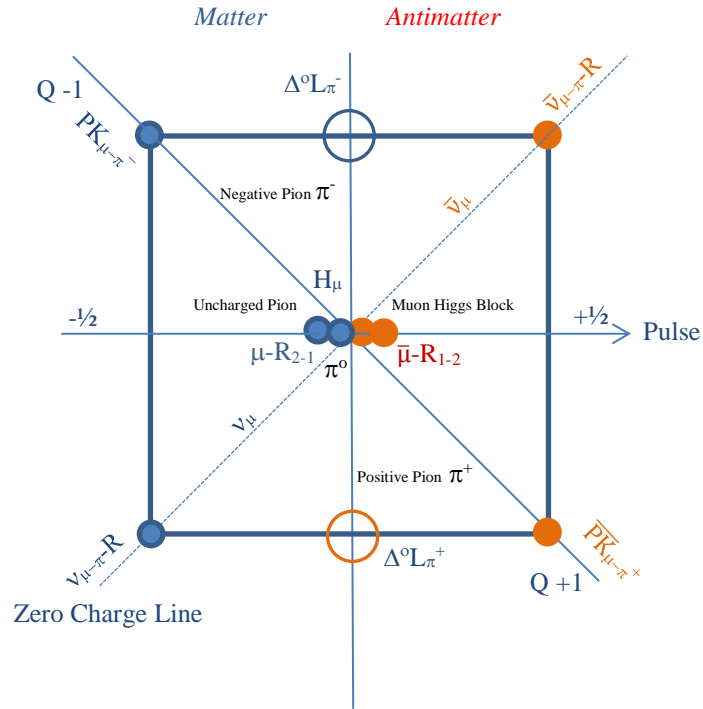
Explaining the bosons, I first start with the simple leptons:

Symbol Illustration 4,7.2: The Electron Area



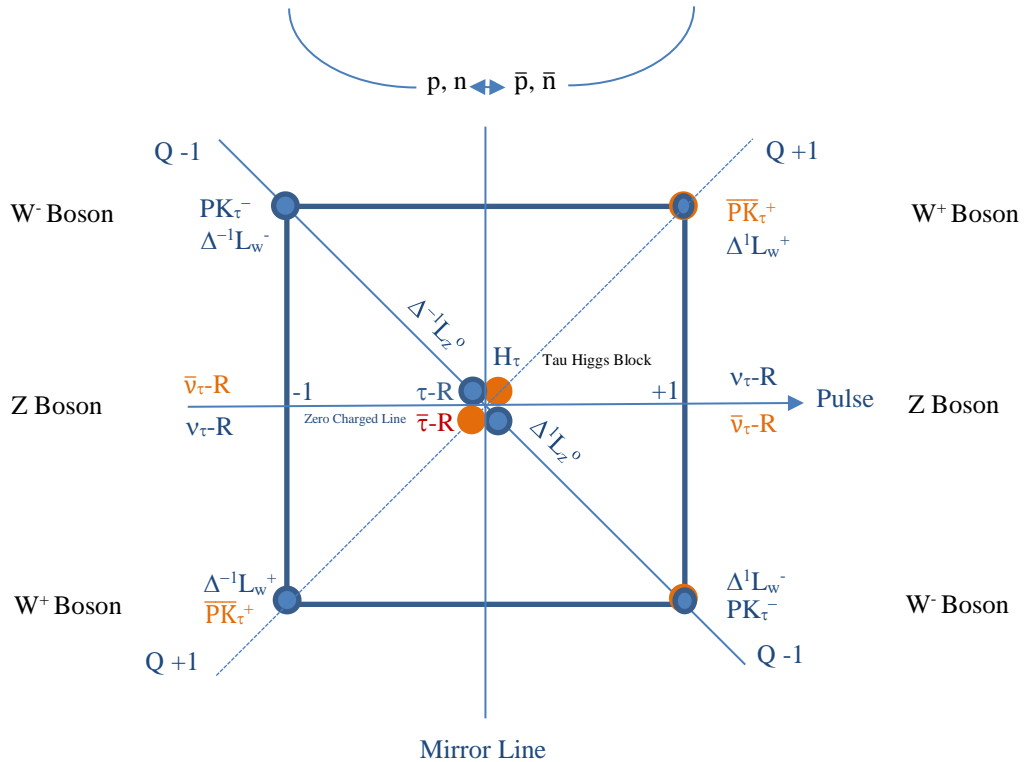
Always at such a position sign \bigcirc , there a cross change arises between protocosm and neutrino body at the mirror of world and anti-world by the frontier workers, which are inside of both worlds! Some ΔL is universally inside of both worlds!

Symbol Illustration 4,7.3: The Pion Area of Muon Energies



Higher energies don't run over pions. They are running over W and Z bosons:

Symbol Illustration 4,7.4: The W and Z Boson Area of Energies up to Tau Particles



W and Z bosons result here from the subtraction to the pulse $\pm 1\hbar$. Therefore I gave them the pulse mirror lying there. Always new pairs are made from given pairs. W and Z are interchanged Δ^0L on Δ^1L , which one can detect at their reflective actions to the outside. The decay products are changed by spin, too. They don't correspond to the spins at β -processes.

The complete problem is quite strange that I only can draw this conclusion. W and Z bosons are neither real intermediate particles nor real interaction's bosons. *All the decays are based on lepton shifts $\Delta^0 L^{+0}$, which carry the spin of zero or one integer electric elementary charge, or just no charge. Registering a W or a Z for it makes no sense. These bosons are special cases, which arise while the collisions of baryons, antibaryons, leptons, antileptons over that interchanged pair formation of lepton shifts. More it is not!*

From this, now a further overview is given:

$$\begin{array}{ll} PK_n^- + \bar{\nu}_n-R + (e-R + \bar{e}-R)_{\text{pair}} & \Delta^0 L_n^-, H_e \text{ decays into } e \text{ and } \bar{\nu}_e \text{ and kinetic energy,} \\ \overline{PK}_n^+ + \nu_n-R + (e-R + \bar{e}-R)_{\text{pair}} & \Delta^0 L_n^+, H_e \text{ decays into } \bar{e} \text{ and } \nu_e \text{ and kinetic energy.} \end{array}$$

We need now the neutrino body pair for the process! It is the base of the neutrino oscillations: $\Delta^0 L_{e\mu\tau}^0$ generated from $\nu_{e\mu\tau}-R$ and $\bar{\nu}_{e\mu\tau}-R$; with e- μ - τ -R-pair it becomes each a neutrino pair of the three types of neutrinos. But it is not one united compound. It is condensed!

$$\begin{array}{ll} PK_\pi^- + \bar{\nu}_\pi-R + (\mu-R + \bar{\mu}-R)_{\text{pair}} & \Delta^0 L_\pi^-, H_\mu \text{ decays into pion } \pi^- \text{ and kinetic energy,} \\ \text{Shift going out + center, Small Bang + shift} & \end{array}$$

$$\overline{PK}_\pi^+ + \nu_\pi-R + (\mu-R + \bar{\mu}-R)_{\text{pair}} \quad \Delta^0 L_\pi^+, H_\mu \text{ decays into pion } \pi^+ \text{ and kinetic energy,}$$

$$\begin{array}{ll} PK_W^- + \bar{\nu}_W-R + (\tau-R + \bar{\tau}-R)_{\text{pair}} & \Delta^{-1} L_W^-, H_\tau \text{ decays into } W^- \text{ and kinetic energy,} \\ \overline{PK}_W^+ + \nu_W-R + (\tau-R + \bar{\tau}-R)_{\text{pair}} & \Delta^{+1} L_W^+, H_\tau \text{ decays into } W^+ \text{ and kinetic energy,} \end{array}$$

The following 3 are now their own anti-particles, better said, they are valid in both worlds:

$$PK_n^- + \overline{PK}_n^+ + (e-R + \bar{e}-R)_{\text{pair}} \quad \Delta^0 L_n^0, H_e \text{ decays into } e \text{ and } \bar{e} \text{ und kinetic energy,}$$

$$\begin{array}{ll} PK_\pi^- + \overline{PK}_\pi^+ + (\mu-R + \bar{\mu}-R)_{\text{pair}} & \Delta^0 L_\pi^0, H_\mu \text{ decays into Pion } \pi^0 \text{ and kinetic energy,} \\ \overline{PK}_\pi^+ + PK_\pi^- + (\mu-R + \bar{\mu}-R)_{\text{pair}} & \Delta^0 L_\pi^0, H_\mu \text{ decays into Pion } \pi^0 \text{ and kinetic energy,} \end{array}$$

$$\begin{array}{ll} PK_Z^- + \overline{PK}_Z^+ + (\tau-R + \bar{\tau}-R)_{\text{pair}} & \Delta^1 L_Z^0, H_\tau \text{ decays into } Z^0 \text{ and kinetic energy } Z^0, \\ \overline{PK}_Z^+ + PK_Z^- + (\tau-R + \bar{\tau}-R)_{\text{pair}} & \Delta^{-1} L_Z^0, H_\tau \text{ decays into } Z^0 \text{ and kinetic energy } Z^0, \end{array}$$

In the center, the electron body pairs arise to be mass former to be like Higgs blocks H. As soon as they are given, it is a question of probability that they meet protocosms and the other neutrino bodies and that they generate these particles, which have to be emitted by energy harmonizing. But if inside there are only pairs like at the zero charge variant, then these parton pairs annihilate themselves as soon as they find themselves, or they generate external pairs.

W and Z processes for example are forced processes by antimatter collisions while the bosons are as small and heavy that they don't exceed the interaction radius of their baryons. But they emit heavy particle pairs, which then continue to decay.

4.8 Vector Boson Processes

Let us observe the W and Z bosons. While the collision of the momenta of protons and antiprotons, they were found indirectly at momentum energies above 185 GeV for pair formation. I think that pairs were temporarily built! On the same way, W and Z were built while the momentum collisions of electrons and positrons. Does this actually mean that the partons of protons/ neutrons and of electrons are the same? No, I don't think so! I mean that in high energetic interactions while the proton antiproton collision, also neutrons, and antineutrons were generated carrying the partons of leptons inside, these lepton shifts $2x \Delta^0 L$, which change their spins into $\Delta^{-1} L$, $\Delta^{+1} L$. Because of this reason, all the interactions now are only *leptonic*. Conclusion: the partons of the electrons are given into the proton, what is charged there by them and so it becomes a neutron. After this, it can go the way back by "decay" into just that proton and those involved leptons.

But at energies below this level, usual pairs are generated by the collisions of proton and antiproton momenta (not of the particles directly!). We assume now higher collision energies. High amounts are reached, which reflect the collision of both protocosm momenta and their relativistic protocosm energy. Correspondingly, their

bearers, the W and Z, are more energetic. This means that the corresponding energy will be projected from the inside to the outside. On this way, the electron positron collisions have formed out the neutron pairs or their partons.

One way of decay should explain us this process. If we start from that what changes in my model, then the energy of a W boson pair gets active separated by formation of separated pairs of electrons, positrons and their neutrinos or higher energetic leptons. In the end, the balance of zero of matter reaches its equalization if the generated particles and antiparticles can be annihilated again. Both, W⁻ and W⁺ always are generated as pairs, the same way 2 Z⁰, too. In the balance of a pair, the spin is zero again although every single particle has -1 and +1. Every pion has a pulse of zero. Pions or the results of the weak interaction do not have to be built as pairs, or they would be formed out at the same moment from world and anti-world symmetrically. Conclusion: *only the collision of the pairs of proton and antiproton or electron and positron forces to parity of vector bosons!*

But if we **force** a new pair formation by collisions of matter (proton) and antimatter (antiproton) then it must run over the spin ±1 like at pair formations with participation of photons.

For example, we look at the negative W boson, with the quarks theory. It should consist of ūd. From the stationary vacuum of magons and antimagons, its momentum should generate the structure elements of the expected particles like electrons (muons, tauons) and electron antineutrinos (muon antineutrinos, tau antineutrinos). While an extremely short time span of 3 x 10⁻²⁵ s these structures start to separate themselves even in the proton half period time of 2.2 x 10⁻²⁴ s. Now, you see where the complete problem is running to:

From one $\bar{\nu}_e$ -body, one PK_e⁻ and from the momentum energy for the protocosm pair formation like $\overline{PK}_e^- PK_e^+$ $\overline{PK}_e^+ PK_e^-$ follow electrons or positrons (they become the same part of the bodies of electrons and positrons!). Or in relativistically accelerated base, there muons and tau lepton or their neutrinos and their antineutrinos are following. From my model, the negative W boson results as real particle like this equation shows:

$$W^- \rightarrow \bar{\nu}_e\text{-R} + \text{momentum energy } E_{wg} + PK_e^-.$$

As soon as the momentum energy has generated the necessary protocosm pairs of leptons (in the middle in brackets), the W boson decays:

$$W^- (\bar{u}d) \rightarrow \bar{\nu}_e\text{-R} + (x \overline{PK}_e^+ // x PK_e^+) + PK_e^- \rightarrow \bar{\nu}_e + e^- + \text{momentum energy} \quad (4.8a)$$

With x as natural number 1 ≤ x < ∞ in parity of all PK_e. The number x determines the formation of an **electron body (e-R) from an electron protocosm** and at the same time also a **positron body (ē-R) from the positron protocosm**. Both together are a Higgs block H_e (x $\overline{PK}_e^+ // x PK_e^+$). I didn't find a contradiction to my model, in which I derived the W boson from my lepton shift.

The size of x isn't yet known. May be, it will probably not be discovered exactly. But the body pair H_{n-e} is the origin of the "decay" – of the reconstruction of the leptons because in this moment of the complete pair formation, both unfinished particle torsos get back their missing mass (that's the analogon of Higgs consideration). But while their life span as unstable lepton, both partons are coupled to each other. Just then, if the stored energy can be emitted, both generated leptons can be separated. Now you would think of quarks solutions, and you would order the blue printed partons to the anti-u-quark and the red to the d-quark. But this is an illusion that I called the **ū-illusion** and the **d-illusion** of the "quarks model". The illusion, for example, an ū and a d were directly a W⁻

$$W^- (\bar{c} s) \rightarrow \bar{\nu}_\mu\text{-R} + (x \overline{PK}_\mu^+ // x PK_\mu^+) + PK_\mu^- \rightarrow \bar{\nu}_\mu + \mu^- , \quad (4.8b)$$

$$W^- (\bar{t} b) \rightarrow \bar{\nu}_\tau\text{-R} + (x \overline{PK}_\tau^+ // x PK_\tau^+) + PK_\tau^- \rightarrow \bar{\nu}_\tau + \tau^- . \quad (4.8c)$$

The following partons both are the carrier of the increased momentum energy (quarks-illusions uct, dsb):

ν_e -body + electron body = ν_e , briefly:	$\nu_e\text{-R} + e\text{-R} = \nu_e$
$\bar{\nu}_e$ -body + positron body = $\bar{\nu}_e$	$\bar{\nu}_e\text{-R} + \bar{e}\text{-R} = \bar{\nu}_e$
ν_μ -body + muon body = ν_μ	$\nu_\mu\text{-R} + \mu\text{-R} = \nu_\mu$
$\bar{\nu}_\mu$ -body + antimuon body = $\bar{\nu}_\mu$	$\bar{\nu}_\mu\text{-R} + \bar{\mu}\text{-R} = \bar{\nu}_\mu$
ν_τ -body + tau body = ν_τ	$\nu_\tau\text{-R} + \tau\text{-R} = \nu_\tau$
$\bar{\nu}_\tau$ -body + antitau body = $\bar{\nu}_\tau$	$\bar{\nu}_\tau\text{-R} + \bar{\tau}\text{-R} = \bar{\nu}_\tau$

The d-illusion, its antis as also of s and b come from the topmost protocosms of the leptons and antileptons and of their suitable bodies. Using my construction, the one-third electric charge is not necessary anymore. $PK_{e^-} + e-R = e^-$; $PK_{\mu^-} + \mu-R = \mu^-$; $PK_{\tau^-} + \tau-R = \tau^-$ and these 3 not mentioned variants of anti-world.

From this follows that a \bar{u} had to consist of a $\bar{\nu}_e$ -body with an $\bar{e}-R$, consequently and directly it would be an antineutrino, and a d were directly an electron. But this is never possible to be proved. Certainly, there is a parallel, the question of the “relationship” of u and d with the leptons. But they cannot be equated. Where does this contradiction come from?

The most important of the explanation is that the proton cannot be fundamentally made from leptonic partons. Consequently following this logic, it cannot consist of “uud”, because also the leptonic processes have to relate to these “uud”. So to speak, I shifted now the line of numbers by my model that I gave the proton free from the leptonic “quarks”. This procedure just shifts the complete “building of quarks”. But thanks of the protocosms, it automatically makes the relations for the formation of their masses with electron pairs (Higgs blocks). Thus the baryonic quarks model is destroyed. My construction has the following fundament:

A neutron n consists of $p^+ + \underbrace{PK_{e-n}^- + \bar{\nu}_{e-n}-R}_{\Delta L_n^-}$ (together defined as ΔL_n^-) Energy: 939.57 MeV.

Seen this way, at a collision of protons and antiprotons in the size of hundreds of GeV, it cannot fail to appear that especially hot neutrons are formed. The protocosms of the leptons on the level 2s inside the proton or the neutron climb up to level 1s and hit there on the neutrino bodies of level 1s of the antiproton or of their neutron partons in parity formed. On this way, W boson pairs result reflecting exactly that topmost energy level of the proton or the neutron with the spin 1.

But if protocosms of the leptons from level 2s from neutron meet the anti-protocosms of the antileptons from 2s of the antineutron, then they must not harmonize. With this energy level, immediately they generate Z boson pairs. This process is less probably than the first because it is below the first orbital and though behind the “curtain” where W boson pairs are possibly made.

Certainly, Z bosons consist of a pair of lepton protocosms, which are able to become to every pairs of leptons. At the inside of the neutron pairs, they can be changed with g. m. and e. m. energy from fallons and photons into every real pair of all the particles here in the universe area, but not into pions because of their spin is always mistaken. Therefore, there is no further question why Z bosons decay that way as they always do..

4.9 Quarks minus the Stable Proton gives the “Lepton Shift”

My proton p (“uud”) is an eternally stable and elementary particle, only consisting of its own protocosms PK_p but no leptonic protocosms PK_L . Therefore the “uud” push themselves out from my construction. That “u” or that “ \bar{u} ”, both aren’t a content of the proton or the antiproton. They only would be contents of the leptons. But the one-third charge cannot used at leptons anymore. Only the energy increase remains. To construct the necessary charges, it is a different procedure using Δq than to divide them by three. Obviously, they have to put together by single or multiple sizes. Over single charges, there result integer positive and negative charges. Multiple charges and energies are possible like before.

My neutron n (“dud”) is a proton p with a load of this unequal pair of $PK_{e-n}^- + \bar{\nu}_{e-n}-R$. These both partons together are my specific **lepton shift**, defined by me with ΔL^- . So I could explain away the illusion of the quarks.

Overview 4.9: Changed Interpretations of the Quarks into Lepton shifts

u	+ $\Delta^s L_u^-$	= d	in concrete amounts:	+2/3 - 1	= - 1/3
\bar{u}	+ $\Delta^s \bar{L}_u^+$	= \bar{d}	in concrete amounts:	- 2/3 +1	= +1/3
c	+ $\Delta^s L_c^-$	= s	in concrete amounts:	+2/3 - 1	= - 1/3
\bar{c}	+ $\Delta^s \bar{L}_c^+$	= \bar{s}	in concrete amounts:	- 2/3 +1	= +1/3
t	+ $\Delta^s L_t^-$	= b	in concrete amounts:	+2/3 - 1	= - 1/3
\bar{t}	+ $\Delta^s \bar{L}_t^+$	= \bar{b}	in concrete amounts:	- 2/3 +1	= +1/3

For the result of uncharged particles like zero pions or Z bosons, I give the symbol $\Delta^s L^o$. The exponent s could represent the spin resp. the pulse. Differences to the quarks theory come together and change the complete reflection totally: $\mathbf{dud}(\mathbf{n}) = \mathbf{uud}(\mathbf{p}) + \Delta L_{\bar{u}}$

$$u \ c \ t + 2/3 \ e_o \quad d \ s \ b - 1/3 \ e_o \quad \bar{u} \ \bar{c} \ \bar{t} - 2/3 \ e_o \quad \bar{d} \ \bar{s} \ \bar{b} + 1/3 \ e_o$$

ΔL^- with the charge $Q=-1$. The part of antimass of the antineutrino body but remains unsolved. I don't know how big it is. That "d" is a change over the contents of the neutron n and heavier variants. But our shifts are no prove of the quarks model. Exactly seen, we can forget their indices! Because protons do not consist of quarks but of their own proton-protocosms, they are kept like they are and were. Their structure remains. Only some energy can be stored internally. If the base is the stable proton, then no energy can be emitted to the outside. Therefore the quarks-shift $\Delta L_{\bar{u}}$ has no sense for the proton anymore. Inside the neutron we find a special energy level by condensation from the electron state on the neutron state $PK_{e-n}^- + \bar{\nu}_{e-n}-R$:

$$n \rightarrow p + \Delta^o L_n^- \tag{4.9b}$$

Now $\Delta^o L_n^-$ is the expression of that energy ΔE_{e-n} of the parton pair $PK_{\bar{n}}^- + \bar{\nu}_n-R$ inside the slow neutron instead of $PK_{e^-}^- + \bar{\nu}_{e-R}$. As nice as that may sound compared to the "quarks", these shifts only show the differences between quarks theory and my model of the IOT!

Overview 4.9a: Lepton Shifts ΔL as Preliminary Stages of the Real Leptons L and Boson B, (strongly rounded rest energies in MeV are behind, stage xa, b is inside of a nucleon, but number x is missing for an insider before.)

Stage 1 for electron and positron 0.511	$\Delta^o L_{e^-} = PK_{e^-}^- + \bar{\nu}_{e-R}$	$\Delta^o L_{e^+} = \overline{PK}_{e^+}^+ + \nu_{e-R}$
Stage 2 for muons 105.66	$\Delta^o L_{\mu^-} = PK_{\mu^-}^- + \bar{\nu}_{\mu-R}$	$\Delta^o L_{\mu^+} = \overline{PK}_{\mu^+}^+ + \nu_{\mu-R}$
Stage 2a for charged pions 139.57	$\Delta^o L_{\pi^-} = PK_{\pi^-}^- + \bar{\nu}_{\pi-R}$	$\Delta^o L_{\pi^+} = \overline{PK}_{\pi^+}^+ + \nu_{\pi-R}$
Stage 2b as zero pions 134.98	$\Delta^o L_{\mu^o} = PK_{\pi^-}^- + \overline{PK}_{\pi^+}^+$	$\Delta^o L_{\pi^o} = \overline{PK}_{\pi^+}^+ + PK_{\pi^-}^-$
Stage 2c neutrons 939.57	$\Delta^o L_{n^o} = PK_{n^-}^- + \overline{PK}_{n^+}^+$	$\Delta^o L_{n^o} = \overline{PK}_{n^+}^+ + PK_{n^-}^-$
Stage 2d for lambda Baryons 1116	$\Delta^o L_{\Lambda^o} = PK_{\Lambda^-}^- + \overline{PK}_{\Lambda^+}^+$	$\Delta^o L_{\Lambda^o} = \overline{PK}_{\Lambda^+}^+ + PK_{\Lambda^-}^-$
etc.		
Stage 3 for tau lepton 1777	$\Delta^o L_{\tau^-} = PK_{\tau^-}^- + \bar{\nu}_{\tau-R}$	$\Delta^o L_{\tau^+} = \overline{PK}_{\tau^+}^+ + \nu_{\tau-R}$
Stage 3a for charged D mesons 1864	$\Delta^o L_{D^-} = PK_{D^-}^- + \bar{\nu}_{D-R}$	$\Delta^o L_{D^+} = \overline{PK}_{D^+}^+ + \nu_{D-R}$
Stage 3b for zero D mesons 1863	$\Delta^o L_{D^o} = PK_{D^-}^- + \overline{PK}_{D^+}^+$	$\Delta^o L_{D^o} = \overline{PK}_{D^+}^+ + PK_{D^-}^-$
etc.		
Stage xa for W bosons "80380"	$\Delta^{-1} L_{W^-} = PK_{W^-}^- + \bar{\nu}_{W-R}$	$\Delta^{-1} L_{W^+} = \overline{PK}_{W^+}^+ + \nu_{W-R}$
Stage xb as Z bosons "91180"	$\Delta^{-1} L_{Z^o} = PK_{Z^-}^- + \overline{PK}_{Z^+}^+$	$\Delta^{-1} L_{Z^o} = \overline{PK}_{Z^+}^+ + PK_{Z^-}^-$

This is not all. **Every** particle energies have to be calculated like described above, for example of the sigma Baryon ΔL_{Σ^-} , and also the energies of the nuclides, for example of the sodium ΔL_{Na^-} . It seems to be less meaningful to mix up the partons. So there cannot be great differences like at the hypothetic construction $PK_{W^-}^- + \bar{\nu}_n-R$. What's that supposed to be? Obviously, if at all a very short-lived conglomerate. Just in use with the **Higgs block** of my construction, if H_e , H_{μ} or H_{τ} or who knows it better, what else for a type H_x , the real particle existence is born. After its existence time period, the decay follows. The quarks u and \bar{u} are just left as the expression of an energy for the pair formation of electron bodies, which give the masses by what the W boson is completely substituted with ΔL and H:

$$W^- \equiv \bar{u} \ \& \ d \equiv \Delta^{-1} L_{u^-} + H_e$$

$\bar{u} + \Delta^{-1} L_{u^-} (PK_{e^-}^- + \bar{\nu}_{e-R})$

$E_w \quad + \text{e-R-pair} (H_e) \rightarrow e^- + \bar{\nu}_e \text{ incl. of } \Delta E_{e-n}$

$\Delta^{-1} L_{u^-} \rightarrow \Delta^{-1} L_{e^-}$

or

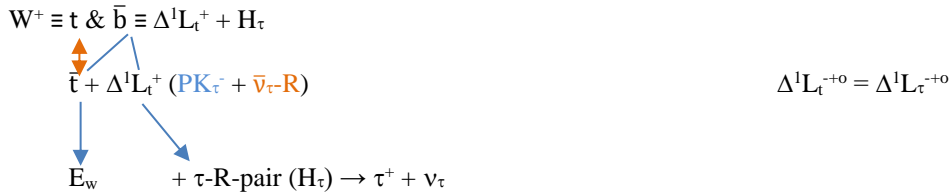
$$W^+ \equiv c \ \& \ \bar{s} \equiv \Delta^1 L_{c^+} + H_{\mu}$$

$\bar{c} + \Delta^1 L_{c^+} (PK_{\mu^+}^+ + \bar{\nu}_{\mu-R})$

$E_w \quad + \mu\text{-R-pair} (H_{\mu}) \rightarrow \mu^+ + \nu_{\mu}$

$\Delta^1 L_{c^+} \rightarrow \Delta^1 L_{\mu^+}$

or



My difference-“quarks”, the lepton shifts $\Delta^+ L_e^+$, $\Delta^+ L_\mu^+$, $\Delta^+ L_\tau^+$ and the pair formation of these kind of particle bodies always remain decisive. But all these processes are only possible without the real energies as here at the **Higgs blocks**, too.

Overview 4.9b: The Three Possible Leptonic Higgs Blocks

$H_e \equiv e\text{-R} \ \& \ \bar{e}\text{-R}$	an electron body pair (stable)
$H_\mu \equiv \mu\text{-R} \ \& \ \bar{\mu}\text{-R}$	a muon body pair
$H_\tau \equiv \tau\text{-R} \ \& \ \bar{\tau}\text{-R}$	a tau body pair

The necessary internal mass reflecting the external mass in use of eq. 5a comes from these already given proto-cosm amounts: $x \overline{PK}_e^{+\circ} // x PK_e^{+\circ}$. Just these are the mass blocks of the positrons or the electrons together as $\bar{e}\text{-R}$ and $e\text{-R}$. They only can exist because of my protocosmic solution. Otherwise, we would not have them available, or we'd have to think of something like the “Higgs bosons“ for example.

$x \overline{PK}_e^{+\circ}$ consequently equal the positron body $\bar{e}\text{-R}$.
 $x PK_e^{+\circ}$ equal the electron body $e\text{-R}$, too.

All taken together: orbital spin, pulse, charge and magnetic momentum (if e. m. or g. m.) are zero, except the quantum number of mass and antimass of the respective block. Temporarily mass and antimass compensate their sizes still as pairs. Consequently, the mass balance is zero while arising of pairs. As soon as the bodies have separated themselves, each of both particles of its kind of world to be an ordinary or an anti finds its own way and its own mass. So the particle system becomes its mass of zero, but full energy to the present with full mass inclusively its energy!

Once more: “Gluons” are better signed by my theory to be the wave quanta of gravitation. They are **fallons**. Inside the microcosms, the gravitation is the ruling force! However, my kind of proton is an oscillating dark gray hole. Boldly thought and anticipated an experimental proof. Both masses, the ordinary mass and the anti-mass together, make the mass balance to zero but the energy balance for the pair formation of 2 lepton bodies. Following changes are possible instead of the use of W bosons:

$$e^- + \text{“}W^+ \text{”} \rightarrow \nu_e; \ \nu_e + \text{“}W^- \text{”} \text{ is not possible, but } \nu_e + \text{“}W^- \text{”} \rightarrow \nu_e + \Delta^+ L_e^+ + H_e \rightarrow e^-$$

In detail: $e^- + \text{“}W^+ \text{”} \rightarrow e\text{-R} \ \& \ [PK_e^- + \overline{PK}_e^+] \ \& \ \nu_e\text{-R} \rightarrow e^- + \Delta^+ L_e^+ + H_e \rightarrow \nu_e$ (4.9c)

$$e^+ + \text{“}W^- \text{”} \rightarrow \bar{\nu}_e; \ \bar{\nu}_e + \text{“}W^+ \text{”} \text{ is not possible, but } \bar{\nu}_e + \text{“}W^+ \text{”} \rightarrow e^+,$$

In detail: $\bar{\nu}_e + \text{“}W^+ \text{”} \rightarrow \bar{e}\text{-R} \ \& \ [\bar{\nu}_e\text{-R} + \nu_e\text{-R}] \ \& \ \overline{PK}_e^+ \rightarrow \bar{\nu}_e + \Delta^+ L_e^+ + H_e \rightarrow e^+$

or still over the condensed PK levels of muon or tau state. For example:

$$\mu^+ + \text{“}W^- \text{”} \rightarrow \bar{\nu}_\mu; \ \bar{\nu}_\mu + \text{“}W^+ \text{”} \text{ is not possible, but } \bar{\nu}_\mu + \text{“}W^+ \text{”} \rightarrow \mu^+,$$

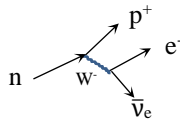
In detail: $\bar{\nu}_\mu + \text{“}W^+ \text{”} \rightarrow \bar{\mu}\text{-R} \ \& \ [\bar{\nu}_\mu\text{-R} + \nu_\mu\text{-R}] \ \& \ \overline{PK}_\mu^+ \rightarrow \bar{\nu}_\mu + \Delta^+ L_\mu^+ + H_\mu \rightarrow \mu^+$

Transitions aren't completely taken in account. Present opinion means because of the virtual W bosons, the quarks u/d should be able to be changed into the partner particles $e/\nu_e, \mu/\nu_\mu, \tau/\nu_\tau$. Such a process isn't necessary to be created virtually. It really runs by IOT because of the structure of the W bosons. This is the well-known “crossover of the partner particles“ from the “quarks“ theory. It shows now using my theory, how a particle inside is made. Using my construction, the spontaneous decay of an electron into a W^- and an electron neutrino is not possible. As I predict, an electron is able to be changed with a neutrino body pair. But this body pair only exists inside of the baryons. It does neither exist in the electron nor in the electron neutrino. Taking an electron and an electron neutrino for reaction, after my construction it remains the same product. But the reaction of electron plus proton leads to the change into neutrino and neutron by the pair of neutrino bodies, briefly signed above. In a long version, the lepton shift, additionally but ineffectively, still would generate PK_e -pairs and annihilate them again.

Summary. Because of the formation of differences, now I have found symbols for the real parton transitions. Let us take a present used Feynman diagram for the Beta-Minus-Process here:

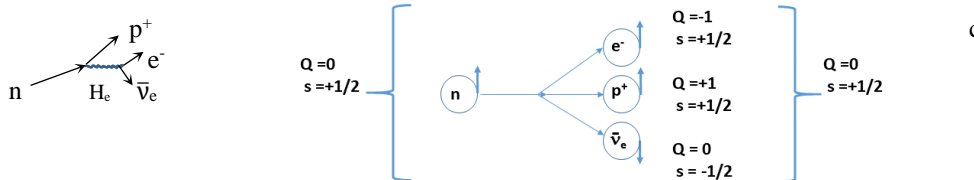
Overview 4.9c: Beta-Minus-Process

With the quarks theory and the virtual W bosons, the rules of spin conservation aren't correct anymore:



If the neutron has +1/2 then the proton must follow with the same +1/2, so it is impossible that the spins of electron and antineutrino can be added to -1. They subtract from +1/2 and -1/2 to zero. This is just possible with my IOT

and these electron body pairs being Higgs Blocks (spin: zero, mass: zero):



The "virtual W" does not exist. It could be displayed as a pair formation of electron bodies He and of the participation of lepton partons Δ⁰L_n (spin: zero), which are already inside the neutron. In the end, I use my symbols for clear understanding. You can see what the neutron is made of and what for a pair is given to generate the free particles. I always set the antineutrino's spin to minus 1/2:



How does it all fit in with the detection of neutrinos by deuterium: $D^+ + \nu \rightarrow n + p + \nu$? The present hypothesis means that the decay of the deuteron into both nucleons should be conveyed by the virtual Z boson. Well, I think, at the inside of a neutron of my construction you'll never need any virtuality. There are the protocosms with their gravitational high energies reaching to interact with a neutrino, to exchange energy and to separate the nucleons out of another. You could ask now: when the neutrino with its energy hits an antineutrino body inside the neutron so that a free neutron arises, isn't this momentum energy enough? The proton also remains unchanged in the atomic nucleus. You see, everything what was explained today with "quarks" while the weak interaction, now it is explainable using my protocosms! **W bosons don't consist of "quarks" or of real particles. They consist of particle bodies, of their pairs and their wave energy. Later they change themselves into real elementary particles.**

At higher energies, pions and their partons will be multiply merged until the energy size reaches the baryon level. Now W and Z reactions appear:

Particle Pre-Step $\beta^\pm / \pi^- / W^-$ // Particle Pre-Step π^+ / W^+ (4.9e)

<p>By loaded or unloaded momentum energy E_w,</p> <p>Combinations lead to different mesons.</p>	$\left. \begin{array}{l} PK_n^- + \bar{\nu}_n-R + H_e \quad // \quad \bar{PK}_n^+ + \nu_n-R + H_e \\ PK_\pi^- + \bar{\nu}_\pi-R + H_\mu \quad // \quad \bar{PK}_\pi^+ + \nu_\pi-R + H_\mu \\ PK_W^- + \bar{\nu}_W-R + H_\tau \quad // \quad \bar{PK}_W^+ + \nu_W-R + H_\tau \end{array} \right\}$
	<p>$e^- / \bar{e}^+ \quad \& \quad \bar{\nu}_e / \nu_e \quad (\beta^- / \beta^+) \text{ "protopion"}$</p> <p>$\pi^- / \pi^+$</p> <p>$W^- / W^+$</p>

The "protopion" doesn't become real, but because of lack of energy, it remains an electron/positron and electron antineutrino/ electron neutrino, emitted by beta processes. The real pion, e. m. charged or uncharged, is a combination of muon and muon antineutrino in condensed appearances. This is followed by a lot of combinations until the W and Z bosons are able to be build. In the beginning, it consist internally of the unity of tau lepton and its tau antineutrino.

While the decay into 2γ or an electron pair and 1γ , zero pions show that they are loaded with protocosm pairs with the maximum of muon energy. Inside of this system is a symmetry of the protocosms and also a gamma

quantum. But Z bosons are able to be loaded up to the energy of tau lepton. With these facts, we find the following fundamentals. Equalized electromagnetic charge (equalized magnetic momenta), equalized electrostatic charge, gravitomagnetic momenta partially given:

$$\text{Particle Pre-Step } \pi^0 / Z^0 \quad // \quad \text{Particle Pre-Step } \pi^0 / Z^0 \quad (4.9f)$$

$PK_n^- + \overline{PK}_n^+ + H_e \quad // \quad \overline{PK}_n^+ + PK_n^- + H_e$	}	Pure annihilation to internal energy Or storing of the internal energy
By loaded or unloaded momentum energy E_w ,		
$PK_\pi^- + \overline{PK}_\pi^+ + H_\mu \quad // \quad \overline{PK}_\pi^+ + PK_\pi^- + H_\mu$		π^0 / π^0
$PK_Z^- + \overline{PK}_Z^+ + H_\tau \quad // \quad \overline{PK}_Z^+ + PK_Z^- + H_\tau$	Z^0 / Z^0	

A pion cannot reach the energy of a tau lepton. Causing the pre-step system for decay, the **lepton body pair joins either as electron state, muon state or as a tau state from the center reconstructing the stable particles. Without these preconditions, there is no decay into the real particles. The difference of energy is certainly emitted between these above called states.**

Higher energies only can exchanged inside the leptons and baryons by W and Z bosons. My special antineutrino rumps $\bar{\nu}_e$ -body, $\bar{\nu}_\mu$ -body, and $\bar{\nu}_\tau$ -body decide themselves by the height of their momentum energy. It increases from electron to muon and tau lepton, and it closes the protocosms finally over three steps (e, μ , τ) while the internal mass M_{PK} is decreasing and the external measurable mass m_{PK} is increasing. If the protocosms are completely closed (locked) then there is no internal mass M_{PK} free adding to the mass sum M_{GK} of the complete receptacle cosm. Only the external sum of masses of the protocosms m_{PK} then becomes the internal mass “ M_{GK} ” of the receptacle cosm (and seen from the complete external observation, it becomes the external mass m_{GK} of the receptacle cosm). I don’t know at what positions this turnaround might occur. Certainly, it is determined by the oscillation of mass itself what we are not allowed to misunderstand. Spacetime is already mass, and vice versa. So the turn is surely the pass of the minimum of the spatial wave of a spacetime. But it is bad much more:

There are no direct summary balances of inside and outside! At first the internal balances must be drawn. And only then you can calculate the internal relations on the sizes of external physical sizes! I think, you cannot add the pulses of the protocosms making an external pulse from them. Protocosms elementarily oscillate as spacetime bodies; each of them all on the size of $1h$ (one Planck’s constant). Internally they can be added. As soon as their receptacle cosm begins to oscillate after its forming, this pulsation is related on the Planck quantum $1h$. From this, the external pulse is derived. It is basically $1/2h$ before it is purely mathematically reduced, no matter what you calculate for the Isospin I_3 . In my IOT, that “Isospin” becomes a charge type to be a breakpoint of the lepton shift, for example $2\Delta L^-, 1\Delta L^-, 0\Delta L^-, 1\Delta L^+$. The property named “strangeness S” becomes an internal energetic quantum leap of protocosms from their orbitals into other orbitals.

The neutrino as well as its body do not externally reflect e. m. momenta. Internally they are already equalized.

With these basic structure elements we should describe all the reactions of the elementary particles!

So that the protocosmic model works (without “quarks“), the Z^0 boson should consist of those both maximally condensed protocosms of the electrons and positrons and also from the e. m. and g. m. momentum energy pair formatting the electron/ positron bodies and the neutrino bodies and decaying then while that time period of the existence as Z:

$PK_e^- + \overline{PK}_e^+$ and internal and external momentum energy resp. $PK_\nu + \overline{PK}_\nu$ are in such a position of rotation that the external half pulses add to 1. The Z boson is not directly representable, but only by its decay products into pairs of hadrons, charged leptons and neutrinos after the time period of about 2.6×10^{-25} seconds. A question still remains: *Are these products of decay or of pair formation?* As I above already explained, inside of the gravitomagnetic density of baryons and leptons, pairs are able to be formed purely gravitationally. And this way also can be formed the neutrino pairs.

This means that the interaction of the internal Z boson’s pair formation can be seen externally at the formation of outer pairs while the Z bosons are already decayed still internally. Do actually photons decay while the e. m. pair formation? Or do fallons decay while the g. m. pair formation? I think, they surely don’t. They give parity features out:

$$Z^0 \rightarrow \text{external pair formation because of enough energy} \rightarrow p^- + p^+ ;$$

Decays over internal pair formation by g. m. and e. m. energies into hadrons and leptons:

$$Z^0 \rightarrow p^- + p^+ ; Z^0 \rightarrow e^- + e^+ ; Z^0 \rightarrow \mu^- + \mu^+ ; Z^0 \rightarrow \tau^- + \tau^+ ; Z^0 \rightarrow \nu + \bar{\nu} \quad (4.9g)$$

What does actually happen here? All kinds of fermions are generated in pairs by internal photons and internal fallons *because there is enough energy for doing this internally!* The formation of body pairs initiates the decay! Internal mass is given, external mass is resulting from it, and the universe particles are separated. I see the only problem in spin 1 of the Z boson, which cannot be divided into fermion spins at the mesons. How should a spin of zero for a pion result from -1 or +1 of the Z boson? $Z^0 \rightarrow \pi^- + \pi^+$. Here the normal spin construction of Z and W bosons have no sense anymore. Fundamentally, it looks like only a pair formation and in the case of pions, there is a transposition of the lepton shift. See, each lepton shift from the “hot“ neutron can take the spin ± 1 . This happens at the collision when the partons find together in the orbital of 1s.

Because the mass is already insides, the interactions only are explained as electrogravitational interactions. Now I just speak of the **electrogravitation**. The *weak interaction* is made by *g. m. interaction*. The *electroweak interaction* is generated by *e. m. and g. m. interactions*. The *strong nuclear force interaction* is formed from the *internal g. m. interaction* of the nucleons. Summary. There are no more interactions than the e. m. and the g. m. ones. There aren't more kinds of them!

An electron body is a completely compensated mass block never coming free into the outside. If you now also count the positron body into the balance of the pair, then we find that all the quantum numbers are zero. This thing seems to be a boson.

Using an analogous cohesion, Higgs consequently thought of the need of a boson. Basically, you can think this way if you don't still know the reality, which leads to zero sizes of all the quantum numbers. Because of the necessary quadrupole but we need four electron bodies, 4times e-R. With it, the boson pulse completely becomes zero. But the mass blocks of the three kinds of neutrinos are different from the mass blocks of the electron, muon, and tau lepton, and they are different from the mass blocks of the protons. So is my conclusion of formal logics: One unified “Higgs boson” is impossible. It becomes crazier, if you divide the mass blocks into their quadrupoles. Every quadrupoles of the same quantum number n have a new mass number (mass size, mass feature etc.).

And now the shocking conclusion: inside of every sub cosm one can find mass blocks. An unimaginable number until the finest distributions is the result! But don't forget! It is not simple to prove such an equalized body cosm by energetic experiments. Therefore I assume that the present opinion, one had found inside a proton a Higgs boson (my proton body), may not correspond to the reality.

If my opinion of the particle structure is correct then the Higgs model was a good idea, but not more. It will be dispersed in the amount of its possibilities, unless you would tap on a measured value as if it were a piece of the puzzle that you only need to insert, but then unfortunately in the wrong position.

4.9.1 The Decay of the Negative Pion

The minus pion includes a negative lepton shift and a Higgs block:

$$\pi^- (\text{PK}_{\pi^-}, \bar{\nu}_{\pi^-}\text{-R}, \text{H}_{\mu}) \rightarrow \text{PK}_{e^-} + \bar{\nu}_{e^-}\text{-R} + \text{H}_e + \Delta\mathcal{E}_{\text{PK}(\pi^-e)} + \Delta\mathcal{E}_{\text{vR}(\pi^-e)} + \Delta\mathcal{E}_{\text{H}(\mu-e)} \rightarrow e^- + \bar{\nu}_e + \Delta\mathcal{E}_{\text{PK}(\pi^-e)} + \Delta\mathcal{E}_{\text{vR}(\pi^-e)} + \Delta\mathcal{E}_{\text{H}(\mu-e)} \quad (4.9.1a)$$

Should the energy remain in pion as the sum of the condensation energies $\Delta\mathcal{E}_{\text{PK}(\pi^-e)}$, $\Delta\mathcal{E}_{\text{vR}(\pi^-e)}$, $\Delta\mathcal{E}_{\text{H}(\mu-e)}$ and some energy would increase, then the pion decay into a muon state:

$$\pi^- (\text{PK}_{\pi^-} + \bar{\nu}_{\pi^-}\text{-R} + \mu\text{-R} / \bar{\mu}\text{-R}) \rightarrow \mu^- + \bar{\nu}_{\mu} + \Delta\mathcal{E}_{\text{PK}(\pi^-\mu)} + \Delta\mathcal{E}_{\text{vR}(\pi^-\mu)} \quad (4.9.1b)$$

4.9.2 The Decay of the Negative W Boson

By **pair formation of an electron body pair** e-R / \bar{e} -R **inside of a nucleon** (highest energies of the PK there are τ -R / $\bar{\tau}$ -R) from the given momentum energy $\Delta\mathcal{E}_{\text{PK}(W-e)} + \Delta\mathcal{E}_{\text{vR}(W-e)}$ located at the partons, the following decay is possible:

$$W^- (\text{PK}_{W^-} + \bar{\nu}_{W^-}\text{-R}) \rightarrow \text{PK}_{e^-} + \bar{\nu}_{e^-}\text{-R} + \Delta\mathcal{E}_{\text{PK}(W-e)} + \Delta\mathcal{E}_{\text{vR}(W-e)} \rightarrow \text{PK}_{e^-} + \bar{\nu}_{e^-}\text{-R} + e\text{-R}/\bar{e}\text{-R} + \Delta\mathcal{E}_{\text{PK}(eR-W)} + \Delta\mathcal{E}_{\text{vR}(eR-W)}$$

$$\rightarrow e^- + \bar{\nu}_e + \Delta\mathcal{E}_{\text{PK}(eR-W)} + \Delta\mathcal{E}_{\text{VR}(eR-W)} \quad (\text{spins } -1/2 + -1/2 = -1 \text{ because antineutrino always } -1/2) \quad (4.9.2a)$$

Should more energy increase than the sum of both condensation energies $\Delta\mathcal{E}_{\text{PK}(e-W)}$ and $\Delta\mathcal{E}_{\text{VR}(e-W)}$ that a muon body pair $\mu^-R / \bar{\mu}^-R$ is formed, then the real W boson decays into a muon state:

$$\begin{aligned} W^- (\text{PK}_W^- + \bar{\nu}_W-R) &\rightarrow \text{PK}_\mu^- + \bar{\nu}_\mu-R + \Delta\mathcal{E}_{\text{PK}(W-\mu)} + \Delta\mathcal{E}_{\text{VR}(W-\mu)} \rightarrow \text{PK}_\mu^- + \bar{\nu}_\mu-R + \mu^-R / \bar{\mu}^-R + \Delta\mathcal{E}_{\text{PK}(\mu R-W)} + \Delta\mathcal{E}_{\text{VR}(\mu R-W)} \\ &\rightarrow \mu^- + \bar{\nu}_\mu + \Delta\mathcal{E}_{\text{PK}(\mu R-W)} + \Delta\mathcal{E}_{\text{VR}(\mu R-W)} \end{aligned} \quad (4.9.2b)$$

But should an extreme amount of energy increase that an tau body pair $\tau^-R / \bar{\tau}^-R$ is generated, then the W boson decays into a tau state:

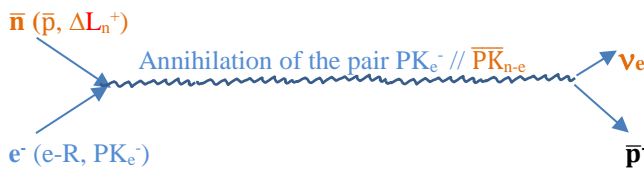
$$\begin{aligned} W^- (\text{PK}_W^- + \bar{\nu}_W-R) &\rightarrow \text{PK}_\tau^- + \bar{\nu}_\tau-R + \Delta\mathcal{E}_{\text{PK}(W-\tau)} + \Delta\mathcal{E}_{\text{VR}(W-\tau)} \rightarrow \text{PK}_\tau^- + \bar{\nu}_\tau-R + \tau^-R / \bar{\tau}^-R + \Delta\mathcal{E}_{\text{PK}(\tau R-W)} + \Delta\mathcal{E}_{\text{VR}(\tau R-W)} \\ &\rightarrow \tau^- + \bar{\nu}_\tau + \Delta\mathcal{E}_{\text{PK}(\tau R-W)} + \Delta\mathcal{E}_{\text{VR}(\tau R-W)} \end{aligned} \quad (4.9.2c)$$

That momentum energy E_w , which also is emitted by the high energetic partons inside the nucleons, I signed step by step. Vice versa, you can build these protocosm states by support of energy of collisions or of photons/fallons, when you force them to condensation or storing of this energy support. In this way, like well-known, W bosons can decay into all the tree features of leptons. Also the Z bosons can decay into all the lepton pairs. But because of the high pair formation energy, they also can decay into baryon pairs, which you cannot see them coming out of leptons. Pair formation energy remains pair formation energy! Consequently, from such high energies like at Z bosons, the corresponding pairs are possible. Z bosons aren't analoga on photons, but they are analoga on uncharged pions. They include e. m. and also g. m. energy for pair formation. Photons aren't able to generate pairs of neutrinos, but Z are able to do this because of their high fallon energy.

But I think that W and Z bosons reflect the real protocosms located inside the nucleons and their descendants. Sufficient energy is in need for it. But both do not really exist if the sufficient energy is missing. This means, at a real collision they can be represented. At a normal weak interaction, they aren't necessary at all, not even virtually because both partons are completely enough for it:

$$\bar{p}^- + e^- + \overline{\text{PK}}_n^+ + \nu_n-R \rightarrow \nu_e + \bar{p}^- \quad (4.9.2d)$$


This scheme corresponds to the reaction $e^- + \bar{n} \rightarrow \nu_e + \bar{p}^-$. In the background, the above called exchange is running without virtual W^+ bosons! It is running with real W bosons, if the energy inside the nucleon is able to generate W bosons. It only then can happen, if energy is supported by the outside, internally increased with eq. 1a into the immeasurable. I disagree the interpretation of Heisenberg's uncertainty principle on the accident of the formation of virtual particles. My special interpretation of this principle becomes a fundamental reality of the structure of the cosm hierarchy model of my IOT. Particles of the highest energy aren't virtual, but they are real internally locked in their receptacle cosms. THERE they interact!



The well-known interactions are buzzing with pions. If they aren't causing the actions, so very much different mesons of higher energies or momentum masses are the reason of decaying into pions in the end. The complete thing is in the foreground manifested as there were deciding indications of the structures and the unified approach of the unstable elementary particles by ancestry of the stable ones. Those bosons like also W and Z are obviously packages for transportation of the building blocks of the leptons and neutrinos, but always in contrary matter so that they do not match to each other uniting into real leptons or neutrinos. To complete the unification, there must be a resonance in which pair of the building blocks can be generated. Then the exchange leads to success. But the exchange is not force. It is the expression of an interaction.

All these processes are bound at lepton protocosms, exactly seen at their bodies. But the proton has no own protocosm of the feature of lepton-protocosm. Therefore a proton cannot decay leptonically. My model is clear.

Under this condition, the GUT inclusively their quarks models are wrong because **the “quark“ of proton cannot be the “quark“ of electron at the same circumstances without to include the very large amount of protocosms in the depth of any receptacle cosm! There is much more inside life at the leptons than at baryons. Leptons are – because larger in diameter – more finely quantized. The captured electron protocosms PK_e and the antineutrino $\bar{\nu}_e$ -body inside the proton are leptonic (leptonic origin) by what it becomes a neutron. That’s why the neutron only can decay leptonically because the proton wins itself back. We will see that below.**

Under this condition, the following reactions have to be seen where I set the structure of the neutron and of the pion in brackets. Here is the decay incomplete. It is an evacuation as transportation of partons and of stored energy. Let us summarize! The base of every interaction is the combination of the leptons (vice versa of the antileptons):

Overview 4,9.2: Lepton Relations

Electron	Muon	Tauon
e	μ	τ
Electron neutrino	Muon neutrino	Tau neutrino
ν_e	ν_μ	ν_τ

Their partons:

PK _e	PK _{μ}	PK _{τ}	
e-R	μ -R	τ -R	inside of the centers
ν_e -R	ν_μ -R	ν_τ -R	

An electron becomes from PK_e and e-R. From a ν_e -R and an e-R the electron neutrino results. But these partons also can be reversely coupled with antimatter. By the pair formation’s masses of the electron bodies being pairs e-R/ \bar{e} -R, reversed paired partons like PK_e and $\bar{\nu}_e$ -R can be revived into the real particles electron and electron antineutrino:

PK _e	PK _{μ}	PK _{τ}	
e-R	μ -R	τ -R	body pairs born inside the centers
\bar{e} -R	$\bar{\mu}$ -R	$\bar{\tau}$ -R	
$\bar{\nu}_e$ -R	$\bar{\nu}_\mu$ -R	$\bar{\nu}_\tau$ -R	

I have another possibility representing it that the question can be explained. Why do these ΔL -pairs always result in asymmetrical structure?

e ⁰ -R	-	PK _e ⁻	or	ν_e -R	or	PK _e ⁻	or	ν_e -R
\bar{e}^0 -R	-	$\bar{\nu}_e$ -R		\bar{PK}_e^+		\bar{PK}_e^+		$\bar{\nu}_e$ -R
Pair		Asymmetric “pair”		Pair		Pair		Pair
		Exchange function needed						
H _e		ΔL_e^-		ΔL_e^+		ΔL_e^0		ΔL_z^0

Uncharged lepton shifts are dissolvable pairs into e. m. gamma and g. m. gamma. Everything is explainable with the Higgs blocks of different energy levels and with the charged lepton shifts of different energy levels. We don’t even need anti types of them. No, we save antis compared to the quarks theory in which anti-quarks are necessary. In the same way, the neutrino body pairs ν_e -R/ $\bar{\nu}_e$ -R play a role if they hit on electron body pairs generating real neutrinos and antineutrinos. But these body pairs only can be formed inside of the elementary particles from the g. m. energy density! Here in our outside, in our universe hierarchy area, it is not possible to generate these partons!

That’s why I surely know that the proton is eternally stable consisting of special proton protocosms. Therefore, it cannot participate at any change than as a body, which carries the other partons, or, which stores energy at its own partons. Consequently, the proton absorbs the partons of the leptons. But this doesn’t run linearly. An electron cannot enter a proton because it is 1836 times larger. But under certain energy areas, the interaction of

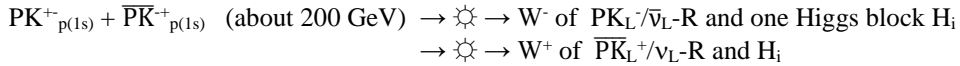
the wave quanta inside the electron generates electron body pairs and neutrino body pairs, which partons exchange themselves and come out being real particles and antiparticles, partially inside the proton remaining partons and anti-partons. So as first, it is the neutron resulting from such an interaction process.

Therefore the neutron is heavier than the proton. Inside the neutron is a part of its ordinary mass compensated by a part of antimass given by an antineutrino body. The antineutrino body is particularly much condensed. So it climbs up onto the highest orbital in the neutron – on the orbital 1s. But the negative electron protocosm inside the neutron fills that hole in 2s forming the quadrupole of the protocosms there.

If at a collision, a proton and an antiproton meet themselves then the protocosms and antiprotocosms interact at about 200 GeV in the orbital 1s. They generate a ΔL pair in 1s consisting of those four partons $PK_L/\bar{\nu}_L-R/\bar{PK}_L^+/\nu_L-R$.

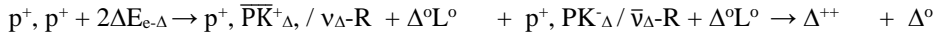
But each parton just gets about 50 GeV. Therefore it doesn't match to the 100 GeV of the orbital 1s. The products are a priori at the outside the colliding wave quanta of the proton pairs. Because of the high energy, this is temporarily condensed to the level of 100 GeV per proton and antiproton, consequently, about 100 times smaller than the normal proton in its radius. Subsequently, while the transmission of the formation of the lepton shifts this state seems to be so to say a neutron. But it isn't because the partons are formed in 1s. Inside the neutron, the electron protocosm is at home in the orbital 2s!

On the base that partons are already at the outside, a real pair of W bosons are generated while each of both W bosons consist of $PK_L/\bar{\nu}_L-R$ and \bar{PK}_L^+/ν_L-R and makes the Higgs block H_i at the decay:

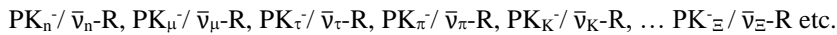


When the collision energy of about 104 GeV arrives the orbital 2s of the proton pair (together: 208 GeV), the internal energy forms a pair of lepton protocosms emitting themselves being a pair of Z bosons: $PK_L/\bar{PK}_L^+/H_i$ and $\bar{PK}_L^+/PK_L/H_i$. The exclusive existence of charged protocosms in 2s inside the proton and antiproton as also inside heavier baryons **only** allows the formation of charged partons of the Z bosons!

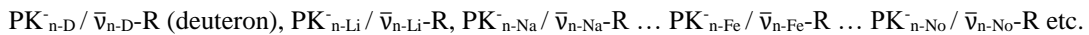
At a collision of a proton pair, the wave quanta interaction can lead to the formation of lepton protocosm pairs of charged bodies and uncharged neutrino bodies (and at the same time also to intermediate state of a neutron pair) distributing onto two baryons at the high corresponding energy as follows:



No uuu-quarks combination is required here for generating a Δ^{++} . The lepton protocosms are condensed very strong by energy that they have reached a special delta level. They force themselves into the empty positions of the proton where the neutron also can arise. The internal mass of the lepton protocosms, which can be emitted as also of the proton protocosms is extremely decreased. Consequently, the external mass m of the delta particle increases. The special levels of the *lepton shifts* $PK_L/\bar{\nu}_L-R$ and vice versa have additional symbols that I gave them below. They are descended from the stable electrons, the $PK_e^-/\bar{\nu}_e-R$ and reversed starting with the neutron and ending in the “dark“. Indices are signed with the following particles. Neutron n, muon μ etc.:



Each neutron as a nucleon has its own energy level:



How does that come about? I mean that on base of my IOT, a stable particle internally is completely open. Simply, it cannot emit further condensed energy. And it cannot act externally with this energy, which is not there anymore. Where to get it? Conclusion: protons cannot emit binding energy inside the atomic nucleus. They are empty. Not one single protocosm can evaporate because all of them are already open totally. There is no energy anymore!

But what particle has the chance for giving the binding energy? Exactly! The neutron has it. It has as well as the electron protocosm, which has enough packages of internal mass and energy of its sub-protocosms, and it has the electron antineutrino body rotating above offering a certain part of antimass. But the level 2s is open at first. Consequently, while decreasing velocity on the orbitals, proton-neutron protocosms just will be evaporating earlier but they wouldn't support some plus with mass there. But the electron protocosm is able to emit more

matter carrying condensed mass and energy inside. This is basically a part of the internal electron mass. I don't know the exact value of that mass M . It could be about 200 times of the start mass of the protocosms. With this amount, the proton could expand the internal mass M of the neutron. Consequence: The neutron will be emitting further binding energy from itself being a nucleon having less outer mass m . It happens each further step of evaporation of sub-protocosms of the electron protocosms by increasing mass M of the neutron inside.

The consequence of my IOT is then, too, that there is not an isle of stability of nuclides because the neutron finds an end of the complete evaporating of its electron PK. Then the neutron is empty. Nothing is going anymore – Rien ne va plus! Then it runs reversed. In $1s$ will be free more antimass of the antibody acting as opponent. In this context, the steps of the binding energy will be getting smaller until there is nothing to emit any more. Comparing this, the reader may have a look at my model of the atomic nucleus from the IOT (1, p 542 till 565). At that time I still didn't know that the binding energy comes just alone from the neutron. I followed the obsolete theory that the binding energy would distribute all over the nucleons.

In the end if it concerns the many energy sizes of particles and antiparticles, so much quarks couldn't be there to cause all these levels. This is why every interaction only can have its base on the lepton shift, I say it shortly and sweetly. All the partons signed with index i cause the basis of *every* changes of particles, ever:

$$\boxed{H_i \ \& \ \Delta^s L_i^{+0-}} \quad (4.9.2e)$$

4.10 The Qualitative Determination of the Proton

What is the proton actually loading on its back? It is completely crazy. No, it doesn't take one protocosm of the electron and one corresponding electron body $e-R$ that with it the system can be an electron for emission. No again and again! It takes additionally to the [electron PK \$_e^-\$](#) an [electron antineutrino body \$\bar{\nu}_e-R\$](#) . Both I call now the [lepton shift](#)! How does the proton come about? The simple fact is that it participates in the weak interaction. Yes, this strange uploading is the “weak interaction“! The complete process is always and only running over pairs and their exchange.

At this interaction, you see this strange exchange of the partners. But before more, I tell you something else: the both foreign partons $e-R$ and $\bar{\nu}_e-R$ are as large in the radius of their amplitude because of their small mass m that they don't fit into the proton. Their internal mass M could not participate at the internal processes. I find out: these partons will be condensed step by step by energy and condensing their internal partons being the sub-protocosms, etc. This way, the external mass increases while the amplitude is decreasing down to the volume that they hit into the highest orbital $1s$ and $2s$ of the nucleon. And now they participate at the internal interactions!

So the neutron is a packhorse, loaded with two pieces of luggage that it would like to discard. But for this there has to be a body pair formation over momentum energy giving the possibility to both foreign partons to restore themselves into one electron and one electron antineutrino.

4.11 The Reaction of Proton and Electron

It is time to look like a proton reacts with an electron to a neutron and an electron neutrino (K capture, too). Is this a *weak* force? No, it isn't. It is a metrically and extremely short interaction! After all, it changes so much. Without it there would be no chemical elements, absolutely nothing that makes our little world earth! The metric shortness of 10^{-18} meters certainly describes just also the radius of these protocosms inside the nucleons that I found over calculating the “Black Hole” radius of 2.1×10^{-16} m. This is about 200 times larger. Therefore the neutrinos interact with the protocosms of the nucleons! Or in other words: the fallons of the proton interact with the protocosms of the leptons by, which they can form neutrino pairs and electron body pairs there just because of the above described gigantic and gravitomagnetic energy density.

The proton is much smaller than an electron. It is falling into the electron while the lighter electron is falling attracting by the proton (just relativity!). At this interaction, the electron energy and the proton energy produce the pairs of neutrino protocosms for the forming of their bodies from the vacuum of magons *inside the lepton at the lepton protocosms*. Now the wave quanta meet themselves at the inside of the electron. There located wave quanta of the protocosms interact with the wave quanta of the proton. One pair of neutrino bodies is formed. Because of the momentum energy E_{wvr} it is condensed on the energy level of the neutron protocosm (cf. eq. 4.11c), signed with the index n : $\nu_{e-n-R} / \bar{\nu}_{e-n-R}$ also designated as $\Delta^o L_z^o$.

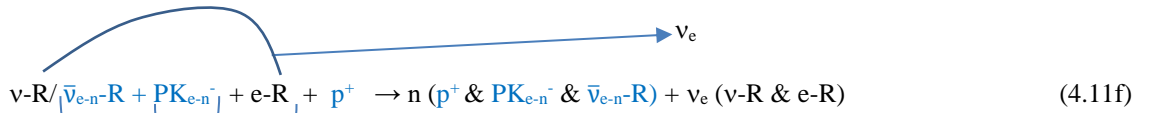
This interaction energy has influenced the inside of the electron. There it lets condensate the single and lonely electron protocosm from PK_e^- to PK_n^- . Also the body of the electron $e-R$ has been shrunk by condensation to the state e_n-R like inside the neutron:



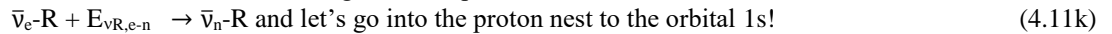
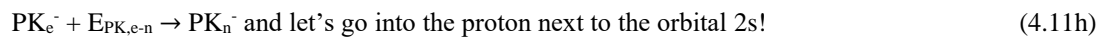
Likewise, the top PK_p^+ of the proton could condense if the energy would continue to increase but not reversed (they cannot continue to evaporate):



The shorted mechanism of the proton-into-electron falling without ΔL , then it is the following by formation of a neutrino body pair $v_{n-e-R}/\bar{v}_{e-n-R}$ (resp. $\Delta^o L_z^o$, energy difference is equalized). The energetically activated electron e^- is expressed of $PK_{e-n^-}/e-R$ (arrow to above):



The electron neutrino is made from the protocosms of the neutrino body and of the electron body. It immediately flies away (action = reaction, inside of a matter system!). The body of an antineutrino includes momentum energy because it is the largest elementary particle externally the lightest and internally the smallest masses. After the electron body together with the neutrino body as electron neutrino was going away, the one electron protocosm remains negatively charged. It and the antineutrino body come into the proton and rotate then on the orbitals of the proton, which now is a neutron. I extended the index here with the sign “n“. Both additional partons in the proton temporarily remain captured inside the neutron:



This is essential: by the extreme *internal* energy, as well as the protocosms of the electron PK_n^- and the body of the electron antineutrino \bar{v}_n-R will be condensed inside their sub-protocosms so that they drift into the proximity of remaining rest energy or rest mass of the proton protocosms dependent on their relativistic velocity. But they form their own internal and external relations. What chance do they have to be involved? Naturally only there where are vacant orbital positions. Therefore the electron protocosm goes into the second cosm sentence of the proton, into 2s. But the antimatter body is repulsing of the complete ordinary matter body of the proton. It is flying faster than all the others. This way, it only can rotate above in the orbital 1s resulting in addition of the effect of matter and antimatter to the spin zero. It gets zero only by the same rotation sense of matter and anti-matter!

Both even participate at the internal interaction, evaporate partially and certainly to the complete system. They consequently give their part of mass M_{PK_e} and antimass \bar{M}_{v-R} and condense again this way as they would become protocosms of the proton. But the one at the top is an antiprotocosm emitting less antimass. There are protocosms or bodies consisting of protocosms.

Theoretically, completely seen from the outside, the protocosm PK_e together with its antineutrino body had to give a change of the external mass Δm of $1.2909 \text{ MeV}/c^2$, which would let increase the proton mass m_p of $938.2796 \text{ MeV}/c^2$ onto the neutron mass m_n of $939.5705 \text{ MeV}/c^2$. Nuclide neutrons are still lighter. They expand the more they have emitted their part of binding energy.

But all changes are caused by the changing at the inside. The negative mass difference $\bar{M}_{v-R} + M_{PK_e}$ is resulting from that heavier antimass above in the orbital 1s. In the end, so a smaller negative mass difference $\Delta\bar{M}$ results inside the neutron. This negative amount reduces the complete internal proton mass M_p to the internal mass of the neutron M_n . With eq. 4.1 now the higher external mass of the neutron m_n is resulting from the proton mass m_p . Using a table calculation, I gave a model about this process. Taking out both lepton partons from the neutron in this calculation completely like a negative pion, the proton comes back.

Naturally, I did it introducing a model experiment. It is possible that there are different shifts. But one thing is clear. The sizes give exact dimensions. In section 6 we will work out the quantitative examination. Expressed with summary symbols (eq. 4.9.2e), the fall of the proton into the electron runs with ΔL -pairs that one part becomes unnecessary. ΔL is just a model code:



A pair of lepton shifts $\Delta L_{e^+} / \Delta L_{e^-}$ (or only the $\Delta^0 L_z^0$) is generated. The proton electromagnetically attracts the negative part ΔL_{e^-} combined with condensation energy. So it changes into the ΔL_{n^-} inside the becoming neutron. The electron attracts the positive part ΔL_{e^+} . Combined with energy support of the collision, the negative part changes into the neutron state. The positive part annihilates the protocosm of the electron so that only its body e-R remains connecting now quiet simply into the electron neutrino. Look, this was it!

4.12 Beta-Plus-Process without Quarks

A proton doesn't decay into a neutron. It will be built up into a neutron using energy E_n forming pairs from the [lepton protocosms](#). But this energy E_n don't reaches for a pion pair, it can arrive as high that pions can be emitted by the energy $E_{2\pi}$. Now it seems to be clear that my hypothesis predicts: the proton will be *loaded up* with different partons. So my hypothesis contradicts the quarks theory when the proton only would exchange one quark with the neutron, d against u. My uploading looks like this construction:



From that energy E_n , a protocosm pair will be formed – a neutrino body pair and an electron body pair. While they come together, this energy do not reach neither for an electron-positron pair nor for a neutrino pair. An electron body pair is missing (if it was built one times in the neutron, it falls back again). Therefore we have this exchange and this insertion of the part rests into the proton. Also this variant is possible using a pion:



A lambda Baryon Λ appears now as it was a neutron n, which gave its partons an extra of energy as a feature of $\Delta E_{(n-\Lambda)}$. It is bigger loaded by internal condensation than the neutron by the energetic comparison to 939 MeV + 177 MeV = 1116 MeV. This additional energy $\Delta E_{(n-\Lambda)}$ reaches realizing the pion state:

$$\begin{aligned} \Lambda^0 &\equiv n(p^+, PK_n^-, \bar{\nu}_n-R) + \Delta E_{(n-\Lambda)} \equiv \Lambda^0(p^+, PK_{\Lambda^-}, \bar{\nu}_{\Lambda}-R) \\ \mathcal{E}_\Lambda &= \underbrace{\mathcal{E}_n}_{\text{neutron}} + \Delta E_{(n-\Lambda)} = \underbrace{\mathcal{E}_\Lambda}_{\text{lambda}} \\ \Lambda^0 &\rightarrow n(p^+, PK_n^-, \bar{\nu}_n-R) + \pi^0(PK_{\pi^0}, \bar{PK}_{\pi^0}, H_\mu). \end{aligned} \quad (4.12,1)$$

$\Delta E_{(n-\Lambda)}$

Lack of energy, a neutron never decays into a pion and proton. Here you see the changing of lambda into proton:



$$\mathcal{E}_\Lambda = \mathcal{E}_n + \Delta E_{(n-\Lambda)}$$

The condensed PK_{π^-} -pair (marked in green) from eq. (4.12,1 and 2) annihilates, emits difference energy, and the antineutrino body $\bar{\nu}_{\pi^-}\text{-R}$ comes in at this position of the antiprotocosm $\overline{\text{PK}}_{\pi^+}$ into the zero pion becoming the minus pion. In this process the system loses energy while the transition of the zero pion into the minus pion. The rest mass of the minus pion is $4.59 \text{ MeV}/c^2$ bigger than the rest mass of the zero pion because the stored internal energy is bigger inside the minus pion.

This is the exchange of both single partons, which change the pion features into each other combined with energy exchange by what the pion states of the partons can be changed into electron states and vice versa! Virtual things are not necessary for such a process.

The decay channel is dependent on annihilation or non-annihilation of the lambda Baryon partons. It starts by formation of a Higgs block:

$$\Lambda^0 \rightarrow p^+ + \pi^- (\text{PK}_{\pi^-}, \bar{\nu}_{\pi^-}\text{-R}, H_{\mu}) \text{ within } 63.9\% \text{ of all decays (Wikipedia).}$$

$$\Lambda^0 \rightarrow n (p^+, \text{PK}_{\pi^-}, \bar{\nu}_{\pi^-}\text{-R}) + \pi^0 (\text{PK}_{\pi^-}, \overline{\text{PK}}_{\pi^+}, H_{\mu}) \text{ within } 35.8\% \text{ of all decays (Wikipedia).}$$

$$\Lambda^0 \rightarrow \text{consists of } p_{\Lambda^+} \text{ \& } \text{PK}_{\pi^-} \text{ \& } \bar{\nu}_{\pi^-}\text{-R} \text{ oder } p_{\Lambda^+} \text{ \& } (\Delta L_{\pi^-}).$$

A lambda Baryon consists of a completely internally energetically elevated proton (condensed proton body) and higher condensed electron protocosm as a pion-protocosm and a condensed antineutrino body.

This means:

Mesons are packages of lepton shifts. The more they externally become heavier the more they are internally condensed.

But the craziest particle is the proton. You can load up it with partons of the leptons, so of electrons, muons and taons as well as of electron antineutrinos, muon antineutrinos and tau antineutrinos. As soon a pair of lepton bodies comes along, then a pair of lepton pairs can be restored and loaded down. The proton is a ‘‘pack donkey’’ in all the features of successively heavier baryons. Its body pairs are restorer and mass donor for the loadings returning to the reality. If e. m. and g. m. wave energy quanta meet themselves (generally symbolized with \mathcal{E}_{wgq} , but here with $\mathcal{E}_{n-e(1,2)}$) at each of the three single protocosms of the proton then they generate three pairs, first a pair of condensed electron neutrino bodies:

$\nu_{n\text{-R}}//\bar{\nu}_{n\text{-R}} (\Delta L_z^0)$ and secondly a pair of electron bodies $e_{n\text{-R}}//\bar{e}_{n\text{-R}}$ (H_{e-n} Higgs-Boson) and third corresponding to them as they were pre-steps of the electrons-positrons in the pre-feature of else a pair of the charged protocosms of the electrons $\text{PK}_{\pi^-} // \overline{\text{PK}}_{\pi^+} (\Delta L_n^0)$. Briefly said: an electron pair and a neutrino body pair are generated, but they do not match together. So the neutrino and the positron are escaping.

For it the mechanism is:

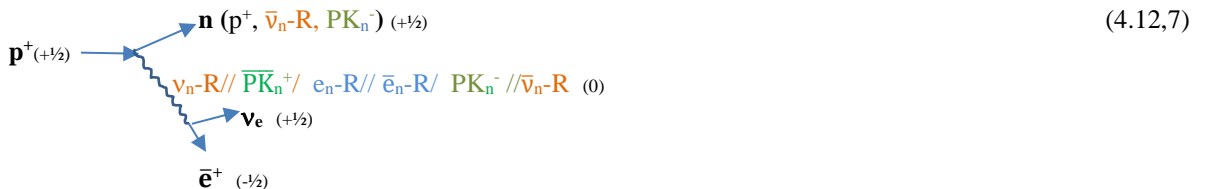
$$\nu_{n\text{-R}} + e_{n\text{-R}} \rightarrow \nu_e + \mathcal{E}_{n-e(1)} \tag{4.12,3}$$

$$\bar{e}_{n\text{-R}} + \overline{\text{PK}}_{\pi^+} \rightarrow \bar{e}^+ + \mathcal{E}_{n-e(2)} \quad (H_n \text{ \& } \Delta L_n^+ \text{ over cross!}) \tag{4.12,4}$$

$$p + \bar{\nu}_{n\text{-R}} + \text{PK}_{\pi^-} \rightarrow n \quad (\Delta L_n^-) \tag{4.12,5}$$

$$\text{Balance: } p + \mathcal{E}_{n-e(1,2)} \rightarrow n + \bar{e}^+ + \nu_e . \tag{4.12,6}$$

Inside the proton a strongly condensed electron antineutrino body and a strongly condensed negatively charged single electron protocosm remain.



$x \text{PK}_{e^-} + x \overline{\text{PK}}_{e^+}$; x is integer, natural, dividable by 2, has no magnetic moment and no externally active electric charge.

Electron neutrino $\nu = \text{electron body } e\text{-R} + \text{electron neutrino body } \nu\text{-R}$ or also

Electron antineutrino $\bar{\nu} = \text{positron body } \bar{e}\text{-R} + \text{electron antineutrino body } \bar{\nu}\text{-R}$. (4.12,10)

The electron neutrino body consists of its mass block $y \text{PK}_{\nu} + y \overline{\text{PK}}_{\nu}$; y is integer.

Remember! Using the „quarks model“, the proton has to be changed by its intrinsic structure because physics gave it only three quarks. From this construction the assumption follows, it could be decaying itself. Please compare it! The delta Baryon Δ^+ has the same quarks as the proton „uud“, what cannot be right without additional conditions of more charges.

Using my protocosm model, the proton is a spatial individual. It is uploaded with a negative electron protocosm and an electron antineutrino body as well as with e. m. and g. m. momentum energy. But its internal origin structure will not be changed. By this cohesion, it remains forever. Only temporarily it becomes a neutron or the other unstable baryons of more external mass. When the neutron emits the loading in the feature of the negative electron-PK and the electron antineutrino body and also the momentum energy forming electron protocosm pairs, it will be again exactly and individually that proton as it was before the change. Seen reversed, the proton simply will be packed out being the aim of the Creation.

In the same way, a negative protocosm of a muon or a tauon together with an antineutrino body of a muon antineutrino or of a tau antineutrino coupled with momentum energy change the proton into heavy baryons and back to itself. Combinations then lead also to combined and unstable states, but in the end of the decay back to the same proton that behaves like an accumulator.

But if the energy just reaches for electron and electron neutrino reactions of the “weak interaction”, pions still cannot be built. If the necessary energy is arrived then the partons in the features of the electron-positron-PK and the electron neutrino bodies and their antis will be coupled into charged or uncharged pions. Their internal spaces then are uploaded with a condensed level of energy. It could be a muon state.

In spite of all, these heavier becoming particles aren't real protocosms. I called them “cosm seeds“, but now radiation cosm. They will be denser by packing energy. But they don't eat external masses. Protocosms will be lighter if they eat mass and energy. They will become heavier if they only eat energy, which condenses their sub-protocosms. Consequently, we must arrive an energetic point at, which we will be able to add all the condensed particles into one protocosm. Should the researchers succeed in doing this in practice, they will no longer be able to determine the further course of the experiment. At some location the PK, which relativistically migrated from the apparatus, will open up and cause its inevitable damage in the amount of the entire stored energy. Gun freaks could get stupid thoughts here. That thing would be the most dangerous weapon of all the time.

4.13 Beta-Minus-Process without Quarks

A neutron can decay in the electron channel or as lambda version in the muon channel: (4.13.1)

$$n(p, \text{PK}_{n^-}, \bar{\nu}_{n\text{-R}}) \rightarrow n(p, \text{PK}_{n\text{-e}^-}, \bar{\nu}_{n\text{-e}\text{-R}} + e\text{-R} / \bar{e}\text{-R}) \rightarrow p^+ + e^- + \bar{\nu}_e \text{ or } n(p, \Delta L_{n\text{-e}^-} + H_e) \rightarrow p^+ + e^- + \bar{\nu}_e$$

$$\Lambda(p, \Delta L_{\Lambda\text{-}\pi^-} + H_{\Lambda\text{-}\mu}) \rightarrow p^+ + \pi^- (\Delta L_{\pi^-} + H_{\mu})$$

The higher energy inside the lambda Baryon doesn't create an e-R pair, but remains at the protocosms changing them into pion protocosms, which can be carried away directly being a negative pion.

Every pion carries away the completely unnecessary loading from the lambda Baryon!

Vice versa, the proton internally generates parton pairs of both pion and antipion by energy support:

$\nu_{\pi\text{-R}} / \bar{\nu}_{\pi\text{-R}}$ & $\text{PK}_{\pi^-} / \overline{\text{PK}}_{\pi^+}$ & $\mu\text{-R} / \bar{\mu}\text{-R}$ (ΔL_{π^-} & ΔL_{π^+} & H_{μ}). From this, the exchanged parts remain at the proton becoming a neutron because the plus pion becomes real and disappears $\pi^+ = \Delta L_{\pi^+}$ & H_{μ} .

It is essential: a PK of an electron must be condensed into such a PK-state, which should be packed inside the proton. Realizing this, externally less but internally gigantic energy amount is necessary. From about 600 keV onto some GeV is considerable. Signing this process I gave the symbol $\Delta E_{e\text{-n}}$. It means that the momentum

energy E_e closed inside the receptacle cosm will increase from the given rest mass times c^2 of the normal electron protocosm PK_e^- onto the momentum energy of the nucleon E_n to be the nucleon protocosm PK_n^- . This internal energy E is relatively an external energy \mathcal{E} at the protocosm:

$$\mathcal{E}_n = \mathcal{E}_e + \Delta\mathcal{E}_{e-n} \quad \text{resp.} \quad \Delta\mathcal{E}_{e-n} = \mathcal{E}_n - \mathcal{E}_e$$

Some less condensation is necessary for the increase from the muon energy onto the neutron PK energy:

$$\mathcal{E}_n = \mathcal{E}_\mu + \Delta\mathcal{E}_{\mu-n} \quad \text{resp.} \quad \Delta\mathcal{E}_{\mu-n} = \mathcal{E}_n - \mathcal{E}_\mu$$

Totally extreme will be the condensation of the antineutrino body onto the energy of the proton protocosms in the orbital 1s. From about 125 eV onto some GeV is extreme with $\Delta\mathcal{E}_{\nu R}$. Therefore we especially have to note this storing of energy:

$$\mathcal{E}_{\nu R n} = \mathcal{E}_{\nu R} + \Delta\mathcal{E}_{\nu R-n}$$

But also the protocosms of the proton PK_p themselves are not spared if the stored momentum energy \mathcal{E}_{PK1p} will be increased up to $+\Delta\mathcal{E}_{p1}$.

$$\mathcal{E}_{PK2p} = \mathcal{E}_{PK1p} + \Delta\mathcal{E}_{p1}$$

Then, also the proton protocosms close themselves. They also will be condensed starting from $n=1$ (orbital 1s) to 2s etc. down to xs. Because each parton participates at the condensation processes the energy balance becomes successively complex.

Inside of the free neutron, the electrogravitational momentum energy or supported energy to the nucleon neutron generates an electron body pair, especially an electron body and a positron body $e-R$ & $\bar{e}-R$ together (as they were a Higgs boson H_e):

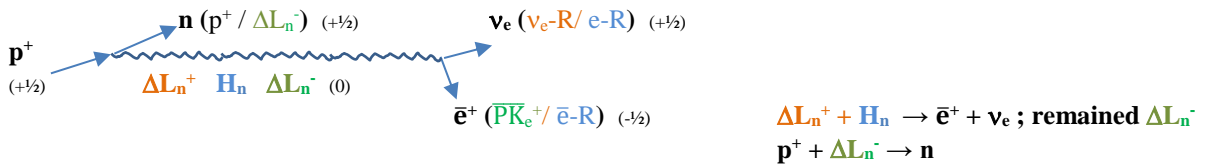
$$n (E_{eR\text{-pair}}) \rightarrow p^+, e^-, \bar{\nu}_e .$$

We find this mechanism for it (the small index “n” means “neutron”):

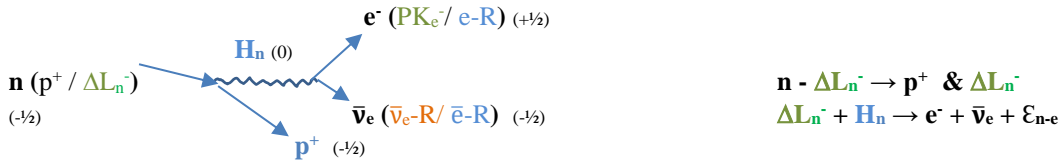
$$\bar{\nu}_{n-e-R} + \bar{e}-R \rightarrow \bar{\nu}_e-R + \bar{e}-R + E_{\nu R, n-e} \rightarrow \bar{\nu}_e + \mathcal{E}_{\nu R, n-e} \quad (4.13,2)$$

$$PK_{n-e}^- + e-R \rightarrow PK_e^- + e-R + E_{PK, n-e} \rightarrow e^- + \mathcal{E}_{PK, n-e} \quad (4.13,3)$$

The neutron n „minus“ both uploads $\bar{\nu}_n-R$ & $PK_n^- \rightarrow p^+$ gives back the proton & energy. To compare this process here to the change of the proton into the neutron as eq. (4.9f):



It can be mirrored below or ordered in balance for the spin zero at H_n in β -minus:



This can happen with a positive pion at a neutron. The pion gives a neutrino body and a positron protocosm. After it both partons of neutron and pion will be annihilated. You see, the pion consequently consists of these both above called partons with more energy as in the neutron. While the decay it includes at the same time one pair of muon-antimuon bodies H_μ coupling directly into both leptons (a muon is essentially probable):

$$n + \pi^+ \rightarrow p^+ \quad \text{resp.} \quad \pi^+ = \Delta L_{\pi^+} + H_\mu \quad (4.13,4)$$

The pion decays in a turn over the muon until all partners bring over the energy by pairs. We agree that the wave energy \mathcal{E}_w always consists of e. m. and g. m. parts, of \mathcal{E}_{wq} and \mathcal{E}_{wg} to \mathcal{E}_{wgq} , but in macrocosm differently distributed than in microcosm.

The ordinary protocosms of the electron body pair e-R-pair bind themselves with the condensed electron protocosm PK_n^- from the neutron (from the energy store because of the condensation) into the electron while decreasing of gravitational energy, AND the anti-PK of that system restore that energetically decreased electron antineutrino body $\bar{\nu}_e$ -R into a complete electron antineutrino $\bar{\nu}_e$.

For points like science assumes for elementary particles, the problem of intrinsic rotation would be unsolvable.

In movement I see the electron coming free from its internal orbital layer position. Until now, I assumed the track positions would alone determine the so-called handedness while the weak interaction. But pardon, in the end it couldn't be turned around correctly. So I casually discovered this cohesion:

The PK_n descendent of the electron rotates in the orbit 2 of the neutrons while the antineutrino body is in the track 1. The negative charge of that PK_n^- leads to a definitely and always equal rotation sense of the track. Consequently, this leads to always equal direction sense of that PK_n by what this PK_n always rotates with the same sense. You would see it better if you would place the track plane on the edge. Then the electromagnetic vector of the PK_n shows either to the left or to the right with its north-pole peak each of the position of the track plane. It's always the same geometry! Never, it is reversed.

By looking behind the south-pole towards the north-pole, we see the PK_n as a left-hand screw. A negative charge turned to the left causes a positive direction of the magnetic vector, so into north direction. So much for the description of the inside of the neutron. But why is this PK_n while its meeting with an e-R always emitted into this north direction, from, which one concludes, the antineutrino would be determined by the counter momentum?

In this moment when an e-R-pair e-R & \bar{e} -R resp. H_e is just generated, the counter-process is running by annihilation. At the annihilation and then in vacuum, the momenta of both partons together stand on the size of zero. I have to note that it is currently assumed that mass has no vector between matter and antimatter. Or in other words: matter and antimatter would be equally effective. But my model starts with the premise that mass and antimass are primary *contrasts*. That's why I shape the momenta with their vectors (1, p 391 and 407f, III a). Both, the momenta of e-R and \bar{e} -R show after annihilation and in vacuum remaining into the same direction. Only this way, they are able to be congruent with the size of zero. The e-R turned to the right gives the positive momentum, the \bar{e} -R turned to the right gives the negative momentum, together zero!

To separate when pair formation, nature needs an e. m. photon. I alone still know the g. m. fallon. That photon or/and fallon consequently separates the in vacuum bound e-R-pair into the bodies e-R and \bar{e} -R moved with the same rotation sense at the inside of the neutron. These both press now the newly formed particles electron and antineutrino perpendicularly out of its orbit. After this it is possible to emit them either individually or as negative pion.

Let us now proceed from further events, when the e-R connects itself with the PK_n of the electron inside the neutron. If the momentum of the e-R would turn against the momentum of the PK_n , no emission could result. Therefore, the momentum of the just arising e-R connects with the always given momentum of the PK_n by, which it always is emitted into the same direction, tilted with 90° to its track plane. So I see left-handedness of the emission of an electron from the neutron fundamentally. In the same cause, right-handedness is given while emission of the positron from an antineutron.

Starting from this acknowledge, proved by the electromagnetism, one thought that the neutrino had to carry the counter momentum in relation to the charged leptons (action = reaction). Until now mass and antimass are theoretically the same. Naturally, physics had to assume the opposite handedness. Antineutrinos had to be emitted with right-handedness, neutrinos with left-handedness. This assumption you couldn't prove directly until now. Something or someone had to rotate along with a neutrino. But this did not happen.

Since I start from the opposites of mass and antimass, it is unfortunately exactly reversed. Although the antineutrino emits itself repulsing from the neutron to the electron, nevertheless it also turns to the left like the electron. The reason is the following: an antimass turned to the left generates a positive g. m. momentum. A negative e. m. charge turned to the left makes a positive e. m. momentum. A positive mass of the electron turned to the left causes a negative g. m. momentum. Yes, until now, you only know the e. m. momenta at the particles separating them by magnetic indication. Don't forget! There is no balance between internal and external angular momenta with their size, but only with their sense! How particles should turn massively is an absolute mystery to this day, despite various attempts of explanation.

The rotations of the particle masses you can prove neither with “indications by dragging along“ nor with direct observations. Using an indication by dragging along, I could imagine a pin running along the particle. The dragging direction would discover the rotation sense. But those romantic imagines cannot be realized, absolutely. Particles in the past were not directly identified. Never it will be so. You only are able to indicate their wave quanta by real measurements. And with it, the real rotation sense of the masses remains in the dark (it is like in the past as we used the technical direction of an electric current from plus to minus pole, but it is really reversed). You only have the chance or a theoretical assumption that mass and antimass behave as we are used to momentum conservation and to our experience. But this is the conclusion of my model: masses and anti-masses behave themselves unusually at the momentum conservation as I showed you above.

In this way, I found an explanation of the observed momentum direction of the emitted electrons at the beta-minus-process concluding on their left-handedness from my theory. I think that here the Creation established the same order forever, for whatever reason. Unfortunately, from my theory follows no right-handedness for antineutrinos but again a left-handedness. I mean that beneath those protocosms, which have to be emitted, there are always the same protocosms, which evaporate there. That’s why, at this position always the same emission direction will be resulting. This leads to always the same handedness of the emitted electrons together with their antineutrinos. I could research it. Fact is that there are enough protocosms inside the neutron, which can cause such a thrust while their evaporation.

Conclusion: the interior of a neutron n generates PK_n-pairs from momentum energy E_w growing out of its intrinsic horizon, restores with it the electron antineutrino $\bar{\nu}_e$, the electron e and the proton p. This system is a kind of decay into the stable proton, electron, and antineutrino! If still more energy is given, at the inside of a neutron, a muon neutrino body pair has been formed, which then starts the decay over a pion.

A neutron meets the inside of an electron neutrino by flying into it. The neutron cosm is actually about 470,000 times smaller. There it interacts gravitomagnetically. What does happen? Answer: the PK_n⁻ hanging at the neutron, connects itself with the electron body e-R won from the arriving neutrino forming the electron e⁻, which flies away by a part of the condensation energy $\mathcal{E}_{PK, n-e}$:

$$PK_{n-e}^- + e-R \rightarrow e^- + \mathcal{E}_{PK, n-e} \quad (4.13,5)$$

They are much closer to each other due of their cosm size. At the neutron still remain that body of the just incoming electron neutrino ν_e-R plus a part of the condensation energy at the inside $E_{PK, n-e}$ and the body of the still condensed and given electron antineutrino $\bar{\nu}_n-R$ (evaporating to $\bar{\nu}_e-R$) to the neutron. This pair annihilates itself. It does not radiate electromagnetically but **gravitomagnetically only at the inside of the baryon**. It goes into the gravitomagnetically caused energy of the proton:

$$\nu_e-R + \bar{\nu}_{n-e}-R \rightarrow E_{wg}, \quad (4.13,6)$$

Expressed in a summary:

$$n + \nu_e = n (p, PK_{n-e}^-, \bar{\nu}_{n-e}-R) + \nu_e (e-R, \nu_e-R) \rightarrow p + e + \Delta\mathcal{E}_{wg}. \quad (4.13,7)$$

But a neutron with an antineutrino just can be a neutral beam. If the energy is higher than for simple formation of electron-positron results, then pions arise. They decay finally giving the expected electron-positron products. The highest energy comes into protons forming there W and Z bosons from which in the end all the decays result to pions but also to electron-positron results inclusively their neutrino types.

4.14 The Inside of the Eternally Stable Proton

Inside the proton we find a mass block made of quadrupoles of ordinary matter protocosms especially for protons. Each of these quadrupoles has 2 PK_p⁻ and 2 PK_p⁺ briefly **2x PK_p⁺**. Each mass block with every quadrupole is electrically uncharged, nonmagnetic in both features e. m. and g. m. But it is loaded with masses. In each cosm sentence KS (in each quadrupole) with an intrinsic and specific mass, all together are the sum of the complete proton mass block.

Above this block (from the center seen it is the proton body p-body, symbol: p-R), in the orbital 2s, three protocosms are rotating: 2PK_p⁺ and 1PK_p⁻. In the orbital 1s, there are two PK: 1PK_p⁻ and 1PK_p⁺. These protocosms in the second and the first row next to the amplitude open themselves at such levels, which *aren't* known until now. The complete internal mass M_{PK} till their sub-structures of the protocosms with their SPK, SSPK etc. must have been emitted. Otherwise, the system would not have opened by anticollapse resp. evaporation.

But the top PK_p of the protons aren't identic with the top PK_e of the electrons respectively the positrons. Because I give to the system already the mass of protocosms inclusively the protocosmic bodies of the particles, the "quarks-system" has been blown up. I say: the partons of the protons are determined of five integer and charged protocosms of the protons. They remain decisive inside of all known baryons from lambda till omega in the same way, too. But you have to add the *mass block. It is no common feature. For every stable particle the mass block has its own measure.* So I begin my construction of the proton remaining eternally as followed:

$$p^+ = PK_{p1}^{++} \& PK_{p2}^{++} \& p-R. \quad \text{Vice versa the antiproton: } p^- = \overline{PK}_{p1}^{-+} \& \overline{PK}_{p2}^{-+} \& \overline{p}-R \quad (4.14,1)$$

Only one explanation remains: *the interior of the proton projects its energy levels, and it provides its own cosm being a carrier of the temporarily loaded bodies, resp. the protocosms of the leptons.*

From these conditions then unstable baryons are formed, which can be formed back to the protons and the products of the weak interaction. The proton stands in the center of all the change processes while it doesn't change itself, but it remains as building block individually even if it will be pushed to positive Baryons. **It will be uploaded and downloaded as if it were an accumulator for particle bodies and particle protocosms as well as their wave length.**

20 years ago I already meant, the protocosms of the proton would be distributed over 2 cosm sentences. Namely, I searched for the cause that they make three times of the Bohr magnetic momentum by their movement inside the proton. My solution was that in 1s two PK would rotate, and in 2s only one. I was irritated by the thought of three "quarks" (I was confused by all the baloney). But it's very different. *In the first orbitals, there are 5 decisive partons:*

In the KS1 of the proton and its quantum number 1s, a positive protocosm rotates to the right and a negative protocosm rotates to the left, dependent of your position to the proton. Just now, their magnetic momenta add themselves: the intrinsic from the bound rotation (spin) and the spins of the orbital tracks. In KS2 of the proton and its quantum number 2s, three protocosms rotate there, the one is negatively charged, the next both are positively charged, the negative PK rotates to the left, that positive PK also to the left. Just, their magnetons are equalized, their track spins and their charges. They do not play any role at the outside. But their location is filled, no other protocosm is able to take place here.

Now the additional positive PK in 2s plays its role. It rotates to the right and generates a smaller positive magnetic momentum. We add all the tree momenta and get less than 3 times the nucleus magneton of Niels Bohr. Their rotation tracks describe produce these three added magnetic momenta. Using the Pauli principle, they would be forbidden. But the first both PK on the top have a different charge and a different mass than the three PK deeper in 2s. These three PK aren't different in mass but in charge and rotation sense. So the Pauli principle is approved. And at the same time, the color charge of the "quarks" is unnecessary. The difference of the heights of the orbitals of the protocosm locations determines the well-known magnetic momentum of the proton without the particle itself had to rotate around its own axis. This is also decisive for the neutron, which does not rotate by itself.

Intermediate remark! Higgs bosons are not necessary anymore. Also color charges of are unnecessary like "quarks" themselves. The proton consists of five active protocosms: 2 PK in 1s, 3 PK in 2s and one mass block with 12 PK in 2p, which is completely equalized with quantum numbers but not after addition of the mass effects.

Proton Overview 4.14a

Q	M	RS	$\bar{\mu}$ -B	\hbar -B	\hbar -S	
G		1R				empty
+	G	2R	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	empty
	G	1L				
-	G	2L	$\frac{1}{2}$	$-\frac{1}{2}$	$-\frac{1}{2}$	
+	G	1R	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	empty
	G	2R				
-	G	1L	$\frac{1}{2}$	$-\frac{1}{2}$	$-\frac{1}{2}$	
+	G	2L	$-\frac{1}{2}$	$-\frac{1}{2}$	$-\frac{1}{2}$	
+	G	L	1,5	$-\frac{1}{2}$	$-\frac{1}{2}$	

Neutron Overview 4.14b

Q	M	RS	$\bar{\mu}$ -B	\hbar -B	\hbar -S	
-G		1R		$-\frac{1}{2}$	$-\frac{1}{2}$	Antineutrino body
+	G	2R	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	empty
	G	1L				
-	G	2L	$\frac{1}{2}$	$-\frac{1}{2}$	$-\frac{1}{2}$	
+	G	1R	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	PK of the electron
-	G	2R	$-\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	
-	G	1L	$\frac{1}{2}$	$-\frac{1}{2}$	$-\frac{1}{2}$	
+	G	2L	$-\frac{1}{2}$	$-\frac{1}{2}$	$-\frac{1}{2}$	
0	G	R	1	$-\frac{1}{2}$	$-\frac{1}{2}$	

In both overviews, three orbitals of 2p aren't taken in account. Every orbital of three spatial areas of 2p is filled with four protocosms of the proton. The quantum numbers are equalized analogously 2s of neutron, but where is one PK of the electron. The electric elementary charge Q is integer + or -. The mass charge M is positively gravitation with +G and negatively with -G. Using RS, I mark the rotation sense of the PK-track in the orbital. R is right, L is left, inclusive parity orbit 1 or parity orbit 2. The track momentum $\bar{\mu}$ -B is a half countered magnetic momentum. Being Bohr's magneton of the nucleon μ_N , it will be expressed by integer numbers. Orbit spin \hbar -B and spin \hbar -S of the protocosms result from the bound rotation. They always have an equal rotation sense.

For example. If an antimass protocosm rotates to the right, so its orbit spin becomes negative. But if a mass protocosm rotates to the right, so its orbit spin on its track is positive. The proton allows more building variants. The PK of the electron is about 20times lighter than the PK of proton. It will be really built into 2s, but it are able to fly up to the height of the new amplitude without opening (evaporating) itself. Actually, it moves in the upper shell of the neutron together with both proton-PK and that antineutrino-body that was also coming in. That top shell is called Upper Shell.

Contrarily, this antineutrino body may go into 1s in orbital 1L, and then the electron protocosm goes into 1s in orbital 1R. This type of neutron I call the hot neutron. It has been just arising from collisions. The result of the spins is not zero like at the free neutron, but the spin is one, which the W boson comes from.

Free locations inside the orbitals can be filled of a positron protocosm and a neutrino body. Now that proton would be changed into a positively charged twice Baryon.

Deviating from the expectation, we get gyromagnetic momenta of about 3 resp. 2 times of the nucleon magneton μ_N . The first cosm sentence is given by the quantum level 1s. The second 2s will be continued with 2p. Because the protocosms of the second cosm sentence (of the second quadrupole) rotate lower, they reduce the magnetons like known to $2.792847 \mu_N$ at the proton or $-1.9130427 \mu_N$ at the neutron in combination to nucleons. In the atom nucleus they stand reversed as it is usual with electromagnetism effects.

Because of the electromechanical parallelism of the classic physics, the science speculated on a parallel of the e. m. spin – of the magneton – with the angular momentum of the point-like particle (which couldn't work anyway). So is was given parallelly. Positive e. m. spin (positive magneton) equals $+\frac{1}{2} \hbar$ and vice versa. But the particles do not rotate for generating their magnetic momentum! I have emphasized it several times. **Magneton result from the rotations of the protocosms inside of their receptacle cosms.** Therefore, they cannot be determined from all the possible orbital areas and of the sub-protocosms, sub-sub-protocosms etc.

In the second cosm sentence, the positive surplus of the charge is effective. So here this picture appears, which was drawn by Hofstadter when protons were shot with lower energy (cf. 1, section 4.5): at the beginning of the approach, we see **common positive potential** followed by a **negative potential**. Both first PK of the proton are acting there in 1s with a positive and a negative elementary charge. In the end of the approach at 2×10^{-16} m, the **hard positive potential** has been arrived. This area 2s using my model is about 1×10^{-17} m deeper than the protocosms in 1s. At this location where three points are standing, the mass block continues itself in 2p. More PK aren't inside the nucleons. They are forming the central mass block resp. the proton body or the neutron body, which quantum numbers are equalized except for the mass.

In my "Book Arcus I", I chose a different result of the structures. Here and now is my corrected version:

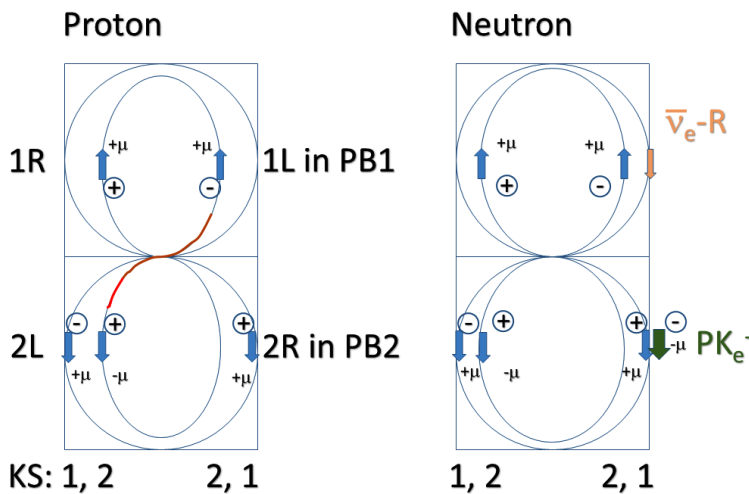
The amounts of the three magnetons I appreciated by decreasing of the radii of the parity orbitals. It is a result of my IOT that the protocosms now rotate on deeper tracks. From this the thesis follows that the magnetons are dependent from the height of these orbitals.

Designation of the Cosm: Proton (p⁺), (1, cf. section 4.8)

KS	QN	QZ, WQZ	
u n l m		G Q μ S	
1	1 L	(+) (+) (-) empty	
1s	1 R	(+) (-) (-) empty	Symmetry (2PK, 2 empty)
	2 R	+ "+" + +	+0.95652 $\bar{\mu}_{1/2(p)}$; " + " positive charge cloud,
	2 L	+ "-" + -	+0.95652 $\bar{\mu}_{1/2(p)}$; " - " negative charge cloud,
			Asymmetry (3PK, 1 empty)
2	1 L	+ "-" + -	+0.87981 $\bar{\mu}_{1/2(p)}$; " - " negative charge cloud,
2s	1 R	+ "+" + +	+0.87981 $\bar{\mu}_{1/2(p)}$; " + " positive charge cloud,
	2 R	(+) (-) (-) empty	
	2 L	+ "+" - -	-0.87981 $\bar{\mu}_{1/2(p)}$; " + " positive charge cloud,
Σ		+ +1 +2.8 -	$I = 2.79285 \bar{\mu}_{1/2(p)}$, $I_S = -1/2\hbar$, $Q = +1e_0$

There are following 2p as mass block. Magneton are appreciated.

Overview 4.14c: Proton and Neutron



Filling the orbitals, I developed the **Anti-HUND's Principle** inside any *cosm*. It means that first the central cosm sentences have to be completed. Therefore the PK_e^- (PK_n^-) comes into the second cosm sentence and there into the parity orbit PB2. This track remains open or empty in the proton. 1L and 2L belong together as I show it using the red approach line. The 1R in KS2 is missing its counterpart. But in KS1, 2 counterparts are missing. It may be constructed by mass of the protocosms because the neutron was earlier given while the evaporation of the universe protocosms. That's why the neutron just created protons, electrons and antineutrinos at its decay. Exactly assumed, the red signed pair of the parity orbit of the proton would belong to the body if it was not connected with the energy change there of condensation and evaporation of the electron protocosm. So everything gets more complicated.

Higher internal energy lift up the orbitals of 2s higher to the own amplitude in neutron than in proton. That PK of the electron is much lighter. It flies in 2s in the top inside the Upper Shell.

A further question remains: how do the partner particles proton and antiproton meet themselves? A classic opinion was an elastic impact of both spheres. Idealistically, it was a punctual impact. But really, there both rotating protocosms meet themselves by their wave quanta. You can compare it to billiard balls. While the frontal collision the greatest frequency of the hits will be not measuring. It think, they will be measured while the multiple

side collisions where you must know the angle calculating the braking mass. Yes, but who knows it? I therefore definitely doubt the assignment of the masses to the W and Z bosons from the frequency values.

Only a collision by momentum energy loads a proton changing into a neutron or into heavier Baryons. One assigned W bosons the frequency value of $80.38 \text{ GeV}/c^2$ and Z bosons of $91.18 \text{ GeV}/c^2$. These are *momentum energies* of the rotating partons on orbitals, which are the protocosms **inside the neutron and the antineutron**. These are not their rest masses! Because also the pions are not partons of the protons. Pions are a resonance to the energy of about 139.75 MeV of the “phenomenal rotation” of nucleons (1, p 549).

Admittedly, this momentum energy acting to the outside is composed of the energies of the body-like components. Bodies are only generated at the inside of the hadrons. So the energy of the Z boson is able to form as well as pairs of neutrinos over g. m. energy as also all the other particle pairs over e. m. energy. For example with Z^0 : a negative PK and a positive anti-PK, which can become an electron pair from the combination of an electron body and a positron body. But also from the energy extremely high of annihilation, each features of different pairs are possible. How the energy is distributed inside the proton has still to be found. Then one can draw the conclusion how big is the real rest mass of a protocosm of the cosm sentence 1s or 2s and deeper.

Let's turn the top to the bottom in the proton, the amplitude vector to the center. Then we are at the particle's Small Bang. There the mass will be exempt from an innumerable amount of protocosms and radiation escapes very large shifted to the red spectrum by the annihilation of the relation of ordinary protocosms M_{PK} and anti protocosms \bar{M}_{PK} as intended.

At the electron, this mass M_{PK} and \bar{M}_{PK} comes from still more innumerable protocosms and their antis next to each other. The electron is finer quantized, and so each mini protocosm sets free extremely small mass. This is the reason why, in this area a homogeneous cloud arises. Our scientists think, it would be the “Big Bang”. But it is not all. On the Small Bang, the evaporation of more protocosms is following. Their amount is successively smaller. But their internal mass and antimass is successively more. Always is the inside spectrum shifted to extremely red. This process is running until just the top protocosms next to the electron amplitude are opened for a short moment and immediately be burned back to the protocosms by returning radiation from the space above. Think at the principle, please! To get black as a cosm or as a black hole while one moment, this is only then possible, if exactly this energy amount comes back, which was sent before!

Though, at smaller pair formation energy as for protons, the protons meet themselves and form leptons. They interact with them while formation. We ask: why shouldn't the proton protocosms be arranged arbitrarily? Now we unfortunately have to find out: the universe is a holographic program following its software. If protons and electrons could make what they “wanted” by accident simply, then each neutron, each proton, and each electron would be a completely different individual. The particle world would be decay into an absolute chaos.

But we know that this not real. Every stable particle type is internally equal (equal in its structure), so the unstable particle types, too. Consequently, the parity orbitals of the protocosms are installed according to the program. There is no arbitrary or accidental track (or orbital). So the orbital of a wandering lepton protocosm PK_L^- is installed according to the program of the electron and the neutron. Never some PK could rotate the other way round. Never such a PK could accidentally adjust an own magneton.

Where do all the crazy scientific theses come from today? They come from the misunderstanding of the Stern-Gerlach experiment. And they come from the misunderstanding of the principle of the conservation of momenta.

Important is that electrons do not rotate. They simply have a magneton according to this feature they align or they let align in a magnetic field or in an orbital field of a new magneton. Only then they are able to rotate. Always there is a coupling, which makes a sense of the direction. One called the e. m. spin in parallelism just a spin (intrinsic angular momentum), although the electron don't have to rotate. But it rotates because it comes from a magnetic area of its track and because it has g. m. and e. m. momenta.

One could remain at the spin definition if one would add that the e. m. spin only is the direction sense of the given electromagnetic fields, if in the center of an orbital or at a particle (like a bar magnet). Then a positive e. m. spin would be the north-pole according to the arrowhead. A negative charged electron turned to the left, electromagnetically seen would make the north-pole peak in the direction of the view, therefore the positive magnet pole. The left hand surrounds the electron, shows the left-hand direction of rotation with the fingers and points with the thumb in the positive direction of the positive e. m. vector. This would be a left-handed electron with a positive e. m. spin orientation. The arrowhead as north-pole would fly ahead of the electron.

We start thinking of the gravitomagnetic interaction. A g. m. field arises to be a gravitational magnetic field. Then the left-handed electron has a negative spin of $-\frac{1}{2}\hbar$. The left-handed antineutrino had the positive spin $+\frac{1}{2}\hbar$.

With the momentum $p=mv$ it is also such a thing. Strictly described, it is just a special case of the angular momentum $I=mv r$ (v is the speed of a rotation track, r is the rotation radius). Why is this better? Einstein had explained that there are absolutely no straight geodesic, no straight lines. If you think, there seems to be something straight, so these are ideal cases of short distances.

In the reality all the physical momenta (and all of any impulses) are always angular momenta. Some radius, some distance to a pivot point always is given however big it may be.

Consequently, the parity orbitals of the protocosms are programmed, too. They add their magnetic momenta. Theoretically, if all the three proton protocosms PK_p would rotate on the amplitude of the proton according to their rotation senses of the orbitals, the momentum would equal $3 \bar{\mu}_N$. But they are rotating a little bit below the amplitude, also spatially angled (by what still less could be added), externally they generate about $2.7928 \bar{\mu}_N$.

Now we think at the incoming of the electron PK_e^- into the neutron. In the proximity of the neutron amplitude, this protocosm of the electron compensates a part of the momenta (of unknown angles) in its rotation track what is reserved for it. So the momentum of $1.91304 \bar{\mu}$ probably results for the neutron (relatively $-1.913 \bar{\mu}$ in the atomic nucleus).

4.15 The Lepton Protocosms

The electron protocosm PK_e^- from level 1s of about $496 \text{ MeV}/c^2$ is more than 4 times as heavy as a free muon. This is the rest mass that I predict in my model. Momentum mass is already high with $427 \text{ GeV}/c^2$. First mass block below would even have $513 \text{ GeV}/c^2$. The end was at $3 \times 10^{19} \text{ GeV}/c^2$. At relatively small relativistic velocities, the protocosm will already be effectively condensed, what means successively prevented from evaporation. If then additionally momentum energy comes in, so its substructures become the task to be energy stores as I explained them in the sections 4.1 till 4.3 as melting down the internal mass of the protocosm. The PK's internal mass decreases, its external mass increases. The PK will be condensed down onto a smaller amplitude. Certainly, the SPK and SSPK participate at this behavior. These protocosm modifications I call nucleon protocosms, lepton PK, tau PK and muon PK, for example. **Among a turn of variants**, parton states can be:

PK_e^- state is completely open at free leptons; PK_L^- state is completely closed. The sub-protocosmic state is also closed so that it arrives extremely much external mass m because of the extremely small internal mass M . Extremely small is the amplitude, too. Divergently approximated, such strange protocosms fit into essentially smaller space times like the proton. The external rest energy \mathcal{E} increases while the internal rest energy decreases by storing (condensation) in the sub-protocosms and deeper. There are innumerable energy states of them.

Why are the single protocosms of the charged leptons as also the electron-positron bodies and the neutrino-antineutrino bodies especially accorded to an electron body, muon body and tau body and an electron neutrino body, muon neutrino body and tau neutrino body?

The only explanation, which could be understood results from the amount of the quantizations of the lepton protocosms PK_L . In our hierarchy area, in the universe itself, the quantizations of the macro protocosms are extremely multiple so that one even assumes, the matter would be inexhaustible what really is *wrong*. The world is neither finite nor inexhaustible! If it almost was something of the above called features in the microcosm, in the lower hierarchy area of our being, then we would search for the structures of the particles eternally. Fortunately, in the microcosms everything is quantized more roughly. We thank Max Planck for his constant. You can simply imagine this constant as a feature of gum cuboid. It is flexible into each of the three directions mass, speed, amplitude, $m v r$, while conservation of the "volume" ($n\hbar="V"= m v r =\text{const.}$)! But it is limited inside. With this limit, the number of possibilities of substructures of the PK inside the microcosms is also limited. **After all, protocosms can be condensed to any depth, and they are able to be restored by evaporation processes.**

Inside the elementary particles, the gravitational momentum density is such extremely high that all the other elementary particles coming in there can be internally scaled down and externally becoming heavier that they can be integrated into the interior life by condensation of their sub-protocosms. A question remains. Why do the energies split up in these special quantum proportions? I think, the answer only an investigation of the protocosm distribution can give. This may be an equation of countless unknowns. I already know what for an internal mass must result in the end of calculations, and I know the quadrupole quantizations after the principle of Bohr's atomic model for both negative charges (of electrons there). But I have 2 negative and 2 positive charges in the quadrupole. Calculating with some simple table calculations, I tried to vary the masses of protocosms as long as

I found the masses of the stable particles like electron neutrinos, electrons, protons, and neutrons. Here one of my theses are important, which is: the top protocosms open themselves just for a short time period that their protocosmic masses M_{PK} still participates at the complete mass M_o of the particle. If this wouldn't be real, then these protocosms were allowed to overcome the horizon and to bring the particle to decay by falling out of another if the horizon would not match to the mass M_o anymore. Said with other words, the mass M_o had to be put together from all protocosms, starting from $n=2$ continuing until $n \rightarrow \infty$. Those PK from $n=1$ would give no internal M_{PKI} . But this I think is impossible. The reason is that *only a BWH, which is "sucked out" can be stable*. Therefore, the top begin of the electron structure could look like that:

4.15.1 Designation of the Cosm: Electron (e^-), (1, cf. section 4.8)

KS	QN	QZ, WQZ	
u n l m		G Q μ S	Asymmetry (Mass block + 1 PK)
1	1 L	(+) (+) (-) empty	
1s	1 R	+ "-" - +	-1.0011596 μ_B " -1e ₀ " negative charged cloud,
	2 R	(+) (+) (+) empty	
	2 L	(+) (-) (+) empty	
			Symmetries (Mass block)
2	1 L	+ "-" +	
2s	1 R	+ "+" +	
	2 R	+ "-" -	
	2 L	+ "+" - ...	
Σ		+ -1 -1 +	$I = -1.0011596 \mu_B, I_S = +\frac{1}{2}\hbar, \text{charge } Q = -1e_0$

Further orbitals follow down to 27e.

The top PK of the electron with its gravitational center is moving close below the amplitude. But with its electric charge it is moving above the amplitude. Resulting it arises a compound orbital momentum that I cannot calculate because of too much factors. I think that these circumstances could be the cause of the gyromagnetic momentum of about 1.0011596 (with factor two: 2.0023192).

4.16 The Neutron

In the case of leptons, the first state is the electron state, the second is the muon state, and the last is the tau state. At the proton the structure is more complex because there are five active partons on two different levels 1s and 2s. Inside the electron, there only is one single parton on level 1s. Definitely, we see boson pairs up to the vector bosons at certain intervals. I would like to establish a parallel to this. It consists of the "transport packages" of neutrino bodies, electron bodies, and electron protocosms (builder of mesons). If the energy is too low, these packages cannot be built. In our world feature, then antineutrinos and electrons become free. This procedure we profoundly call "weak interaction".

As soon the energy is enough for generating the first package feature, namely *pions* from collisions of normal matter, then the bodies are packed in them. Sometimes later they come free from them. Because of the higher energy, it couldn't be just electrons and electron antineutrinos. No, it could be muon neutrinos and muon antineutrinos resp. the reverse antimatter from the positively charged and the uncharged pions.

If the energy is still increasing as for example at a proton-antiproton collision forced, where matter and antimatter are colliding (cf. 1, p 407), the packages of W and Z are built. These are extreme energetic variants. They have stashed so much energy that they can carry away being W and even tau variants of the leptons (of the weak force) like all the other can do over muons and electrons. The Z itself, now can build all the high energetic particle pairs, not only the electromagnetic like proton and antiproton or electron and positron, but also the gravitomagnetic like neutrino and antineutrino.

The tau lepton with its small central mass M_τ still reflects a relatively big tau mass m_τ to the outside (eq. (4a)). Now the electron appears in the feature of a tau lepton. The electron protocosm in its start of evaporation, I call now tau protocosm PK_τ . It is the same with the tauon body and the tau neutrino body following their PK, SPK and SSPK, too. If they are prevented from evaporating completely, the only give the signal by their external mass m and their external charge as also their external pulse inside their receptacle cosm. If they are at the

outside of a receptacle cosm where they just temporarily rotate on parity tracks with their gravitational centers, then they are able to open internally completely.

While the g. m. interaction no pair formation is necessary and neutrinos are able to change into each other without forming pairs, at the e. m. interaction the pairs of the particles have to be formed. If you want to change an electron into a muon then it does not go straight on just with energy but only over the formation of a muon pair. Now the sub-protocosms evaporate as they were a “particle big bang“ (the Small Bang) of the electron protocosm. So the sub-protocosms show their central Small Bang masses, too. Conclusion: the completely opened internal mass of the electron protocosms resp. the tauon protocosms is increased up to an internally higher but externally smaller mass after eq. (4a). From smaller PK-masses m follow greater external masses of the receptacle cosm. I think at the muon with its mass. This protocosmic state now is called PK_{μ^-} .

If now the last SSPK evaporate, so they show first their own central Small Bang mass. This is also the last internal structure. There are no more to follow. Only the analoga of protons and electrons, the gravitons and subtrons make a feature of atomic sub-hydrogen. Clouds of GS are drifting inside the microcosms. There are just no heavier sub-isotopes. The open internal mass increases up to the maximum value. In the contrast to this, the external mass of the receptacle cosm is decreasing. Here it is valid for the electron what arrives its minimum value of lepton mass. That is its normal electron mass. And we now speak of the real electron protocosm state PK_{e^-} inside of the electron.

This means: if all the matter inside the electron protocosm was opened then the complete internal mass is free forming the electron. But this is only possible with all the PK of the electron, also of the mass block and also this PK in $n=1$, only then! It is the same with the electron body and the electron neutrino body especially. That’s why there are three discrete steps. While the melting of the PK, the insertion of the bodies into the neutron is explainable. The protocosm of the electron PK_{e^-} will be condensed by its external rest energy onto about the value of the proton protocosm in $2s$, onto PK_{e-n^-} , but flies in the Upper Shell. The body of the electron antineutrino $\bar{\nu}_{e-R}$ comes into $1s$. Just in this moment when the PK_{e-n^-} is above at the amplitude of the ordinary matter neutron $R_{o(n)}$ then the body $\bar{\nu}_{e-n-R}$ has arrived its elongation minimum. Has the neutron cosm n arrived its elongation minimum against zero next to the center then that above-called antimatter body $\bar{\nu}_{e-R}$ has arrived its own amplitude being its maximum. They cannot meet themselves as easy.

While the protocosm PK_{e-n^-} of ordinary matter is climbing up, the antiprotocosm $\bar{\nu}_{e-n-R}$ falls down to the neutron’s center and vice versa. They are repulsing of each other. Important is that this mass and antimass belong together into one cosm – into the neutron. Internal mass will be reduced extremely small by the portion of the antimass of the antineutrino body relatively to the proton onto a slightly decreased internal neutron mass, marked with δ^- . Because of condensation of the top PK, the internal mass decreases causing an increasing external mass of the neutron greater than external mass of its proton, marked by δ^+ . Those electro-magnetons I just estimated without intrinsic magnetons and those magnetons arising from each additional rotation. A correct result only could be given by a fine structure calculation. On it I renounced today. Free neutrons have a life span of about 880 seconds. Certainly, they the most stable elementary particles among the unstable ones. It may be caused by their exchange energy with the environment of the stability of the atomic nuclei (action \neq reaction).

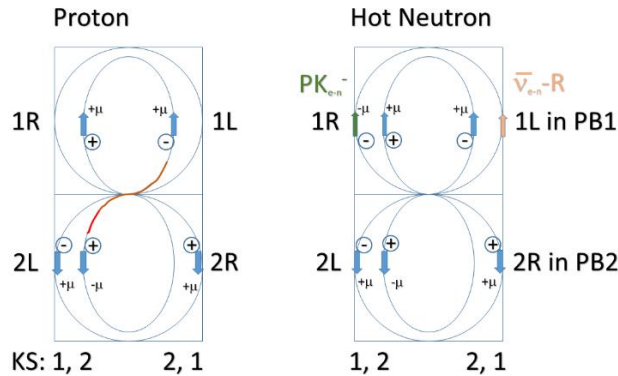
4.16, 1 Designation of the Cosm: Neutron (n), (1, cf. section 4.8)

KS	QN	QZ, WQZ	
u n l m		G Q μ S	
1	1 L	(+) (+) (-) empty	<u>Asymmetry, here W bosons can be generated</u>
1s	1 R	δ^- 0 0 $\bar{\nu}_{e-n-R}$ -	Here the body $\bar{\nu}_{e-n-R}$ comes in.
	2 R	+ “+” + +	+0.95789 $\bar{\mu}_{1/2(p)}$; “+“ positive charge cloud,
	2 L	+ “-” + -	+0.95789 $\bar{\mu}_{1/2(p)}$; “-“ negative charge cloud,
			<u>Symmetry, here Z bosons can be generated</u>
2s	1 L	+ “-” + -	+0.88107 $\bar{\mu}_{1/2(p)}$; “-“ negative charge cloud,
	1 R	+ “+” + +	+0.88107 $\bar{\mu}_{1/2(p)}$; “+“ positive charge cloud,
	2 R	+ - - PK_{e-n} +	- 0.88382 $\bar{\mu}_{1/2(p)}$; “-“ negative charge cloud,
	2 L	+ “+” - -	- 0.88107 $\bar{\mu}_{1/2(p)}$; “+“ positive charge cloud,
Σ		δ^+ 0 +1.9 -1	$I = 1.91304 \cdot \bar{\mu}_{1/2(p)}$, $I_S = -1/2\hbar$, Charge $Q = 0e_0$

Here the block 2p follows.

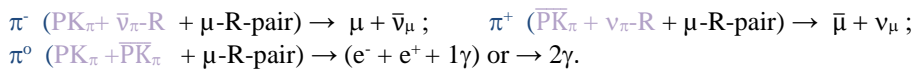
You clearly can see that W boson pairs cannot come from the proton pairs in orbital 1s. There are absolutely no lepton partons. Consequently, W boson pairs only can be generated from temporarily hot neutron-antineutron pairs. At this position, the antineutrino body arises in 1R instead of in 1L. So it gets the spin +½. But the electron-PK doesn't arise in 2R of 2s but in 1R of 1s with the Spin +½. Additionally, the spin sum is a W boson spin +1 or relatively seen negatively from this constellation. W is a real particle externally the proton pair located because in the moment of arising, it has the double amount.

Overview 4.16.2: Proton and HOT Neutron



4.17 The Pion-Hadron Teamwork

At all the boson decays, pions play their essential role:



Using these symbols, the overview can be shortened:

$\pi^- (\Delta L_{\pi^-} + H_{\mu}) \rightarrow \mu + \bar{\nu}_{\mu}$	"m" = 139.57 MeV/c ² ; t ≈ 10 ⁻⁸ s
$\pi^+ (\Delta L_{\pi^+} + H_{\mu}) \rightarrow \bar{\mu} + \nu_{\mu}$	"m" = 139.57 MeV/c ² ; t ≈ 10 ⁻⁸ s
$\pi^0 (\Delta L_{\pi^0} + H_{\mu}) \rightarrow (e^- + e^+ + 1\gamma) \text{ oder } \rightarrow 2\gamma$	"m" = 134.98 MeV/c ² ; t ≈ 10 ⁻¹⁶ s.

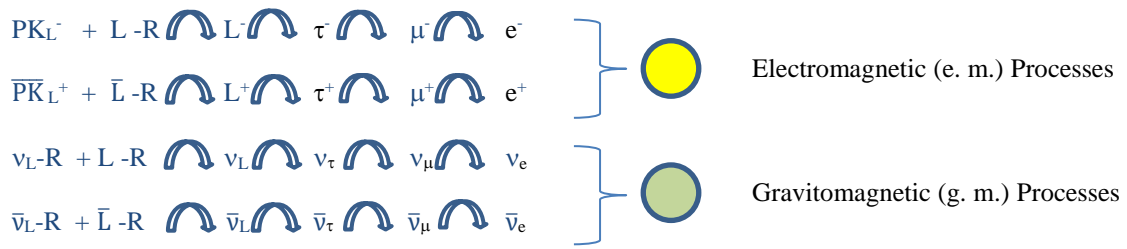
A ΔL_{π^0} is simply just a $\text{PK}_{\pi^-} + \overline{\text{PK}}_{\pi^+}$. The charged pions consist of their both **contrary basic building blocks**, the protocosms of the charged leptons and the bodies of the antineutrinos, always in contradiction between ordinary and antimatter. Never, they are in consonance, then they were just real charged leptons resp. neutrinos. Decisive for the decay will be the pair formations of e-bodies H_e respectively of their condensed bodies of muons H_{μ} (at W and Z then of the tauon H_{τ}). They arise from the e. m. and g. m. momentum energy given and combined.

Charged pions decay into muon and muon neutrino in 99.9877% of the cases. They rarely decay into electron and electron neutrino. The decay starts, when their neutrino bodies are open wide enough and their matching electron bodies have found to each other. This may be an indication of a long life span.

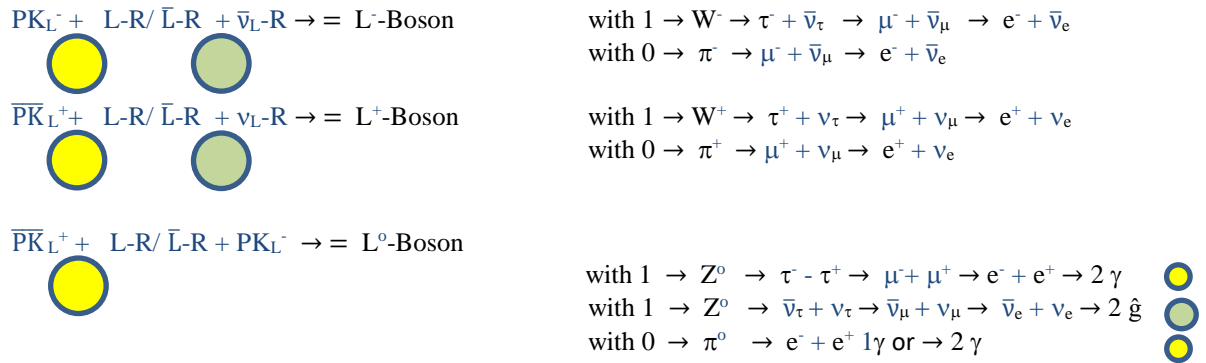
The zero pion internally makes a parity forming an electron pair. If the energy is distributed in such a way that also the protocosms of the electrons become a parity then they annihilate completely. Both photons 2γ are emitted. I think, if – as I above showed – in that moment of the decay, the positron protocosm does not get enough energy of the e-R-pair then only the electron-PK-pair annihilates, and the surplus energy emits one photon 1γ to the outside.

On base of my protocosm model, I assume now that the pions really consist of these both building blocks *the protocosm of the lepton and the antineutrino body*, but they do not consist of “quarks“ (Annotation: the analogy to quarks is at least obvious; yes, I agree, you cannot prove both neither the quark nor the bodies of my features of the particles). And now I give you an abstract overview.

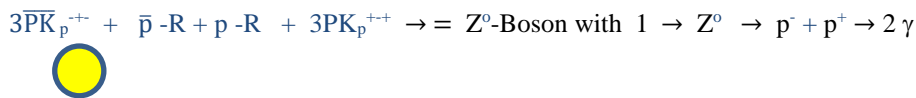
Overview 4.17: The Transition of Protocosms of Leptons



The Forming of Bosons from the Protocosms



Outsides the baryons, g. m. processes for neutrino formations cannot run. Here the π^0 does not act. The Z^0 generates proton -pairs from the protocosm magons. It connects the pair formation of leptons and baryons:



But there are still more levels of protocosms and bodies, more than just for the three types of leptons. That's why, neutrons and heavier baryons, mesons and heavier mesons are allowed to be arising. This way, given protocosms will be continuing by condensation.

However, how are the particles built as if not from "quarks"? My theses are:

- At all the meson decays, in the end you mostly find pions.
- The structure ought to build protocosm pairs of the leptons and neutrino body pairs of the leptons supported by energy and coupling with certain energy, and
- They ought to fill their own sub-protocosms with certain condensation energy.
- That stored energy makes the frequency of mass externally measured.

Consequently, mesons internally should be made of less bound dipoles or quadrupoles. You can see them as loose snow balls, which are able to be continued by compressing them well. So they can be condensed extremely. In this feature they are manifold. Now we will examine the kaon as next meson after the pion. It is an interesting particle because there are not only positive and negative features of them, but even two different variants of the zero kaons.

4.18 The Kaon

The kaon decays into the following particles, for example:

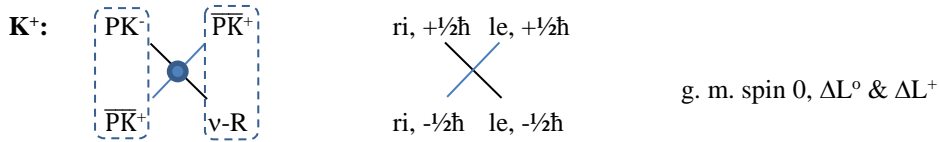
	Mass, Ls, Pulse, Frequency
$K^+ \rightarrow \mu^+ + \nu_\mu$ or $K^+ \rightarrow \pi^+ + \pi^0$ or $K^+ \rightarrow \pi^0 + e^+ + \nu_e$	493.677 MeV/c ² , 1.238 x10 ⁻⁸ s
$K^- \rightarrow \mu^- + \overline{\nu}_\mu$ or $K^- \rightarrow \pi^- + \pi^0$ or $K^- \rightarrow \pi^0 + e^- + \overline{\nu}_e$	2.9 x10 ¹⁵ Pulse, 8.36 x10 ⁻²⁴ s
$K_L^0 \rightarrow \pi^- + e^+ + \nu_e$ or $K_L^0 \rightarrow \pi^+ + e^- + \overline{\nu}_e$	497.614 MeV/c ² , 5.116 x10 ⁻⁸ s
or $K_L^0 \rightarrow \pi^+ + \pi^-$	

$$K_S^0 \rightarrow 2 \pi^0$$

and in the end into 2γ

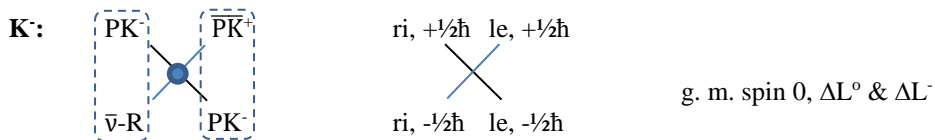
$$497.614 \text{ MeV}/c^2, 8.954 \times 10^{-11} \text{ s}$$

Starting from this acknowledge, I constructed the inside of the kaons as following: charged kaons consist of three charged protocosms PK_K and one neutrino body so that there in each case a quadrupole is arising where these four partons are coupled. In the center is one Higgs block, which I marked with a circle. Two muon Higgs blocks $2H_\mu$ are located there. But these twins are not inside a common sphere but warped, divided and stretched towards each protocosm (ri = right, le = left):



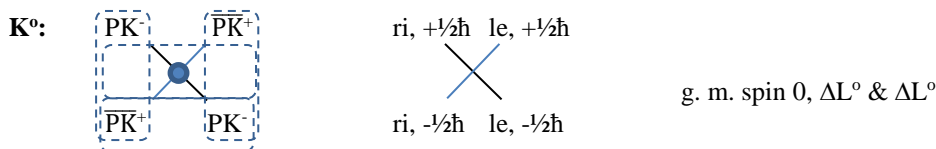
Although I've just drawn both closer coupled, so still acting partons like 4 pions energetically shifted as there were 2 muons and 2 pions together with about 492 MeV. In the beginning of the decay, exactly one zero pion is left and one plus pion is right being parity of pair formation even symmetrical in the mirror.

Now I construct the anti-kaon relatively to the charged:

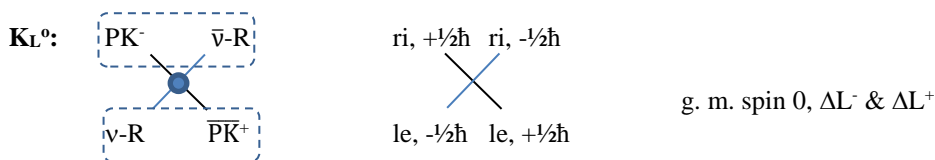


In the beginning of its decay, exactly there is a minus pion on the left side and a zero pion on the right side. The partons of the minus kaon as also of the plus kaon are energetically located at the perfect positions. This is why, there cannot be different variants. Remember! Also zero pions are their own antiparticles by their composition! Kaon-long and kaon-short ought to be mixture of the normal zero charged kaons and anti-kaons. But then, a zero kaon only would be a zero pion with more energy. There would not be an indication of an anti. So I did not think that simple zero kaons could have an anti.

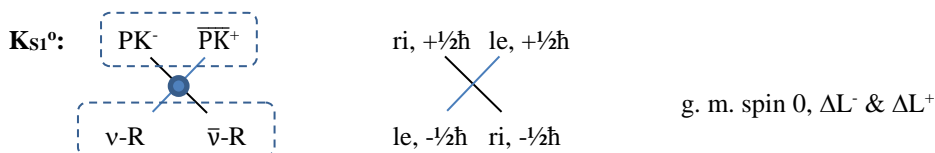
Using my IOT-construction, the zero kaon should exist in **four** variants, first the normal K^0 (e. m. decay). It would be its own antiparticle \bar{K}^0 like the zero pion. Partons predetermined to annihilation are close to them. The left side is a zero pion like also the right side. The combination above and below make 2 photons of the spin ± 1 :



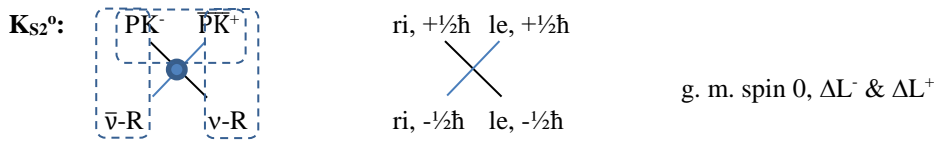
Here we look at the long life kaon K_L^0 . Those partons, which could annihilate are in longer distance. The change with lepton body pairs is closer to 2 contrarily charged pions. Above it is a minus pion and below a plus pion. The one or the other can decay into electron/ positron or antineutrino/ neutrino – a “weak interaction“.



Additionally, it is possible that the partons can differently locate in this special zero kaon. They come closer by their e. m. attraction. From this, a shorter life span would follow by g. m. annihilation of both neutrino bodies. Either the protocosms generate 2 zero pions from given energy or by annihilation of them into gamma quanta:



The diagonally opposite partons now result in the respective charged pions. This construction would exactly decay into 1:1 products again because of its symmetry and mirror symmetry. But now, there is another spatial variant:



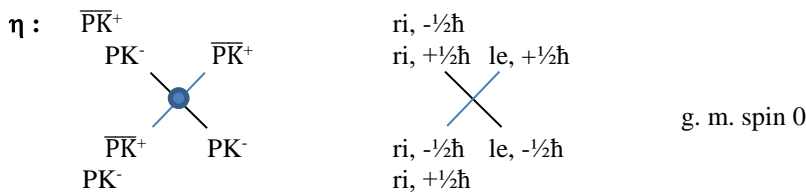
In opposite to the type 2, the neutrino bodies are exchanged. Subsequently, the minus pion is left and the plus pion is on the right side. There is a chance of annihilation, too. Something remains unclear: The qualitative constructs do not allow an explanation for this phenomenon: the first decay $K_L^0 \rightarrow \pi^- + e^+ + \nu_e$ is quantitatively slightly preferred. I think, the world protocosm (of ordinary matter) certainly will be attracted into the ordinary world while the relatively lighter anti-world neutrino body (the antineutrino body) is repelled. So it follows the preference of the minus pion. It is programmed in the world's asymmetry.

4.19 The Eta Meson

The initially higher meson is the eta meson. Caused by higher energy, it decays in the following channels:



I'm assuming a **K⁰**. At it, a further quadrupole $\Delta^0 L^0$ is open for another π^0 binding:



High energy and proximity of the protocosm pairs make the shorter life span.

4.20 The Rho Meson

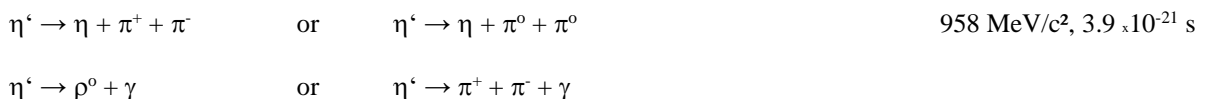
These decay channels again show the participation of pion coupling as in the kaon. There may be strongly condensed quadrupoles. Actually, these are kaons with more internal condensation:



I think, the parton compounds oscillate with higher frequency, now with higher mass than the kaons. They are stronger bound at the rho mesons. Therefore more mass-antimass overlays compensate themselves. Every share gets smaller and oscillates higher.

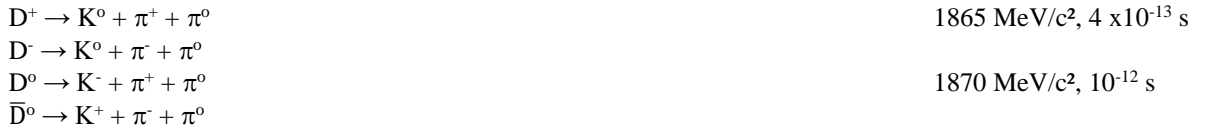
4.21 The Eta Dash Meson

An eta meson, amplified by energy or by partons of another two pions, makes the eta dash meson η' . It would consist of the eta meson and another complete quadrupole. This construct decays for example as followed:



4.22 The D Meson and Summary

D mesons decay into pions, too. So I think, it is a boson that is much further condensed consisting of the quadrupole of a kaon and an additional quadrupole highly condensed:



Conclusion: so I see the mesons to be pre-steps of quadrupolar protocosm building up from lepton protocosms or/ and neutrino bodies, equally where to the energy will be increased to F, B,Ψ, Y mesons, etc. Their decay leads to a structure of electron-positron body pairs of muon-antimuon body pairs and tauon-antitauon body pairs made from internal energy by pair formations. Because the first mesons consist from 2 or 4 partons building up to more quadrupoles, they are made relatively loose. Therefore they can be condensed extremely. So there is an extreme multitude of meson types.

Their partons store successively more internal energy, condense their sub-protocosms, reduce their internal mass resp. Energy and increase their external energy and mass of the system called „meson“. You can allocate to each energy level an intrinsic level of the parton condensation. Gradations of “quarks” are not enough in quantity to generate all the gradations of mesons. Admittedly, from such condensations does not become a new receptacle cosm. That’s why, there aren’t enough partons come together. They aren’t coupled on all sides by high density.

Now, I want to finish working with mesons. Let us observe heavier baryons, which mass and energy surplus preferably decays into pion direction, too.

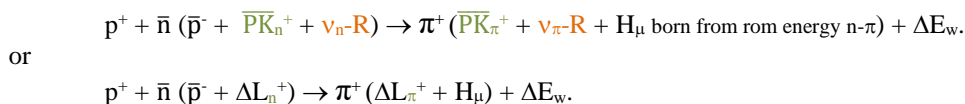
4.23 Overview of the Elementary Particles and their Derivation Particles of the IOT

Temporarily, I see that there are absolutely no changes of particles caused by proton protocosms but only and exclusively by lepton protocosms. From this I draw the conclusion: every particle change from lighter to heavier and vice versa, it is the result of pair formations of the lepton protocosms and of their exchange between the particles. The quadrupoles externally become heavier. At the outside, it will be successively heavier. Its energy store is able to form lepton pairs triggering series of decays, which you find preferably in lepton. Otherwise you find them in pairs or gamma quanta. Consequently, in the meson **do not become more former of pions** while increasing mass, but just **more pair formation energy reserves**. The same process ought to be at baryons and hyperons.

Those 3 pions externally of the stable elementary particles (electron/positron, proton, antiproton, electron neutrino, electron antineutrino) and the 3 W Z W bosons externally of the stable elementary particles are the simplest feature of mesons/ bosons for particle formation and for particle exchange just being dipoles.

Kaons now represent the beginning of the external organization process of quadrupoles of mesons/ baryons. It continues over limited and possible energy, which can be stored internally. So I think because mean lifetimes become successively shorter. Conclusion: they are oscillating successively faster supported by higher energy.

Interesting and conforming my thinking is this fact that at the compensation (annihilation) at the inside of a proton-antiproton compound, a plus pion exactly results. The expected plus pion and some wave energy (momentum energy) is the difference at last:



To substitute “quarks” model by my protocosm model of matter packing does not only long for an immanent explanation of the boson conversions, but for an explanation of the energies. And this is the most complicated problem.

First of all, I collect baryons resulting from protons' upload by momentum energy and neutron partons. The external rest energy is $\varepsilon = mc^2$ made from external rest mass m . There are some decays of the successively destabilized proton or neutron under condition that ΔL^0 always can be annihilation-formation-energy:

Λ ($p_\Lambda, \Delta L_\Lambda^-$)	$\rightarrow p + \pi^- + E_w$	$\pi^- = \Delta L_{\pi^-} + H_\mu + E_w$	$\varepsilon: 1116 \text{ MeV}$
Σ^+ ($p_\Sigma, \Delta L_\Sigma^-, \Delta L_\Sigma^+$)	$\rightarrow p + \pi^0 + E_w$	$\pi^0 = \Delta L_{\pi^0} + H_\mu + E_w$	$\varepsilon: 1189 \text{ MeV}$
Σ^+ ($p_\Sigma, \Delta L_\Sigma^-, \Delta L_\Sigma^+$)	$\rightarrow n + \pi^+ + E_w$	$\pi^+ = \Delta L_{\pi^+} + H_\mu + E_w$	$\varepsilon: 1189 \text{ MeV}$
Σ^0 ($p_\Sigma, \Delta L_\Sigma^-, \Delta L_\Sigma^0$)	$\rightarrow p + \pi^- + E_w$	$\pi^- = \Delta L_{\pi^-} + H_\mu + E_w$	$\varepsilon: 1192 \text{ MeV}$
Σ^0 ($p_\Sigma, \Delta L_\Sigma^-, \Delta L_\Sigma^0$)	$\rightarrow \Lambda$ ($p_\Lambda, \Delta L_\Lambda^-$) + γ		
Σ^- ($p_\Sigma, \Delta L_\Sigma^-, \Delta L_\Sigma^-$)	$\rightarrow n$ ($p, \Delta L_n^-$) + $\pi^- + E_w$	$\pi^- = \Delta L_{\pi^-} + H_\mu + E_w$	$\varepsilon: 1197 \text{ MeV}$
Hypothetic particle, my idea, marginally to the delta baryon where one ΔL_Δ^0 will be born:			
" Σ^{++} ($p_\Sigma, \Delta L_\Sigma^-, 2\Delta L_\Sigma^+$)"	$\rightarrow p + \pi^+ + E_w$	$\pi^+ = \Delta L_{\pi^+} + H_\mu + E_w$	$\varepsilon: 1200 \text{ MeV}$
Δ^{++} ($p_\Delta, \Delta L_\Delta^-, 2\Delta L_\Delta^+, \Delta L_\Delta^0$)	$\rightarrow p + \pi^+ + E_w$	$\pi^+ = \Delta L_{\pi^+} + H_\mu + E_w$	$\varepsilon: 1232 \text{ MeV}$
Δ^+ ($p_\Delta, \Delta L_\Delta^-, \Delta L_\Delta^+, \Delta L_\Delta^0$)	$\rightarrow p + \pi^0 + E_w$	$\pi^0 = \Delta L_{\pi^0} + H_\mu + E_w$	$\varepsilon: 1232 \text{ MeV}$
Δ^+ ($p_\Delta, \Delta L_\Delta^-, \Delta L_\Delta^+, \Delta L_\Delta^0$)	$\rightarrow n$ ($p, \Delta L_n^-$) + $\pi^+ + E_w$	$\pi^+ = \Delta L_{\pi^+} + H_\mu + E_w$	$\varepsilon: 1232 \text{ MeV}$
Δ^0 ($p_\Delta, 2\Delta L_\Delta^-, \Delta L_\Delta^+, \Delta L_\Delta^0$)	$\rightarrow p + \pi^- + E_w$	$\pi^- = \Delta L_{\pi^-} + H_\mu + E_w$	$\varepsilon: 1232 \text{ MeV}$
Δ^0 ($p_\Delta, 2\Delta L_\Delta^-, \Delta L_\Delta^+, \Delta L_\Delta^0$)	$\rightarrow n$ ($p, \Delta L_n^-$) + $\pi^0 + E_w$	$\pi^0 = \Delta L_{\pi^0} + H_\mu + E_w$	$\varepsilon: 1232 \text{ MeV}$
Δ^- ($p_\Delta, 2\Delta L_\Delta^-, \Delta L_\Delta^0$)	$\rightarrow n$ ($p, \Delta L_n^-$) + $\pi^- + E_w$	$\pi^- = \Delta L_{\pi^-} + H_\mu + E_w$	$\varepsilon: 1232 \text{ MeV}$
Ξ^0 ($p_\Xi, \Delta L_\Xi^-, \Delta L_\Xi^0$)	$\rightarrow \Lambda$ ($p_\Lambda, \Delta L_\Lambda^-$) + $\pi^0 + E_w$	$\pi^0 = \Delta L_{\pi^0} + H_\mu + E_w$	$\varepsilon: 1315 \text{ MeV}$
Ξ^+ ($p_\Xi, \Delta L_\Xi^-, \Delta L_\Xi^+$)	$\rightarrow \Lambda$ ($p_\Lambda, \Delta L_\Lambda^-$) + $\pi^+ + E_w$	$\pi^+ = \Delta L_{\pi^+} + H_\mu + E_w$	$\varepsilon: 1321 \text{ MeV}$
Ξ^- ($p_\Xi, \Delta L_\Xi^-, \Delta L_\Xi^-$)	$\rightarrow \Lambda$ ($p_\Lambda, \Delta L_\Lambda^-$) + $\pi^- + E_w$	$\pi^- = \Delta L_{\pi^-} + H_\mu + E_w$	$\varepsilon: 1321 \text{ MeV}$
Ω^- ($p_\Omega, 2\Delta L_\Omega^-, \Delta L_\Omega^0$)	$\rightarrow \Lambda$ ($p_\Lambda, \Delta L_\Lambda^-$) + $K^- + E_w$	$K^- = \Delta L_{K^0} + \Delta L_{K^-} + 2H_\mu + E_w$	$\varepsilon: 1672,5 \text{ MeV}$
This ΔL_{K^0} will be born from the given energy so that kaon quadrupole will be formed.			
Ω^- ($p_\Omega, 2\Delta L_\Omega^-, \Delta L_\Omega^0$)	$\rightarrow \Xi^0$ ($p_\Xi, \Delta L_\Xi^-, \Delta L_\Xi^0$) + π^- ($\Delta L_{\pi^-}, H_\mu$) + E_w		$\varepsilon: 1672.5 \text{ MeV}$

From this above called pre-condition, the order follows from all the possible elementary particles of ordinary matter and antimatter. High energy states can cause all the innumerable particles. In my IOT, I marked them with the name "cosm seeds". Now I called them better **energy cosms** or radiation cosms, EK. They are the precondition that protocosms can be built from them while the content has come together inside a successively smaller space. Until now, at the colliders only were energy cosms found. Not even all the varieties have been proved. You limited yourself to the quarks theory searching for results. But using my following overview, variants of energy cosms result. I indicated them with dashed line arrows into the direction of higher energy ε .

Yes, everything seems to be relative, but even always starting from a point of view, if from above or below, if from right or left, if from fast or slow, if from far or near.

And now I've discovered another craze about Einstein's relativities: it is the relativity of outside and inside. I can struggle with that now. Thanks Albert! Always a different point of view (a different inertial system), always a different reciprocal quantity! If you don't like it, you can stick to the classical worldview or the current mixture of classical and relativistic theories!

But I myself are going on the way of Albert, even if the minds will tear themselves apart. To make matters worse, I don't adhere to any etiquette to my work. I do what I want to do!

External energy in the universe should be called ε' . Energy, which is inside the particles well-known should be called E' . And the external energy inside of these particles could be marked with ε'' . Internal energy there then would be called E'' . You see, it would lead to unlimited symbols, extremely! My relativity!

We see that the proton is filled up with one lepton shift ΔL^- . After this, it is converted into a neutron. We observe now the inside of this neutron. Its condensation energy E or/ and the additional lepton shifts ΔL^0 , ΔL^+ or ΔL^- can

change the inside properties. I found the coordinate “ **ΔL charge**” substituting the position of the “Isospin I_3 ” of “quarks theory”. Instead of the quantum number “strangeness S ” of “quarks theory”, I found the “**quantum leaps of the protocosmic energies**” inside the cosmos. As they are implemented reciprocally, we measure the known energies ε of the particles or their “rest masses” outside. **Lepton shifts ΔL are offered in different spin features $\Delta^{-1,0,+1}L^{-,0,+}$.**

At the right beneath this overview, the mirror of both worlds appears where all the quantum numbers are equalized to zero. There we find the neutrino body pairs. But only electron types are drawn in. For muon and tauon types was no place enough. You would like the image of them below. We see the electron body pairs and their combinations to muon body pairs and tauon body pairs. These three pairs I clearly called Higgs blocks. In the elementarity, at the border of both worlds we also find the top protocosm of electron or positron. At the border zero meson types arise or rest there, too.

Using the arrows over the world’s border, I want to show that the unnoticeable parton pairs can simply turn around themselves by what they all of sudden are not in their own world but in the other anymore. This leads to cross exchanges at the border. These partons are frontier workers like *walkers across the border*. Therefore, we don’t get only leptons or antileptons built from them but also lepton shifts ΔL and the leptonic Higgs blocks H_L . Now it is interesting that the lepton shifts - consisting in innumerable energy levels - are the same at the world and at the anti-world side! In the anti-world by antimatter, they are shifted exactly vice versa. You find the overview on the following page about the ordinary world.

First of all, I want to answer the question why it is even possible that the various lepton shifts can still be pressed into the proton or neutron. Let us look at the overview 4.13c exactly. In the top cosm sentence of the neutron, there is a location free for one protocosm no matter what type. If you force a negative PK^- together with an antineutrino body $\bar{\nu}\text{-R}$, which is a ΔL^- , then it squeezes into the train, which is actually intended for a positive PK^+ . The second antineutrino body $\bar{\nu}\text{-R}$ runs together with the first antineutrino body $\bar{\nu}\text{-R}$ on the same train ($2x \bar{\nu}\text{-R}$), but into reversed direction. So we get a negative baryon.

Now we squeeze a positive antiprotocosm \overline{PK}^+ together with a neutrino body $\nu\text{-R}$ (being a ΔL^+) into the neutron (both neutrino bodies could annihilate $\bar{\nu}\text{-R}$, $\nu\text{-R}$ to internal g. m. radiation, if they do it at all). The positive anti- PK \overline{PK}^+ takes its position in the free orbit, which is intended for the positive charge. This way, the positively charged baryons are dependent on the energy forcing them to condensate on a determined quadrupole (a quanta leap of a PK). Or, we support energy to a proton that is continues condensing internally leading to the same result. Completely without charge shifts, uncharged baryons from the neutron itself arise while the protocosms of the neutron continue their condensation (PK quantum leaps) up to ksi baryons, etc.

An extremely improbable process now is introduced to you. The neutron pairs get the interchange imposed on them. Despite of extreme repulsion of the positive charge at the proton against the positive charge at the ΔL^+ forced, and vice versa at the antiproton, the positive PK takes the train reserved at the proton together with a ΔL^0 . So a delta baryon Δ^{++} charged twice is the result. In the anti-world there would arise the reversed type Δ^{--} .

It cannot be ruled out that there may even be doubly charged sigma and ksi baryons with an even lower probability. The quarks model rules out this case. However, my model enables it. Follow me, please! If a sigma plus baryon Σ^+ is forced from a proton p^+ by high energy level, how should the even higher energy reach a sigma plus-plus baryon Σ^{++} at the same energy level? Obviously, this is extremely improbable. More probable is surely the delta plus-plus baryon Δ^{++} , which was really found. The doubly charged ksi baryon surely is probable to be minor, but it is probable at all. “Quarks theory” doesn’t predict it. But you should search for it!

Also the omega baryon with single negative charge couldn’t be the last of its feature. But it could be positively charged or have zero charge. Above the omega baryon, I expect chances of further condensation results that I call Q-particles. There are deeper and deeper condensed PK in neutron or proton. The end could be reached when the last quadrupole in $2p$ remains.

Last but not least, this overview shows the energetic direction of the nuclides resp. the atomic nuclei starting from the proton. The proton can no longer contribute any energy upwards. But the neutron gives binding energy of the atomic nuclides from its lepton shift until it has no more of it. It is comparable to the period system of elements. This development I only marked. In my work III here, I don’t pursue this path anymore. It can be object of later research starting from my opinions of the structure of the atom nuclei of my work “IOT I” or “The Book Arcus I”.

Let’s simply look now at the anti-world. This overview I began at the end of the world overview. The order between (ordinary) world and anti-world is congruent. There, the lepton shifts ΔL and the interaction principles

are the same. It is also interesting that we are in our world no really ordinary world. We are interspersed of parts of the anti-world and vice versa it is in the anti-world. Inside of both worlds, there is a pre-programmed surplus of an asymmetry by what the real structures of both worlds will be possible, better to say, will be allowed.

By summary with the help of my IOT, the particle theory means that it is a theory of forming energy cosms EK and of their decay into the stable cosms BWH and back.

The protocosms can be compressed up to an internal limit of condensation, and thus the receptacle cosms can be made heavier in quantized steps. But where have the protocosms gone to prove that these both types arise from black white holes BWH, energy cosms EK and protocosms PK?

It's even the science that is currently suspecting rather vaguely that it may have overlooked long-lived "particles" that would decay far away from the colliders. Yes, that's how it will be. However, there aren't "particles" but protocosms. These packages will be probably in minority because they aren't be built by common pressure. You would have to shoot targets' wave quanta from an extremely large number of environments. Then the probability was higher to produce protocosms (quarks cannot be made outside, but protocosms of different types can).

Well, dear readers, there is much to be done! It is still far, far, far too early to speak of standard solutions of contemporary science!

Here my overviews of my model of particle structure of ordinary world and anti-world are following. Both worlds lie at a mirror. It is no isolated wall but permeable. This allows the lepton partons to cross the border crosswisely. Lepton shifts arise. Their combinations lead to the internal and symmetrical bosons. But also there at this mirror location it is not sure that the mirror symmetry is always realized because of the going over the border crosswisely.

Baryons marked in brackets were partially still be found. They are possible by less probability. The excess weight goes to the left in the ordinary world to the singly negatively charged baryons. Clearly, by my model they are very good probable.

First, because of any charge, which doesn't repel against the given zero charge.
Second, because of the given last location inside the neutron on the orbital 1s.

But then it is completely filled. Different ordinary particles with charges twice negatively are extremely improbable but feasible at last. I think, they have to arise from parity collisions. Where will the charged partons go to? Certainly, they will be going to the attractive charge. And the conclusion follows that all the other results of the experiments are very less probable.

5 Quantitative Observations of the Cosms, Protocosms and Energy cosms

5.1 Previews about Protocosmic Starts, Evaporations, and Condensations

Now I ask the fundamentalists of science rhetorically. What right was I just cutting Einstein's equation of the black hole BH in half? Its origin is like shown here:

$$r_g = 2 G M/c^2.$$

There is r_g the "radius of an arbitrary world", here of the black hole BH. Yes, it's clear, it isn't called "world radius" but "event horizon". But for me it is a world's border! You can call the radius r_g whatever you want! We are not in the Bible lesson here, where one insists on the correct word of God.

What is happening here at this radius r_g is only threatened by theorists. Nobody has ever been there. One of the theoretical solutions says: there the coordinate system is changing. It is good for me as a philosopher when I can say: **there the relativity tips over from the state "external" to the state "internal". We have an external and an internal coordinate system! And I can give you a new relativity!** Both systems seen from the inside emerge from each other, clearly from the start at the inside. But seen from the outside, the internal system is *separated* from the external system. So I found the idea, there at the inside is a new world, an intrinsic and independent world. Somebody from this inner world could look into the receptacle world, but only then when the internal coordinate system is opening to the outside. It is like a fish jumping out of its water-world, looking into the air-world and falling back.

Why should this world be static, only because of the static black hole equation? Hasn't that led astray for a century? It was Einstein's pure and static geometry? A collection of snapshots of the reality by some solutions? No, this mixture I didn't accept anymore! I discovered more and asked boldly: "What is the multiplier 2 supposed to mean in this equation?" Well, with the kinetic energy this can also be made very clear. The acceleration must bring the body from zero speed to final speed. From this, the half divisor must result inevitably. But in the black hole equation, what is there a double size? G is the Newtonian gravitation constant. Is it doubled meaningfully? No, I don't think so! C is vacuum light velocity. Can it be doubled? No, it cannot be doubled. Both should be remaining constant. You cannot change these factors arbitrarily using 2 or $\frac{1}{2}$. Even C^2 from $C \times C$ can be caused mathematically exactly. So I draw the conclusion that mass could be doubled in cohesion of the world radius $r_g = r_o$. I boldly divided this radius and defined the new won like followed $R_o = r_o / 2 = G M_o/c^2$.

Explaining this, I found an indication that the divisor of 2 is possible in the solution of Kerr of the GRT (4, p 222). So Mr. Kerr had already made possible two spheres inside the black hole. I started thinking of an oscillating black hole. This is a pulsating spatial world – a black white hole BWH. Therefore, this radius R_o would be the amplitude R_o of the oscillation of the matter mixture at the same circumstances. From it you can derive the wave length λ_o , the period time (oscillation time) τ_o , the frequency f_o and over Planck's constant h the mass m_o externally measurable in the external coordinate system. From this math construction, the equation 4.1 (1, eq. 2.7,1) followed consequently. In my model, the wave length is just the metric size of matter. The period time is fundamentally the time-like size of all matter. Continuing floating ways and times, independent on each other, I do not know anymore! Everything is in relativistic oscillation!! When I divide the wave length and the oscillation time by 2π , I get the radial sizes R_o and t_o . Inside of an idealized cosm calculated by these sizes, the complete mass M_o of a comparable black hole would be closed in this system.

This mass M_o would now be 8 times denser and concentrated in the area of the amplitude R_o compared to the density on the radius r_o . But it doesn't vibrate as naively as one currently imagines an oscillating cosmos by "Bang", everything falls down to a singularity (!) and "Bang" again, everything will be blasted away at once! No, this is really thought much too shortly! It could please and would certainly be easy to grasp. But this is such a size of extremely primitive that one can't really laugh about it anymore. We are not chaotic pyromaniacs! Everything must have a system order.

No, this mass M_o is not static. It is quantized! This means, it is divided by *portions* of protocosms and surely of energy cosms following all the conversions. Inside the protocosms PK and energy cosms EK, their mass portion is divided again. This way, I get a hierarchy of packages including the universe of Hubble Bubbles down to the smallest partons of the elementary particles. Well, it is clear. Such a model of mine is an *universal model of the complete matter!* As you could say, this is a *holistic model of all the matter.*

In the center of a black radiator, obviously in the area of the future center of the certain cosm, all the protocosms are starting at the same time but spatially separated from each other by their own orbital trains. It is like God

had given the go-ahead from each center. The sprinters aren't connected to each other and on top of each other, but locally separated. Therefore there is absolutely no singularity of infinitely condensing mass! Matter doesn't condense itself to the center. In portions it is collected in vessels hierarchically packed. Each package behaves the same way like protocosms. So I called them sub-protocosms SPK, etc. The SPK are the first hierarchy area after the PK including them. In the SPK, the next area is made by sub-sub-protocosms SSPK. And so it goes on in depth as long as it is possible.

*After packing up comes unpacking! Mass and/ or energy will be packed and later unpacked in different relations. I called my solution **the Natural Packing Law of Matter**. I see it as a fundamental law of nature.*

At this point in time, all protocosms are on their own zero point of their own center of their own receptacle cosm GK! Because every PK is an unstable cosm behaving in time the same way as its GK in which it just is captured and at the starting point. In deep and completely unmanageable hierarchy, inside the PK still there are their SPK etc. to SSPK and extreme sizes into the depth. It is beginning with many protocosms in the proton. It is ending with innumerable sub-programs of such holographic programs in macrocosm. Consequently, there isn't just one single black radiator of God but innumerable many of them. All they are moved in the space and in the spacetime hierarchies. The only Big Bang, the single explosion, you can forget! "No, I won't." you say? Background radiation would be the proof, you mean? No, I say again and again. This is a problem of the intensity of the background radiation! It's not a problem of the temperature. A little bit of physics must be here! This is the difference of temperature and amount of heat!

The temperature is a quality size by Planck's energy $E = hf$ that we know exactly (Planck's constant h multiplied by frequency f). But how big is the intensity of this radiation that it could create the complete universe? We don't know it. That is the great unknown. Therefore I say: no matter what amount of photons reaches us in the background radiation of around 2.7 Kelvin, it could be left from a Small Bang, from a bigger bang or from a big bang. You don't know in which relationship ordinary matter and antimatter have to stand at the beginning of their big annihilation! "Big Bang" therefore has no solid fundament. My model says that the Small Bang was the propellant charge in the center of universe (in all centers of BWH and particles). It got stuck there!

Inside of every sub-cosm packed hierarchically below the macrocosm, to this starting point of possibly zero, the intrinsic zero is given. So all the pulsations are synchronized with each other making an ideal transmission or a *precision clock*. I called it an ideal Oscillator. The starting shot at unmistakably large number of selected locations in a starting area is simultaneous. The sprinters don't start from one line but they start (PK with next to light speed) from different spatial locations as well as from subordinated locations. These locations in the universe vacuum body are all close together in the center area of the beginning. In every sub-cosm like PK, SPK etc., they also are close together in the *center of their* starting area. When a PK or EK arises as a *secondary* product, then its predetermined start is differently located. Because of the coordination with one another, the interaction density is also given from the outset. It decides about the equilibrium of emission and absorption and about the imbalance that lead to the decay of the elementary particles.

That the protocosms evaporate at a certain height of their ascending orbit (that they emit their internal mass $M_{o(PK)}$ of certain parts into the higher coordinate system – into the receptacle cosm), this is caused by their relativistic speed v against light speed c and by their external mass m_o . Having more mass m_o and a shorter intrinsic oscillation period τ_o , they earlier arrive the decay by their evaporation (in the past I called it "anticollapse" or even "opening").

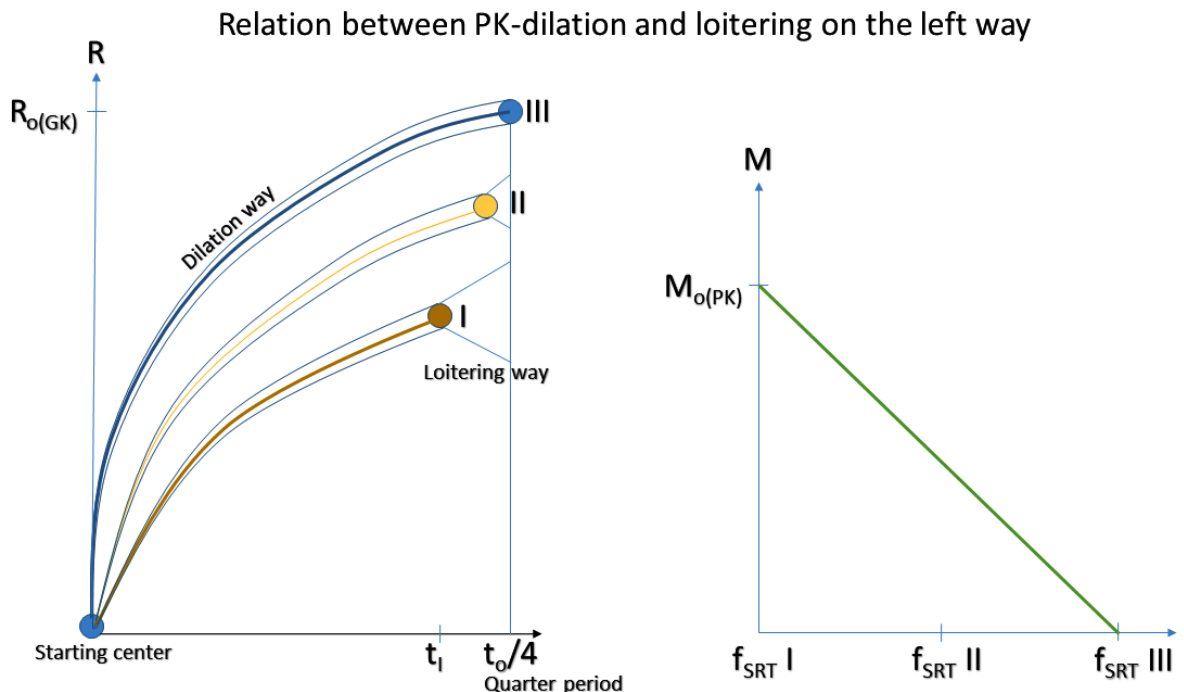
After the start of the PK in macrocosm, the heaviest of them with the mass $m_{o(PK)}$, at the same time the smallest of them with the period $\tau_{o(PK)}$ and again at the same time with the most amount of them, these protocosm features are the first to evaporate. Their complete appearance makes the illusion of a homogenous "Big Bang", which will be observed later by a subject investigating this part of background radiation. Such a radiation is in every cosm, no matter if in protocosms or sub-protocosms or in another stable microcosms as much as there are black radiators of God. The complete appearance pretends to the observer that his world was created by a "Big Bang" and the objects of his world would be moved by next to light speed escaping from each other continuously. He observes a red shift and thinks, it was caused by Doppler Effect. **This is his cardinal mistake!** In spite of this, the evaporation of the first protocosms causes the *gravitationally determined red shift of the spectrum* to the extreme sizes when the protocosms just have opened.

Above the homogeneous area of the first protocosms PK_c in the center, the next layer of lighter protocosms PK_{c-1} , is flying there evaporating immediately after the Small Bang. They produce the first structures of objects of their internal hierarchy. They are followed by even lighter PK_{c-z} with $m_{o(PK)}$, which, because they are internally even heavier with $M_{o(PK)}$ and internally are even more sub-structured, emit larger structures like galaxies, galaxy heaps and Hubble Bubbles.

How does the emission take place? Just in this moment of opening the protocosm, in the same way all the sub-structures were already opened by that principle: starting from the center by a first bang, always all the openings begin. They continue up to the spatial amplitude where they hit the last sub-protocosm. The last of their sub-protocosms evaporate at their horizon, at the double amplitude of a stable cosm $o\ 2R_o$, which is r_{oPK} . Therefore, a PK with the same masse M_o is half as heavy with the mass $m_{o(PK)}$ than a stable cosm with equation 4.1. After the evaporation while opening of all the sub-protocosms, that is the mass M_o of a hypothetical “Black Hole” inside of it. When the protocosm is opening itself because its internal sub-protocosms are also opening (evaporating) and negating the horizon r_o , the internal mass M_o resp. the rest energy E_o goes into the hierarchy area above located, into the receptacle cosm GK. Now that mass M_o has direct contacts in the external coordinate system of the GK, for example of the universe or the proton, the electron or the electron neutrino. The center of such a protocosm exploded having a rest of mass $M_{o(PKX)}$, contracts and collapses once more and closes its BWH new arising. That unknown X is dependent on the metric size of the protocosm. Certainly, it is directly proportional to the world radius of the protocosm. Always some rest remains in the BWH probably corresponding to the mass of the Small Bang propellant charge of the protocosm before. It is very small in relation to the emitted mass M.

If we think at a stable receptacle cosm, the last protocosm of the level 1s only arrives the amplitude R_o . There it evaporates with its complete amount of sub-protocosms, annihilates the complete equilibrium of ordinary matter and antimatter while a surplus of matter remains programmed seen from our feature of ordinary world. Otherwise, in the anti-world, there a surplus of antimatter exactly and naturally remains the same as our surplus of matter. Imagine! Always so many accuracies indicate programming. They don't indicate an accidental origin!

A protocosm, which is evaporated emits the remaining mass after, which it is measured by M_o . A big part of it remains in action. Each layering of the respective mass $M_{o(PKX)}$ of each protocosm gives the mass $M_{o(PK)}$ of that protocosm, which will later evaporate again. Dear reader, here at this position, you already have to realize that the pulsating mass isn't really a moved mass but a *transported mass unpacked at a location predetermined, parked there, and later packed in again*. In this way, the amplitude R_o with its elongation R will be layered up and down! A cosm, protocosm or an energy cosm only has the internal mass M_o . It carries ordinary mass and antimass annihilating later and emitting radiation. These portions, however, are programmed many times larger than the remaining mass M_o . In the anti-protocosms of the anti-world the relations are then reversed. I have designed a graphic for this that will make the following explanations easier for me.



I entered three cases. In case III the protocosm is shifted from the relativistic speed towards the speed of light in vacuum with the factor $f_{SRT\ III}$. Its movement mass $m_B = m_{o(PKIII)} / f_{SRT\ III}$ approximately equals the rest mass of its receptacle cosm $m_{o(GK)}$. Its braking mass $m_A = m_{o(PKIII)} \times f_{SRT\ III}$ only plays a role at collisions.

The PK III has just arrived the top of the amplitude $R_{o(GK)}$, but it didn't arrive a higher position. Now it receives the same g. m. energy as it has emitted seen from the outside. We can flip the graphic to the right. Now the PK III contracts again on its way to the start center. There half the period of the oscillation has gone by. At the

amplitude always a quarter period $\tau_0/4$ is arrived. Divided by 2π , we are allowed to count with radial times as $\tau_0/4$ or for the PK I the time t_i . The PK III is a feature, which *cannot open itself*. It is accelerated too strong. Internally, it carries away enough energy, relativistically condensed so strong that it remains closed for one flying round. It doesn't give out any internal mass. This behavior, I show at the left side of the diagram. Under these circumstances, the PK III would remain closed if there was not a disturbance of the equilibrium between emission and absorption of energy portions. After a certain number of flights around the cosm height, it expands over the amplitude and thus negates its receptacle cosm.

Let us investigate the case of PK II. Measured at the properties of its receptacle cosm, it is less accelerated by f_{SRT} II. Consequently, it evaporates at the same time t_{II} . For this to happen, it must eject its internal mass aptly to the elongation of the oscillation and walk on the loitering (strolling) way.

Moreover, the case I should show a protocosm mass $M_{o(PK)}$ of the maximum loitering way. The distribution of mass seems to be linear. Well, this means that if the velocity increases to light speed $v \rightarrow c$ and with it its factor of special relativity f_{SRT} , then the possibility of mass emission of M decreases against zero.

The larger and lighter a protocosm is after its dilation line, the more spacetime it needs for its own spacetime opening completely into the outside being the receptacle cosm out of its own amplitude and emitting its own internal mass. The behavior of a protocosm is determined on the behavior of its internal SPK, SSPK etc. A PK can be partially condensed, partially closed to an EK, for example, if its top sub-protocosms were closed by its radiation energy (plus kinetic energy). The whole system becomes complex and complicated. Therefore in my table calculations, I didn't go on calculating the sub-possibilities. It is a show of the quantity of my models that those are possible. For example, I was able to calculate the minimum need of movement mass m_B using the equation from the given mass of the receptacle cosm m_{GK} and the mass of the protocosm m_{PK} . These all are external rest masses as followed:

$$m_B \geq 1 / (1/m_{GK} - 1/m_{PK}); \text{ condition is } m_B \geq m_{GK}. \quad (5.1,0)$$

When the neutron is a receptacle cosm and its top protocosm has a mass m_{PK} of $9.6931 \text{ GeV}/c^2$, then I get around $1040 \text{ MeV}/c^2$. This amount is the minimum. If it was smaller, the PK wouldn't be allowed to emit its internal mass $M_{o(PK)}$. Estimating this interval, I found the equation as followed:

$$M_{PK} \leq M_{o(PK)} \times m_{PK} \times (1/m_{GK} - 1/m_B) .$$

Taking the case of $m_B = m_{GK}$, then the possible mass M_{PK} would be zero, which could be emitted to the outside. This PK is closed by its relativistic dilation over f_{SRT} and with it over the given kinetic energy and the stored kinetic energy at the SPK, SSPK etc. It increases linearly by increasing movement mass m_B . As soon as the movement mass m_B has arrived its minimum of its metric size at, which the PK can emit its complete internal mass $M_{o(PK)}$, the relation is one. But if the movement mass m_B is more than its minimum, so we get multiple amounts of M_{PK} . Just this fact shows that the emission of the complete $M_{o(PK)}$ even is possible several times. You could see it as safety factor. Observed in another way, the space is the alive space of the emitted mass in which is given so much time where it develops its structure, chemical elements as also organic life in its total complexity. My logic is that in the depth of a receptacle cosm is always given enough intrinsic time to live an intrinsic life.

Using my equation 5.1,0, the quotient of m_B and m_{GK} would equal 1.107 at the example of a neutron. In the following text but I use a sure minimum factor of 1.125 for emission possibly from a hypothetical "Black Hole" found in the General Relativity Theory. This factor of 1.125 is bound with more safety so that the mass $M_{o(PK)}$ of the corresponding protocosm will be really coming free until that point at, which its internal radiation can be free. But it will not become emitted if exactly at this state the emitting radiation gets an answer by incoming radiation of equal frequency and equal intensity. And this is always given for the case of a closed system. The exchange is dependent on the outside exchange. But in our universe all the exchanges are complete. Nothing is dependent on an "outside".

Confusing is that the last PK of the ascent to orbital $1s$ to the amplitude R_0 are the largest and most sub-structured protocosms with the biggest internal mass $M_{o(PK)}$. These certain underworlds, which properties come near the given world of the receptacle cosm (in universe we would say Hubble Bubbles) are emitting still more red shifted radiation than the smaller protocosms. Now the mistaken observer would think that his universe would successively expand. Inflation, oh my God! But how bad is it if an observer relies on a single premise, on the Doppler's shift of the e. m. spectrum! By the way, drawing a conclusion from just a single premise is not allowed according to the laws of formal logic!

In the year 1916, but Einstein predicted the gravitational caused spectrum shift. It was finally proved in August 2019 by University of California, USA. I thought, now everything ought to be changed or not? It was Einstein

who validates my theory in advance, so to say. Since 1987 my fundamental “Wave Theory of Universe” WTU already exists. In 1989 the “Ideal Oscillator Theory” IOT was published in multiple versions. Finally in the year 1998 the book “The Unified Theory of Fields – Answers to the World’s Question“ was published as “The Book ARCUS I and II” by Frieling including a lot of explanations, solutions, trials of solutions and hypotheses published in internet. Certainly, not everything is a hit there. But it is the preliminary drawing of the way in the right direction on my current universal model.

Let’s fly on! We are still on the way to the proton’s amplitude of 0.21 fm ($1 \text{ fm} = 10^{-15} \text{ m}$) with the last, the top, the lightest, internally heaviest and most sub-structured proton protocosm. There at 0.2 fm, Hofstadter measured the maxima of electric charges of the proton (6a, pp. 208). Science defines the range of these three charge points of 0.8 fm. But from my solution of the ideal and synchronized oscillator being our universe, I calculated 0.21 fm for the amplitude of the *gravitational* oscillation of the proton.

But, let’s go on flying along this top protocosm. Just shortly before arriving the amplitude of the proton, all the internal sub-protocosms have been vaporized. Now their top sub-protocosms etc. in their hierarchy downwards have also been vaporized while the whole protocosm now is opening itself emitting its radiation by discrete portions of multiple frequencies starting from the local and sub-structured processes of annihilations. There its remaining mass structure at the top can be strolling for just an extremely short time period. Radiation doesn’t yet decouple. The system is prevented from further evaporation by that radiation energy coming back. It condenses again now.

This is why the remaining mass M_0 doesn’t fly at relativistic speed like the protocosm mass $m_{0(PK)}$ did it before its opening. It is very easy to understand. The momentum conservation law is valid, as marked above! An external protocosm mass externally measured m_0 and moved by speed v_{SRT} next to light speed c , hitherto extremely light, internally extremely heavy with M_0 , now turns around from inside to outside, from m_0 to M_0 . Everyone, I will bet, will understand that the speed of the system that has now been opened is approaching to zero. Hopefully, I don’t have to write down the equation for the conservation of momentum here, do I?

Look and agree: $m_1 v_1 = m_2 v_2$; $p_1 = p_2$!

The Bible says that God has hung the stars at the sky. That’s correct, however! Fred Hoyle (1915 - 2001) thought so and developed the theory of the steady state universe. But it wasn’t correct completely. The stars don’t hang there from eternity to eternity, as he suspected, but from hanging up, taking off, hanging up again, taking off again. And so it goes on in series, which I call the *oscillation of the cosms*. God hangs them up, takes them off and hangs them up again by unpacking them and repacking them, etc.

After the “strolling time” (because of less relative speed) or the “life time of existence” of the emitted matter externally the top PK, it is the same for all the things below having still more strolling time for their life existence (always the top has the smallest time), everything will be repacked by condensation of the protocosms. How does it run?

The energy just emitted flies one round through its receptacle cosm returning exactly to this point of time when the strolling time of the objects has got its end. This is why the receptacle cosm needs the space of a second R_0 above R_0 ! I was a teacher repeating all the knowledge until understanding. An Italian now would ask you: Capiisce? The layman answers: no, I don’t! And the expert doesn’t know what to do next. He throws my script to the waste paper. There it will stay until the radiation will return and burn down everything, those who know it and the ignorant.

When that happens, the radiation burns together the matter with the generated particle pairs and sub-...protocosm pairs back to those first rate protocosms, which then fall back to the center. So the balance of the oscillation becomes a balance of the perpetual motion machine. The system is ideally pulsating. But stop! The radiation has to run one round, which is equal exactly to half a period of the cosm $\lambda_0/2$ or $2\pi R_0/2 = \pi R_0$. No, the strolling structures don’t wait that long! No, it is the previous radiation from the previous pulse that is now returning and restoring the protocosms. Yes, the question remains again: “What came first, the egg or the hen?” The simple mind accompanies this question laughing wisely. But, how do the things go during vibration? Let’s take the pendulum of a clock. Who started it for the first time, under what conditions and at what time? Who created a chick and then developed it according to his program so that everything was on schedule?

Who would finally like to answer these questions? Nobody, I think trying to give an answer if not this single unequivocal sentence: **at any time the pendulum could have been knocked under conditions that we cannot determine backwards!** This way, the Creator has already given everything including the past so that this oscillation can work, also the returning radiation, which didn’t return at the very first impulse but was sent on its way for the first time. Hen and egg, both are simply programmed to be in an infinite sequence.

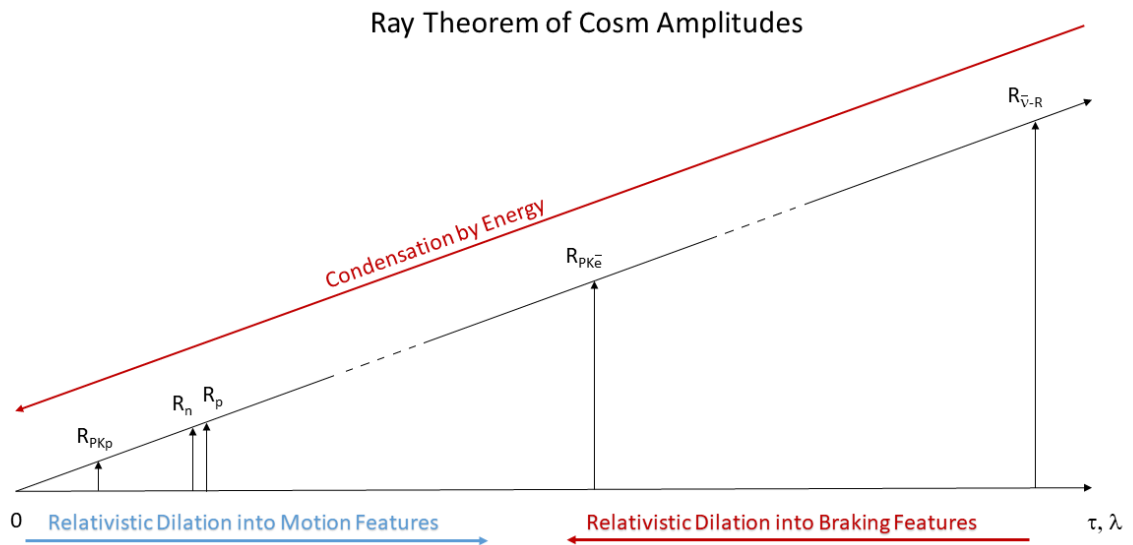
What also is confirmed here, this is the end of the universe as foretold by the Holy Bible. It is just not freezing cold as one suspects by the heat death of the cosmos. It is *terrible hot* when the radiation will be returning on the path we cannot see (the flaming sword guards the gate of heaven). The apocalyptic ending comes as a *surprise*. The signs are that galaxies disappear from the sky.

Since the oscillating cosm (also our universe) emits a momentum to the outside corresponding to the external mass m_o or energy \mathcal{E}_o , it would gradually loose energy (that's a damped oscillation). So it has to be supported externally that it looks like it is oscillating forever (undamped oscillation). The momentum that is emitted must be followed by a pulse that is absorbed. This results in a closed or in a receptacle system seen from the outside in which all elements exchange their momenta and thus maintain themselves. So every stable microcosm is supported from the outside. It is possible that the universe is completely closed – isolated. A perpetual motion machine. But there at the outside is something – the certain black radiator – the broadcasting station of God sending an extreme hologram being this universe in which we are the figures who will one day realize it.

An alternative idea would be that the universe itself would be a Siamese twin. On the one side, it was built from ordinary matter and at the other side from antimatter. These would be two cosms closed in one single cosm. Here all the forces would compensate externally. At the inside all the movements would eternally be conserved like an ideal hourglass of sand, which that keeps tipping over starting again. Ordinary matter is falling while antimatter is climbing. That's the sense of a determined changing. The universe is a precision clock.

Still people want to know what happens when you shoot particles at one another. In colliders for example, protons were shot at protons or antiprotons. They think the particles *bump* directly. But only their momenta, their momentum energies are interacting with one another, never the particles as bodies themselves. Their bodies consist of unimaginably many sub-bodies and these are interacting themselves by wavequanta, but not over the bodies. Interactions are only running by the wave quanta of the particle bodies and their sub-particles.

Oscillation time period τ_o and oscillation length λ_o run in parallel to the vacuum light speed $c = \tau_o \cdot \lambda_o$. Amplitudes R_o will be calculated from oscillation length to $R_o = \lambda_o/2\pi$. This way, the ray theorem of geometry is following.



Thus, we find e. g. the amplitudes R of proton-protocosm R_{PKp} , neutron R_n , proton R_p , electron-protocosm R_{PKe} , and of electron antineutrino-body R_{v-R} . While they move by increasing speed from v to c , their oscillation length increases relatively. In the case of a collision, the conversion is indicated from braking action. Oscillation length or amplitudes are shortened by the factor f_{SRT} .

Additionally to the action of speed caused by (radiation) wave energy difference ΔE_w , in these cosms some part of energy can be stored to energy cosms EK . Cosms will be beaten to get smaller by external energy \mathcal{E} (braking energy $+\Delta E$ is acting). How I say, they will be beaten up.

Taking up energy $+\Delta E$, internal protocosms or their subs will be locked, internal and free mass $-\Delta M$ and free resting energy $-\Delta E$ decrease, the amplitude $-\Delta R$ decreases, the external masse $+\Delta m$ increases as a direct mathematical expression of the external energy difference $+\Delta E$ that is stored.

My problem results from protocosms of protons. How fast do they actually fly by f_{SRT} ? They have to fit to the oscillation of the internal mass opening that necessary mass is given. Calculating this action, I need the quadratic equation (5.2,10) following later. We just find 3 main levels in proton, 1s, 2s, and 2p. Level 2p must fill out the proton in the start, 2s does it in the medium area, and 1s fills the area up to the amplitude. These relations I only can estimate but I cannot calculate them precisely.

The next problem is the speed expressed by f_{SRT} of neutron-protocosms and their strangers (lepton shifts), of the top electron-PK and the electron antineutrino-body. Lepton shift is as light that it would not fit into the neutron because of its maximal elongation. But if it just would be smashed together by radiation energy down to the amplitude of the neutron, they would not continue expanding to its normal elongation but immediately contract by storing incoming energy at its sub-protocosms. And yet they should still fly at a certain speed so that they can actually cover the round trip in the neutron.

I can only estimate this speed as well. I try to find the answers in the corresponding chapters with the quantitative registration of the particles and their changes by energy support.

Examples at Protons, Neutrons, and Electrons

Now we fly inside a proton that was just accelerated in the collider of the CERN. We have no idea what will happen using IOT. The external momentum energy field of an antiproton with more than 200 GeV penetrates relatively into our proton with its wave quantum and vice versa, the antiproton makes the same because of momentum conservation. By tilting r_0 this external energy E_w becomes a tremendous internal energy E_w (cf. eq. 4.1e). It comes towards us like a “flame front”. But do we even see that coming? No, we don’t. Light (radiation) we only can see when it is here! We don’t know that the apocalypse is approaching us with breakneck speed in the proton. But what does this energy do? It first hits the wave quantum of the top protocosm of the proton. This wave quantum is shifted relativistically onto an essentially heavier braking mass (or energy) than the rest mass of that protocosm.

Attachment: That “flame front” of radiation forms EK from above. Deeper localized SPK and PK but short their strolling way. They eject all their internal mass before they would become EK.

Now the incoming momentum energy makes two things. Once it fills the top protocosms to their energy maximum so that they are closing. At the same time, it generates protocosm pairs, so protocosms, and anti-protocosms using this energy level. But not all the hits are direct head-on hits of WQ. Depending on the angle of the hit, the energy of the formed partons is definitely lower. Those lower energies are the most common. But the energy of a head-on hit is the only size, which allows a direct conclusion about the rest mass of the top protocosm being a parton of the baryon! Consequently, the statistics of the interaction cannot be real at the measurement of the highest frequency at $80.38 \text{ GeV}/c^2$. There the most hits happened. But you don’t know the angles of the protocosms and anti-protocosms while colliding. The very real energy of a closed PK in orbital 1s of the baryon will be at the top size of around $100 \text{ GeV}/c^2$ in the collider, so I estimated!

The pairs temporarily store the energy and the kinetic energy supported. At the same time, the given protocosms are condensed by the remaining part of the energy. Now, the proton has been destabilized! Destabilized by absorption and storing of momentum energy from the outside, by change of the momentum energy into pairs of matter and antimatter and their combination making special partons. Now, we know, what partons there are. These are one ΔL^- in proton and one ΔL^+ in antiproton. Because of the layer of the proton protocosms, both now have an integer spin of ± 1 , additionally zero.

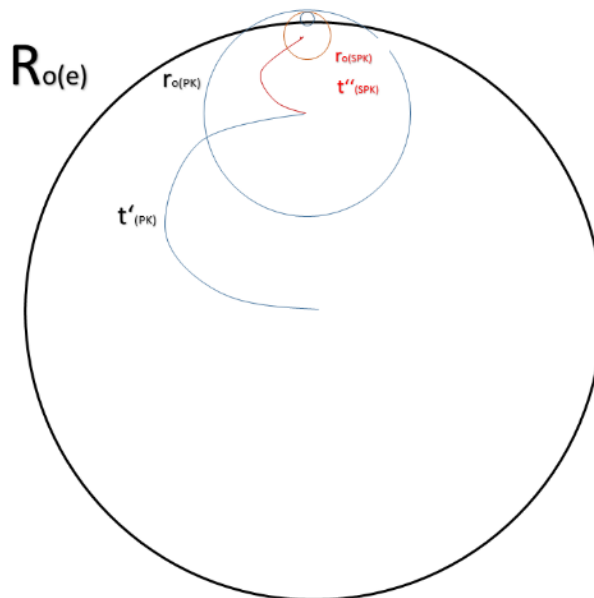
This way, in this very short moment of wave interaction in a collider, a *hot* neutron pair arose under extreme conditions! Such a state is unstable. It decays within less than its own oscillation period of 2.6×10^{-25} seconds up to 3×10^{-25} s into W^- and W^+ bosons, probably relativistically dilated. The proton pair is back again! If however a pair ΔL^0 is formed in 2s orbital of the colliding proton pair, so these both electromagnetically neutral lepton shifts decay into a pair of Z bosons.

From these views, the observer draws his conclusion. W and Z bosons have been decayed being last products of the stable leptons and baryons including a lot of intermediate states. Yes, why did they reflect a discrete property from the inside of the proton? I think, in the proton, there are *protocosms*. When protocosm pairs are formed or even annihilate and formed again, then their shifted braking energy relativistically was reflected like you can compare it to water's freezing and melting temperature. So they found signals of the top protocosms of the protons at the CERN and in the meantime also at different colliders. In the end, each decay leads to the same products of stability.

This becomes particularly clear when electron and positron WQ collide. Why should W and Z bosons also arise? This can be clearly explained by my model: the top PK_e^- and anti- PK_e^+ of the lepton pair just alone form one $\Delta^1 L^0$. By pair formation of this special lepton shift we first get the Z boson pair. But that's not the end of it. Inside the elementary particles we find an area in which the pairs of neutrinos are able to be formed because they are leptons themselves, and they are descendant with each other with the common electron body e-R. Following on this process, at the collision of electrons and positrons also are generated electron bodies and neutrino bodies. We get $\Delta^1 L^-$ und $\Delta^1 L^+$ by the corresponding cross combination forming then W^- and W^+ . Both vector bosons W and Z aren't a special feature of the nucleons. But they are to find while the interaction of hot neutrons and protons as well as the leptons.

How are the top protocosms and their subs inside the electron distributed at all? Presenting this cohesion, I developed a graphic only valid for the electron. An electron only has one top PK_e^- e. m. charged:

Illustration 5.1: Sub-Structures in the Electron



The SSPK I only could suggest. How crazy the whole thing becomes can be seen at the proton where the beginning only allows tree quantum levels for the protocosmic orbitals, which are then occupied by sub-protocosms etc. in an unknown manner. The electron and its neutrino have much more, hundreds to thousands. Such an amount of details, I cannot draw into the illustration. Only the top objects can be illustrated. Still there are filling areas of the space.

Here these conditions are valid:

- $t' > t'' > t''' \text{ etc. } > t_x'$, (> means less larger than)
- $f_{SRT}' < f_{SRT}'' < f_{SRT}''' \text{ etc. } < f_{SRT}^x$
- $m_{PK}' < m_{SPK}'' < m_{SSPK}''' \text{ etc. } < m_{S\dots SPK}^x$
- $M_{PK}' > M_{SPK}'' > M_{SSPK}''' \text{ etc. } > M_{S\dots SPK}^x$

All the time sizes are dilated onto the opening time, which is next to a common time. All the sub-structures evaporate next to each other time while the central objects evaporate as first, at last it is the top object. Every PK, if SPK or S.....SS...PK, makes the same by opening of the top SPK at last. It's no wonder that science had success by disturbance calculation causing the gyromagnetic moments of the electron and the muon. The complete cohesion was a series development of "disturbances", which I discovered now as the actions of the hierarchy of the protocosms.

Interesting is the rotation of PK and their subs (SPK, SSPK, SSSPK, SSSSPK ...). While one circulation of a PK inside its receptacle cosm, it turns around its own axis one times. Exactly! This is the **bound rotation** with the **equal rotation sense as the rotation sense of the orbit!** The same does its internal SPK and also its SSPK etc. (like the moon does it on its orbit around the earth). So the gravitational center of the protocosm surely arrives a point below the amplitude of the receptacle cosm. But the internal negative charge of this protocosm arrives a point above the amplitude. It seems it would have flown at more than light velocity in vacuum. But no, it was moved along its own protocosm a little bit below the light speed. So it was the same inside of the SPK, etc. If the charge while its rotation hurries ahead the movement of the protocosms, sub-protocosms, SSPK etc., then this isn't an addition of classic speeds but the addition of relativistic velocities by the addition theorem of Einstein (cf. 1, eq. 1.1,4).

Only by exceeding of the spacetime limits, there will be a plus amount: a larger magnetic momentum that the Bohr's magneton of 1 at the electron: 1.0011596. This difference between Bohr's magneton and the gyromagnetic momentum of **0.0011596** indicates a cohesion. The protocosmic amplitude $r_{e(PK1)}$ is there at about $0.0011596 R_{o(e)}$. That's an 862^{th} of the electron amplitude. It is essentially smaller than the amplitude of the electron. So the protocosm is heavier. Because there are also "disturbing" parts of SPK and SSPK etc., the protocosm would be a little bit larger in its amplitude and externally heavier than calculated in comparison. So you can compare both cosms directly. The protocosm and the BWH are in relationship of their amplitudes. But the PK have to open earlier. In this cohesion, think at the definition of r_k founded in my book (1). Consequently, I had to divide the expected amplitude of $R_e/862$ by 1.125. Now its size was shortened. And the external mass was increased. The protocosm with the same amplitude as a BHW has the same external mass. Using eq. 4.1 we calculate as followed:

$$m_{PKe} > 511003.08 \text{ eV}/c^2 \times 1.125 / 0.0011596 = \mathbf{496 \text{ MeV}/c^2}. \quad (5.1,1)$$

Using my result of $m_{PKe} \approx 496 \text{ MeV}/c^2$ at a calculation, I find relations of the lepton protocosms. But they aren't accurate enough. I have no way of being more specific. There are no further clues.

At unstable particles, these protocosms are in action as pair generator. They form external pairs or their bodies. Then they come into the outside world as complete particles. You see, everything is really packed into each other. Only by pair formation it comes out again. But only hanging on at the outside, I don't think it would be plausible. Most of the processes would be coupled at pair formations, exclusively neutrino changes.

Electron bodies and neutrino bodies but are as large that they cannot fit into protons inside. The fact that they are really inside the baryons, should be caused by the tremendous momentum energy, which is acting internally even if less energy comes from the outside (reciprocal of eq. 1 b). At this equation, the rest energy is calculated. But also the momentum energy and the kinetic energy can be calculated with it if there is an acceleration of the rotating protocosms.

This acceleration and radiation energy is internally acting while it condenses the objects down in the bodies, resp. the PK, and their SPK etc. It is running until the remaining rest mass will be so much decreased that the amplitude shrinks on a minimum, perhaps at the necessary minimum at the horizon of the proton itself. More we don't need. The lepton PK, which is built into the proton would now has about the equal metric size as the PK of the proton in $n=2$ and the lepton body of the electron antineutrino would be energetically equal next to the top PK of the proton in $n=1$. That electron PK in neutron now rotates along the PK of the proton. Additionally, the electron antineutrino body is on the top because of its repelling antimass.

But how do the relations distribute themselves at the inside? Finding a result approximation, I have to do a lot of table calculations. Exactly, I shall not know it. Theoretical research is a hard work.

By the way, we find at proton and neutron a gyromagnetic momentum below Bohr's magneton. So I think, the external mass of the protocosms may be heavier than expected. If the proton would be made by three integer charges, then Bohr's magneton of >3 should result, but in reality it is 2.7927. The neutron has 1.9156 instead of >2 (related to the proton 1.913, but this is not meaningful). Those protocosms float below the amplitude, it is reversed at the electron.

Why aren't the top PK of protons/ neutrons moved above the amplitude of its receptacle cosm like at the electrons? That they fly below the proton/ neutron amplitude just could be explained by the e. m. interaction of the partons. They are more attracting each other.

On top of the hardly bound electron body, alone the single and free electron protocosm PK_e is flying negatively charged. At the proton above the central body, 5 proton protocosms are flying there electrically charged. At the neutron, there are 6 charged PK and one uncharged anti-PK. While the first above the body turn to the top

analogously to the electron but here in the orbital 2s, the top PK in orbital 1s turn to the center by their e. m. attraction. So all the PK are closer to each other. Inside the neutron the antineutrino body is wondering almost exactly at the amplitude because its g. m. repulsion to the rest of the ordinary matter. Additionally, it is shifted extremely and relativistically.

From this layer, we some imprecisely can recognize in which orders of magnitude the masses of the nucleon PK should be. Once again! We aren't able to measure the rest masses of the protocosms. Nobody is able to calm them down and put them on a scale. Only by use and by knowledge of the braking mass m_A , we are able to draw conclusions on the rest mass m_o and on the movement mass m_B !!

If we now start with the same calculation as above at the electron then here are these round amounts are valid: $2.79/3=0.93$, $0.93-1=0.07$; $1.92/2=0.96$, $0.96-1=0.04$. The layer of the charges is not clear. They almost can be smaller while the rest mass is increasing. Let's have a look at the equations for estimation of the top protocosms of proton and neutron:

$$m_{PKp} \approx 938.28 \text{ MeV}/c^2 \times 1.107/0.07 = 14.8 \text{ GeV}/c^2. \quad (5.1,2)$$

$$m_{PKn} \approx 939.57 \text{ MeV}/c^2 \times 1.107/0.04 = 26 \text{ GeV}/c^2. \quad (5.1,3)$$

I don't know absolutely in which relationship are the gyromagnetic parts. The values obtained here are approximations with large distance from reality. Fortunately, not as far as the predictions of physics for their particles. A small way below, we come to the more precise determination of the external protocosmic masses of the neutrons finding $9.7 \text{ GeV}/c^2$, $9.9 \text{ GeV}/c^2$, and $21.6 \text{ GeV}/c^2$. That should be close enough to my rough estimation. The sum of $14.8 + 26$ is 30.8 . And the sum $9.9 + 21.6$ is 31.5 . These values are really close the estimation.

But the cross is the problem of the extreme diversity at all. It just is difficult to limit. Many protocosm types can exist theoretically unlimited. For example, the mass M could be connected with relatively less momentum energy. Then a very small BWH would remain. The biggest part of its mass M would have leaved this type of PK and not only just half of its mass. Half is relative! It is dependent on the momentum energy stored at the SPK etc.

Every PK structures are able to be programmed. You can especially observe it in universe where are sheer innumerable possibilities of protocosmic programs. In the proton there are the few being minimum. It's hard to narrow down this fact. I just want to say: the basic model as the world is running I suggested since 1986. It runs unified from particles up to the top structures of the universe and naturally to the organic life. *Life only comes from life. Consequently, the whole universe lives! All the formations of structures are following the same laws.*

Now we're thinking about: When the last PK, it is the PK_1 , opens itself, then the end state of the receptacle cosm is made automatically for that arising mass $M_{o(GK)}$ determining the vessel cosm. I only can vaguely say when exactly it has to open at some distance to its own amplitude. At any rate, it must be as wide open that it can interact with its own internal mass $M_{o(PK1)}$ and that its radiation can interact with the external coordinate system, with the content of the receptacle cosm. When is it ready? I think, the radius r_o resp. r_g is the sensitive tip over. From there, the interaction still is zero. Only a certain "to be open" allows all the interactions. It is not inessential to observe the role of the radiation. The internal radiation must come out. And the external radiation must come in. But this is just possible at the radius r_k at, which the radiation could be decoupled and immediately coupled back again (to be equal means an equilibrium, which is too less for an effective opening):

$$r_k \geq 1.125 r_o \quad (1, p 346ff, 349) \quad (5.1,4)$$

Influenced by this size I think, a PK_1 begins to open completely emitting its e. m. radiation at $r < 1/1.125 = 0.889$ before that point at, which it determines the amplitude of the receptacle cosm where the amplitude $R_{o(GK)}$ arises. In the reality, by the action of the g. m. interaction with the environment, the value of 0.889 will be a little bit lower. I estimate it down to 0.8 .

It might be a law. Otherwise, the participation of the PK_1 at the matter of its vessel cosm would not be realized completely.

It's also essential that this PK_1 with its gravitational center is always set on its own amplitude $r_{o(PK1)}$ and on the amplitude $R_{o(GK)}$ of the vessel cosm. Only an electric charge at the SPK_1 can fly above or below the amplitude. Don't forget, the PK_1 of electron flies above the amplitude of the electron! At the neutron and the proton, the protocosms in 1s fly below their receptacle cosm amplitude. Let's look at this problem now.

5.2 Energy Overview of the Neutron including Conclusions to the Proton

Summary. Three protocosms PK_1 of neutron in orbital 1s are the carrier of the weak interaction, which is asymmetric. Those four protocosms of neutron in 2s are the carrier of the symmetrical e. m. interaction. Therefore, a proton also has a distribution of different orbits of its five top protocosms laying on the equalized mass block, which is in the center! Neutrons have 7 top PK. In orbital 1s, there are 3 PK and in 2s, there are 4 PK. Why do I speak of both neutrons? Protons and antiprotons are collided. Well, their wave quanta have met one another with energy, which allowed the formation of ΔL -pair no matter if charged or uncharged. From this follows the formation of W pairs or Z pairs and their decay. While this event, each time proton pairs are won back (they aren't disturbed as some people think). At charged pairs of lepton shifts ΔL^+ , the matter arrives a temporarily immediate state of hot neutrons and antineutron.

Only from them a weak interaction is possible. So an "electro-weak" interaction, too. A stable proton in relative rest without support of energy doesn't participate at any weak interaction at, which would be bound asymmetric consequences. *This is why I primarily think of hot neutron-antineutron interaction when we observe W and Z bosons' actions and interactions.*

Some BWH cosm is like a spatially vibrating building, which **internal masses never allowed to come out**. But they are measurable just in this moment of the opening of their BWH. If closed, only **parity energy** can interact internally and externally at momentum hits (action = reaction). There, it starts parity processes (pair formations), which cause illusions that externally would be "quarks" born equally to the internal. BUT, only the momenta are the same amounts! Contrarily, the particles aren't! Particle pairs are allowed to go out over the border of the BWH. For the external observer, the open BWH seems to be like a static BH.

The craziest thing at the quarks model is the mass of the "quarks" in relation to my model of masses and radii of the particles. Let's look at the u-quark at $2.16+0.49-0.26 \text{ MeV}/c^2$ and the d-quark at $4.67+0.48-0.17 \text{ MeV}/c^2$. Using my model, both are 408times resp. 195times larger than the proton. How are they supposed to form a proton without a condensation process that would raise their energy to at least 940 MeV? When the s-quark comes additionally walking by at $93+11-5 \text{ MeV}/c^2$ (really imprecise), so it is even 9.9times larger than the proton. Only c, b and t quarks would fit into the proton, c $1270\pm 20 \text{ MeV}/c^2$, b $4180+30-20 \text{ MeV}/c^2$, t $172760\pm 300 \text{ MeV}/c^2$ (sizes from [https://de.wikipedia.org/wiki/Quark_\(Physik\)](https://de.wikipedia.org/wiki/Quark_(Physik))).

Perhaps this was the trick because of the inversion of the relations at the horizon r_0 ? But this is also without any sense in the end. I think, only W and Z bosons reflect a sense by their information about the inside. Later this will be more clear when we shall see that the so-called "quarks masses" just are each a difference energy of the protocosms. This means that **mass and energy differences aren't yet particles! These are orbital differences; differences of the amplitudes of the PK; energy differences at the change of the orbitals resp. the energy differences to close an orbital by condensation or to open it by evaporation. Energy differences you simply can calculate over into momentum masses. And then you can proudly speak of a „mass of quark" as you also speak of a "mass" of a photon. This way, everything will be mixed up, wave and particle.**

For another estimation of the mass of the protocosm PK_1 , I had the following idea in cohesion with the IOT I (2, p 224, illustration 8.2.5;1): the neutron mass will be increased by the SRT-factor f_{SRT} , from, which I got an approximation of the rest mass m_{PK_1} of the PK. But this massive body is not allowed to arrive the amplitude $R_{o(n)}$ of the receptacle cosm. It only is allowed to reach about 0.889 $R_{o(n)}$ evaporating before. Now at its moment of evaporation, the PK_1 must be 1.125 heavier than its neutron mass m_n at the time of its evaporation and while it has arrived its dilated movement mass $m_{B(PK_1)}$. Basically, this is about the relationships between the periods:

$$\begin{aligned} m_{B(PK_1)} &= 1.125 \dots 1.25 m_{GK} = m_{PK_1} / f_{SRT} & (5.2,1) \\ m_{GK} &= 0.8 \dots 0.889 m_{B(PK_1)} = 0.8 \dots 0.889 m_{PK_1} / f_{SRT} \end{aligned}$$

$$m_{B(PK_1)} = 1.125 \dots 1.25 m_n = 1,057 \dots 1,174 \text{ MeV}/c^2.$$

It's heavier than the neutron so that it opens up earlier!

But at the same cause, this SRT-factor has to give the PK momentum mass m'_{PK_1} well-known as W boson mass $80.38 \text{ GeV}/c^2$ when multiplied by the rest mass m_{PK_1} of the protocosm (that's the braking mass from amassment, indication mass by interaction of collision). For a long time I was caught up in the number 80.38. I believed that I had absolutely had to act on it.

Consequently, everything is different:

I cannot accept that a frequency value of the rest mass is given for the W and Z boson. That's a value that was calculated from a distribution graph. This is why I draw the following conclusion. There are a lot of states of interactions testifying of different energy states of the PK of the neutron and antineutron. The result is dependent on the layer of the hits at the collision of proton and antiproton.

Imagine two classic spherical bodies colliding! Both they meet exactly frontally and at all possible points on their hemispheres. They cannot meet any deeper because they are already there one behind the other. Because of the angular velocities, most hits are found with a lower energy or braking mass equivalence than the frontal hits. Just these frontal hits have the lowest probability. But they are the only ones, which reflect the braking mass exactly. Who wants to calculate the problem? Who knows the angles of the hits at all?

In my model, there are two objects – the protocosms of proton and antiproton –, which wave quanta meet themselves. But while their flight through the accelerator of the collider, they are moving itself in a circle so that the probability of frontal hits is still slow. Even there are hits lagging behind what is not possible at simple classic spheres. I think, an extremely fast wondering magnetic field attracts the magneton of the proton. It thus achieves 100 times the braking energy in relationship to the rest mass. The intrinsic vector of the magneton is in the middle exactly between both magnet coils (solenoids).

Taking a parable, this would be like you starts running with a dumbbell in your hand. And now the craziest thought comes along. You glue a chewing gum ball at the dumbbell's circumference. Then you turn the dumbbell in your hands so that the gum ball rotates along. Our counterpart (parable of antiproton) comes towards you with such a dumbbell, too. And now, please, both are colliding while we record series of measurements in which location and, which energy both chewing gum spheres were colliding. From this, a peak will result but not at the maximum of the collision energy. Only very seldom both chewing gum spheres are meeting frontally by maximum braking energy. Can you imagine this?

In any case, the wave quanta collisions have a certain angle of each other by what the braking energy measurably becomes more and lesser than the real braking energy of a frontal hit. Everybody knows that frontal hits always have the maximum energy. If you now add up the most hits statistically, so you get the energy amounts of 80.38 GeV and 91.18 GeV (10.8 GeV more) from frequency of proton pair hits. Let's look at the measurements of the CERN ⁽⁵⁾ then we find there also maxima of the real braking energy of my "PK pairs" in the origin as W and Z bosons declared.

Consequently I think: the most frequent mass value of 80.38 GeV/c² isn't meaningful enough. I say: the highest braking mass indicated is the mirror of the frontal collision. Around 100 GeV/c² were indicated for the W bosons. Consequently, I have good reason to assume this size at least.

Therefore, the following calculation only will be an idealization again next to reality:

$$m'_{PK1} = m_{PK1} \cdot f_{SRT} \quad f_{SRT} = 1/(1-v^2/c^2)^{1/2} \quad (5.2,2)$$

The next equation follows after equation 5.2,1 with m_{PK1} inserted into eq. 5.2,2:

$$m'_{PK1} = m_{GK} \cdot f^2_{SRT} \quad m'_{PK1} \approx 100 \text{ GeV}/c^2 \quad m_{GK} = 937.2721 \text{ MeV}/c^2 \quad (5.2,3)$$

Now I can calculate the SRT-factor of the locked PK:

$$f_{SRT} = 10.32370537 \quad (5.2,4)$$

also from m_{PK1}/m_p as m_{GK} . Now we get the resting mass of the parton PK₁

$$m_{PK1} = 9.6864446 \text{ GeV}/c^2 . \quad (5.2,5)$$

Opening it to evaporate its internal mass, we have to give it time. This necessity we idealized by the factor of complete opening of radiation of around 1.125 to 1.25 by $f_{SRT} = 9.17663$:

$$E_{w1} = 88.89 \dots 80 \text{ GeV} \quad \text{by } c^2 \quad m_{PK1} \cdot c^2 f_{SRT} = E_{w1} .$$

The PK₁ closed would have a braking energy of 100 GeV/c² at f_{SRT} = 10.3237. You only can indicate it, if you support the highest energy and if you give the conditions of a frontal hit. Even this energy still condenses that PK_p on 1s to a PK_n. If it remains far below this energy by f_{SRT} of 10.3237/1.125 ... 1.25 = 9.177 ... 8.259, it has the chance of a short way of idleness at the amplitude of the neutron (also of the proton): open (evaporate) and lock soon again (condense). These amounts still need to be specified.

So the top PK of a neutron and a proton in 1s is an unstable microcosm with a rest mass of 9.686 GeV/c². That value one cannot find in the quarks model.

Well, why not? Let us repeat! The reason is why internal cosms cannot be measured directly. You cannot put them individually at the scale! You cannot put a car at the scale driving 100 km/h, too. Only the interactions attest the magnitudes. But they are dependent on the momentum mass resulting at the interactions of collisions. At the partons of baryons, this is a relativistic braking mass!

Second PK in 2s is a little heavier than the first one. Using the frequency of hits, the external reflection of momenta by Z^o is given at 91.18 GeV/c². I assume 110.8 GeV/c² from the difference GeV/c² 91.18 to 80.38. PK₂ is allowed for opening a longer period. Its electric charge flies about 4% deeper than the amplitude position (because of 1.92/2=0.96). Definitely, it is open a little earlier. These facts I have to calculate in unity. Too much factors of influence are possible describing the location of the charges.

So I calculate here the rest mass m_{PK2} by closing f_{SRT} estimating smaller by equ. (5.2,3):

$$m_{PK2s} = m'_{PK2} / f_{SRT2} = 110.8 \text{ GeV}/c^2 / 10.8669 = 10.1961 \text{ GeV}/c^2 \quad (5.2,6)$$

We know, after evaporation, it has to be open longer than PK₁. I agree, that opening factor 1.125 ... 1.25 is not enough anymore. So I calculate as follows:

$$m_{PK2s} = 10.1961 \text{ GeV}/c^2; f_{SRT} = 8.2561 \text{ and } E_{w2} = 84.18 \text{ GeV}. \quad (5.2,7)$$

Both PK in 2s of the proton each have a rest mass of 10.1961 GeV/c². By the possibility of evaporation at r_k, the sum of both momentum masses is: (84.18 + 88.89) GeV/c² = 173.07 GeV/c². This sum is comparable to the measurement of the so-called "top-quarks" from CERN. In neutron is it increased from 90.566 + 86.381 – 4.185 to the amount of 172.76. Here the difference of both amounts gives the size of 4.185. Expressed by GeV/c² it would be the so-called "b-Quark".

On base of measurements and models, nuclear physics found this cohesion. "A b-quark would "decay" into a c-quark or into a u-quark. A c-quark would "decay" into an s-quark, but less into a d-quark. A t-quark would "decay" into a b-quark, less into an s-quark and hardly into d-quark". In my model wave quanta don't decay. But their energies are changing from orbital to orbital (quantum leap). If you force a higher orbital by higher energy support by collision, then after all the quantum falls naturally back down to its stable state before. Consequently, there are quantum leaps of PK locations and not decays. It even makes sense to express this sum by energy support because there in proton must be formed a lepton shift ΔL from antineutrino body and electron protocosm. But this value, we get a second time by braking mass of the protocosms in 2p in the case of opening them (here in eq. 5.2,8).

From a side calculation using eq. 5.2.10, I found that the deepest evaporation to mass in the nucleon occurs at an elongation of 72.8%. The PK had to fly to this position to open and release the required mass. That means the singularity of data. We are dealing with discrete values. Our matter is not analog, but discrete. In this respect, it explains why the very first particle, the graviton, is no longer explainable from its inside, but only about its oscillating elongation, controlled by the real matter of Creation.

How should a PK behave on its orbital 2p where are given 12 PK of the same type? There are 3 complete quadrupoles. All the quantum numbers are added to zero except for the mass. This central state is descendent with the so-called "Higgs boson". I had to check out the external mass of the protocosms in 2p very high that internal mass of neutron was automatically resulting. From my table calculation followed:

$$m_{PK2p} = 21.226325 \text{ GeV}/c^2; f_{SRT} = 22.3228 \text{ and } E_{w2p} = 480.2 \text{ GeV}. \quad (5.2,8)$$

The value of $m_{PK2p} = 21.2263 \text{ GeV}/c^2$ would now be the first area that would reflect the energy of a massblock, because here all the three quadrupoles of PK are compensated. Only the mass has to be taken in account. If these protocosms would not open then they would achieve a braking mass of about $480.2 \text{ GeV}/c^2$.

Why is the pulse value zero just at a half pulse protocosm, which is even electrically charged? I think that each of the four PK is in its compensation field. At the Z boson, too, there is not reflected one of both PK contrarily charged, but the compensation of the charges and the addition of the pulses onto the value of 1. Even, if we used the same factor f_{SRT1} calculating the rest masses of the following protocosms PK_n , we would come next to these values I had assumed and calculated:

I found the differences of real braking mass of the $PK_{1,2}$ ($-90.16+88.89$) GeV/c^2 of $-1.275 \text{ GeV}/c^2$ for the lepton shift. It reflects a "quark c" of around $-1.27 \text{ GeV}/c^2$. And the so-called "top-quark t" of about $173 \text{ GeV}/c^2$ forms the lepton shift. At the same time, it is the given energy difference between the baryon protocosms $PK_{2,3}$ in orbitals 2 and 3. Also this is a resonance causing the formation of lepton shifts.

So I draw the conclusion that differences of braking masses surely aren't the particles themselves. It would be the same, you took the difference of the energy of a muon and a pion, and then you would claim this was a particle. Also the difference of an electron level in the hydrogen atom between 1s and 2s and back doesn't mean to be a particle, but it is a momentum energy from a **quantum leap**. Making it into a particle as physics does by observations at colliders calculating differences, this is certainly a fault. I presume my model of waves and particles are separated states.

From my table calculation now the following values result for the neutron under the condition that the difference of the protocosmic rest masses Δm_{PK} is given from the levels n and n-1:

$$\Delta m_{PK} = m_{PK(n)} - m_{PK(n-1)}.$$

Braking mass $m_{A(n)}$ of each PK is determined of SRT factor $m_{A(n)} = m_{o(n)} \cdot f_{SRT}$. Using the estimated values, I made the calculation file for the protocosmic quantization. There are still relatively great uncertainties in this regard. The most important thing is that such a model is possible at all. The antineutrino body consists of antimatter. It is located on the top repelling from the internal ordinary mass.

There are many possibilities varying the protocosm masses while retaining the neutron mass $M_{o(n)}$. After various options, I decided for the last one. Obviously, the negatively charged PK_{e-n} has to be ordered to orbital 2s of the neutron flying higher condensed to localize there. I think that the energy isn't still enough for it, because it had to be forced for it. How did the state PK_{e-n} come about?

Those subs SPK_e of the top protocosm PK_e were closed from above to the inside as long as they were supported by external energy acting to the inside. This process runs until a remaining mass M results inside the PK_e , externally m of $9.83275 \text{ GeV}/c^2$. That's the new resting energy of this energy cosm. The internal mass M now is a sphere that is 20 times smaller than the protocosm mass M_e of the pure electron was before. Around it, sub-protocosms SPK_e are flying. Because of their condensation they fly in closed state on closed orbitals without such a stop. Like photons do, they fly exactly having their new world radius r_{oEK} of the PK_{e-n} that is 20 times smaller. It will be opened for its less mass M_{e-n} (condensed from e-state onto the n-state). But the SPK condensed cannot open themselves in that time. If they can emit energy soon they get back some energy and continue rotating on their orbits. This is the cause that only the external masses m of the SPK count into the complete internal mass of the PK_{e-n} . This electron-top-PK doesn't open anymore.

Independent from neutron state, we observe my equilibrium condition between inside and outside. The internal antimass of the antineutrino body while total evaporation inside the antineutrino has a value of $-1.3542 \times 10^{20} \text{ kg}$. Top electron-PK totally opens $5.36 \times 10^{11} \text{ kg}$. One of the top PK of the proton in 1s just opens $2.74 \times 10^{10} \text{ kg}$. From this I draw the conclusion that a neutrino body has the biggest internal pressure of its internal mass in relationship to the PK of electron and proton. For this acknowledge I give you my **Law of the Internal Pressure of the BWH**:

Those cosms, protocosms, and energy cosms having a smaller internal pressure of their internal mass bound at internal energy are easier to be condensed (to be pressured) by external pressure energetically supported!

PK⁻ of the electron in 1s, which was coming into proton by ΔL⁻, will be pressed together by radiation energy. Its sub-PK will be condensed down until it reaches the external mass of the neutron itself. This is why it flies near the amplitude 1s of the neutron instead of the orbital 2s. Absolutely, it cannot open and evaporate. For such a step, it needs the energy difference of ΔE₁ = E_n - E_{PK_e} = (939.5705 – 496 ... 551) MeV. We get 388.57 ... 443.57 MeV locking the electron-PK in its neutron. Antineutrino-body is flying on the top of ΔE₂ = E_n – E_{v-R} = (939.57 – 0.185) MeV = 939.385 MeV.

Now we just got two resting but reduced partons in the sense of energy cosms EK. With their newly set resting mass close to the neutron-mass, they have to move to the amplitude and back. For doing this, they need an own kinetic energy once again larger than the sum of ΔE₁+ΔE₂. How big should it be? If it generates a relativistic speed, the factor f_{SRT} shifts the new resting mass m_{o(n)} of around 939.6 MeV/c² down to the movement mass m_{B(n)} and up to the braking mass m_{A(n)}. And yet they want to move at almost light speed in vacuum, the best as fast as all the other PK of the neutron in orbital 1s. They would reach the factor f_{SRT} = 9.23809. Using it, we shift the new resting masses of both energy cosms as follows:

$$m_{B(n)} = 939.57 \text{ MeV}/c^2 / 9.23809 = 101.7 \text{ MeV}/c^2$$

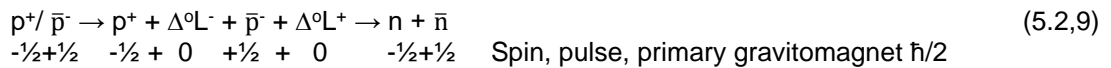
(cf. this value is close to the hypothetic s-quark **88 ... 104** MeV/c²)

$$m_{A(n)} = 939.57 \text{ MeV}/c^2 * 9.23809 = 8,679.8 \text{ GeV}/c^2.$$

Only a certain shift of the speeds and at the time of the factors of SRT would mean a shift of these energies. It is a sure assumption that energy amounts between both partons are a little bit different. The anti-parton in orbital 1s generally flies on the top of 1s. Electron PK in neutron totally locked is ordered to orbital 2s. But it moves close to the neutron amplitude of 1s. Consequently, the anti-parton has more anti-energy at its antimass than the ordinary mass-energy of the top protocosm of the electron. While radiation of antimass an energy loss is acting, its amount goes close to the amount of the mass of the PK_{e-n}. Meanwhile it compensated a small part of the mass, perhaps just the maximum of 20 MeV/c².

This could be the binding energies of 2 up to 20 MeV/neutron in the atomic nucleus, which can be emitted by the neutron in a maximum way.

Neutron pair could be built by collision of proton p⁺ and antiproton p⁻ :



Overview 5.2.1: Structure of Neutron

PK rest mass	EK rest mass	Locking	Locking	Opening	Opening	Head				Quantum-	Braking mass	Braking mass	Difference	M _{PKj}	M _n			
m _{PKj}	m _{PKj}	Proton	Neutron	Proton	Neutron	level	n	Q _n	m _{PKj}	M _{oPKj} proton	M _{oPKj} neutron	number	of proton-PK	of PK neutron	complete	upwards addition		
In GeV/c ²	In GeV/c ²	f _{SRT}	f _{SRT}	f _{SRT}	f _{SRT}				In kg	In kg	In kg	4n ²	In GeV/c ²	In GeV/c ²	In MeV/c ²	In kg	In kg	
-0.00018500	-9.68644600		10.45500			v _{e-R} 1s	1	Q _n	-3.2986E-31	-1.43605E+15	-3.29855E-31	4	1	-101.272	-20	-3.29855E-31	-3.298550E-31	
9.68644400		10.32371	10.45490	9.17663	9.34980	1 1s+	1		1.727E-26	2.74268E+10	2.71525E+10	2	2	101.27	90.568	1276	5.469262E+10	5.469262E+10
0.49600000	9.68644600		10.45290			PK _e 2s+	2		8.844E-28	5.35622E+11	8.84368E-28	16	1	101.251	172763	8.84368E-28	5.469262E+10	
10.19610000		10.86690	10.88500	8.25610	8.47200	2 2s++	2		1.818E-26	2.60559E+10	2.60298E+10	3	3	110.98	86.381	4185	7.80895E+10	1.327821E+11
21.22632500		22.62279	22.70000	5.80000	5.90000	2 2p	2		3.785E-26	1.25160E+10	1.25035E+10	12	12	481.84	125.235	1.50042E+11	2.828237E+11	

In this overview, the protocosms of the antineutrino body v_{e-R} (line 4) and of the electron protocosm PK_e⁻ (line 6) aren't still just pure protocosms but energy cosms EK by condensation onto neutron states v_{e-n-R} and PK_{e-n}⁻. This is why they cannot evaporate. Only the external mass of these partons counts to the total internal mass of the neutron. Now the sub-protocosms of the proton protocosms are partially closed in 1s to 2p, so that these PK_p increase in their external mass, fly faster and spread less internal mass. In the result, they decrease the original internal proton mass M_p of 2.32128 x10¹¹ kg to the internal neutron mass of M_n = 2.828237 x10¹¹ kg. Vice versa, the external mass of the neutron increases from the proton of 938.28 MeV/c² onto 939.57 MeV/c² of the neutron. The math relationship is the same, but just reciprocal: 1.001375769.

In the lines 4 and 5 is the orbital 1s. Here are 2 PK of the proton where under perfect conditions could be four PK. The antineutrino body gets into the neutron (line 4). Because it flies on the top and would reflect different values, I varied them a little onto the possible model hat means to emit no internal anti-

mass. In the lines 6 and 7 is the orbital 2s. Here are 3 PK of the proton. For completion of the quadrupole in orbital 2s of the neutron, the negatively charged top protocosm of the electron came in (line 6). It is also likely to rotate in the Upper Shell and remains closed.

That orbital 2p in line 8 is completely filled by 12 PK of the proton on base of my equation for quadrupoles $4n^2$ to maximum fill up a level from 4 plus 12 to 16. So three quadrupoles are there in three areas in the space. Quadrupoles are equalized by their quantum numbers so that they each have the pulse of zero. So they appear as a pendent to the assumption of a "Higgs boson" of the value of 125 GeV/c² (that's a boson only inside proton!). Interesting is also that each proton protocosm has now an own cosm sentence as a mass block. I think that each PK and its mass block make the illusion of a "quark", together tree. The difference of energy values is around 125 GeV in my model.

Overview 5.2.2: Structure of Proton

PK rest mass	Locking	Opening	Head			Quantum-	Max. braking	Real braking	Difference & sum	M _(PK)	M _{n,p} in kg
m _(PK)		max/ min	level		m _{o(PK)}	number	mass of PK	mass of PK	of braking masses	complete	upwards addition
in GeV/c ²	f _{SRT}	f _{SRT}	n	Q _n	in kg	4n ²	in GeV/c ²	in GeV/c ²	in GeV/c ²	in kg	in kg
			1s-			1					
9.68644460	10.32371	9.17663	1 1s+		1.72709E-26	2	100.00	88.89		5.48536E+10	5.485363E+10
			2s-			1					5.485363E+10
10.19613000	10.86690	8.25610	2 2s++		1.81797E-26	3	110.80	84.18	173.07	7.81674E+10	1.330210E+11
21.22632500	22.62280	5.89000	2 2p		3.78465E-26	12	480.20	125.02		1.50192E+11	2.832128E+11

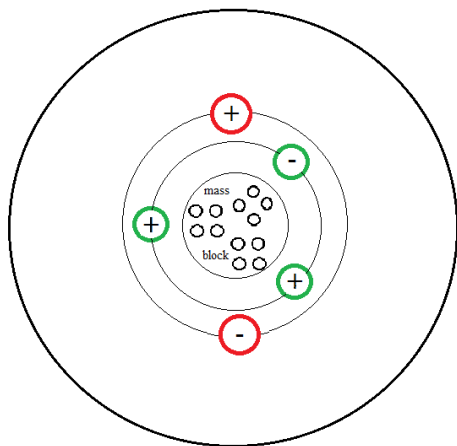
f

With the factor "max. f_{SRT}" the PK would be closed. That it can open itself, it must fly more slowly. So the factor "real f_{SRT}" results at best. All opened mass M of the PK results in the sum of the internal mass M_o to the amplitude R_o in the column "M_{n,p} in kg upwards addition in kg". With the factor "max. f_{SRT}" the maximum braking mass "Maximum braking mass of PK in GeV/c²" would follow. The real braking mass with the "real f_{SRT}" is in the next column. That highest braking mass is in the center of the proton with 173.07 GeV/c².

At the moment of collisions of protons or antiprotons, the top PK are accelerated and closed. In case of indication of energy differences, then the closed amounts of the PK are valid. So I get differences in hot neutron like e.g. 4.18 GeV.

The cosm internal radiation is closed at the external radius r_o. At this position, a parity momentum transmission is possible from internal wave quantum to the external wave quantum and vice versa. Observing the 3 blocks, the proton looks like a particle of 3 constituents.

Overview 5.2.3: Location of the Partons in the Proton



The internal radius R_o is the amplitude of the spatial oscillation (2.1x10⁻¹⁶ m). PK₁⁺ and PK₁⁻ in red color are the top and the lightest in the proton. Electromagnetically they are equalized. Those PK⁺⁺ in green color are in orbital 2s. Next to the center, there is the mass block M of 2p filled by 12 PK. They are compensated by charges, pulses, orbital momenta, and intrinsic angular momenta. Have I forgotten the orbitals 3s etc.? No, I've not! The proton is the smallest stable particle of our world's hierarchy area. So it is quantized most roughly. The fast observer means to see 3 head blocks. So surely the assumption would be originated that the proton would consist of 3 "quarks".

But unfortunately, there are more than three partons.

Although, I hoped to find still more protocosms in the proton, the sum remains at 19 proton PK. The neutron has 21.

These last 12 PK_c in the center C of the proton (or seen from the central position they are the first PK_c in the center) are closely following each other so that they imply the illusion of a “Big Bang” in the nucleon. Inside of this homogeneity of equalized quantum numbers, the compensated level seems to be like a “Higgs boson“. Though states completely equalized are very hardly to verify. By differences of energy levels the measuring result appeared of 173 GeV.

Presently, the “Higgs boson” of the electron couldn’t be found. This would be one pair of the body of the electron e-R/ \bar{e} -R. An electron-hull doesn’t consist from one single orbital 2p like the proton body anymore, but it consists from many deeper quantizations. Proof can be possible for every single area if 3s, 3p, 3d, 4s etc. Each of these orbitals even has an essentially greater relativity by f_{SRT} . Then the braking mass increases into extreme values. Well, you only can prove a braking mass resp. a braking energy (relativistic momentum energy). I think, there must be relatively high energies of my so-called mass-blocks in the electron. Later, when I explain the electron quantitatively, I try an estimation and find a proximity of 513 TeV/c². Yes, you’d have to make colliding electron and positron by 1100 TeV. When should this be possible?

In the year 2020, the LHC of CERN arrives 7 TeV/c² of proton momentum mass. At the ILC will be reached 500 GeV/c² for electrons and positrons. Proving my model still will take a long time. 1000 times of more energy is necessary for it. It is not as easy that the result is directly seen. Under an extremely gigantic field of interactions energetically lower laying like a curtain before the higher and highest energies, you don’t have to find the needle in a haystack but on the Jupiter!

Internal partons and their e. m. and g. m. exchange quanta are captured. The more they climb to the radius R_o by relativistic movements the greater are the forces holding tight them.

This system is also in each of the protocosms by their sub-protocosms etc. Inside the subs, there are subs again in the package, etc. In the end, the primary elements resp. their primary compounds created by openings (evaporations) remain there. Being analoga to proton p and electron e, which are here ¹H (hydrogen), there are graviton g and subtron s. This single sub-atom formation ought to be provable at energy about 10¹² TeV. I think, it is impossible.

All the sub-cosms in proton are oscillating themselves in the bath of their g- and s-magons in the internal stationary vacuum. Between them, the momenta convey those wave quanta, which just are arisen by oscillation spread out into all directions of the space. This is the internal gravitation, the gravitomagnetism in the proton and the internal electromagnetism. Both interactions are absolutely and relativistically captured.

The phenomenon is known in physics under a different terminology. It is still called “confinement of quarks”. Physics search for exotic solutions explaining the gluing of so called “gluons”. And one draws Feynman graphs in order to avoid the dilemma that there seems to be no common energy balance between the processes. Already Einstein predicted the capturing for “Black Holes”. Well, I say now: **the elements of a closed cosm are tied together by their relativistic effects of internal gravitation.**

Unfortunately, everything is very different from what you think! Let’s bring light in the darkness of inside and outside of the particles being cosms but neither point nor solid bodies. We want to find an equation that is possible calculating external changes of mass or energy into internal and vice versa. Then the Feynman graphs would get a binding wave line that is already given qualitatively by my model’s lepton shifts ΔL . Interesting is that the SRT-factor is a different size for all primary protocosms inside this particle. Naturally, for sub-protocosms it is a different factor. And so once more a certain substructure of dilated openings is continuing. This is why my approximation by table calculations cannot be exact. Out of my sight, it is a good start to support the understanding of my model of the complete world.

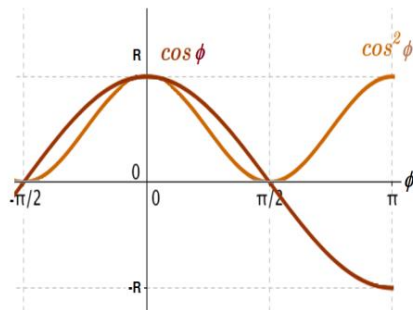
To have a picture of it, you have to imagine looking from the amplitude of the proton down to the center. Yes, when the protocosm of the orbital 1s opens itself in front of us, we look from the imaginary peak of the cone to an increasing number of openings down to the center of the proton.

If the proton now gets an external momentum into its inside then the SRT-factor increases for all primary protocosms. They all open themselves later and close earlier. This is why the shares of their sub-protocosms and sub-sub-protocosms ... as well as their free sub-particles g and s are included. Every integer quantum then is active, but never continuous changes. If a whole “floor” of the protocosms, an orbital or even a sub-orbital of up to 4 protocosms is closing, a difference becomes measurable as we know it from the quantum leap in the electron shell.

By energy support less internal mass gets free so that the external mass of the destabilized proton increases. Overall, the tripartite of the electromagnetic disorders remains. As soon as the energy is enough for pair formation of protocosms then a five-partite becomes from tripartite. Physicists speak of a co-called “pentaquark”. But is not such a one. It really is a “penta-protocosm-system”.

Let’s refine now the protocosmic quantization in the proton. Under this condition, the „small bang protocosm” can be constructed from the unused rest of the internal mass of the top protocosms. Already from my „Wave Theory of Universe“ of the year 1987 and from the IOT IV of the year 1990 (p 94,eq. 2.13.2,9), cohesions result between elongation of the spatial wave by steps of dR up to the amplitude R_0 and their internal mass development dM up to the complete mass M_0 :

$$\cos^2\phi = R^2/R_0^2 = M/M_0, \text{ from, which follows } M = M_0 (R/R_0)^2 \quad (5.2,10)$$



Because of this quadratic ratio, the mass M initially increases less along the elongation R , then steeper and finally less again. The **steep edge** of the cosine square function of the mass is very important for us. It indicates that there must be a great leap of the properties of protocosms in this area. The amount of each quantum level increases significantly. Though the external mass of the protocosm will have a bigger difference ($173 \text{ GeV}/c^2$).

Is this jolt unrealistic? I think, it isn't. The top PK internally are such a kind of outfitter of complete “galaxy heaps” (in analogy of our big heaps in the particles only gas heaps). They are filling a big part of the space with matter by their sub-protocosms and their substructures. The steep jump down (or conversely up) therefore is only a small transition zone.

Constructing the relativity from outside to inside, I consequently decide between external mass m_0 and internal mass M_0 that is an oscillating spatial wave there returning to itself. None of this would *come out, if there wasn't a difference inside, an asymmetry*. This different effect generates an external appearance according to the rhythm of the internal oscillation becoming the external mass m_0 now.

So now we would have them all together – the apparent high-energetic “quarks”: c-b-t, which aren't building blocks of the proton in the reality. But they are quantum leaps between the real building blocks, of the protocosms of the neutron. An interesting sequence we've got! 1.27 GeV – 4.18 GeV – 173 GeV; c-b-t. The energy of a seemable “Higgs-particle” with the name of my model Higgs-block H_p also fits into my system by its 125 GeV. It is the only and single one of the proton. But this is an energy level and no particle!

The following 3 but don't fit into the neutron. Being wave quanta, there are extremely dilated wavelengths! Consequently, we only have differences of energy by external reflections from the interior: 96 MeV – 4.8 MeV – 2.3 MeV; s-d-u.

([https://de.wikipedia.org/wiki/Quark_\(Physik\)](https://de.wikipedia.org/wiki/Quark_(Physik)); Dec. 2021)

5.3 Lambda Baryon

If you condense the protocosms of the neutron supported by external energy of about 180 MeV/c² then from neutron n becomes a lambda baryon Λ . The origin state loses internal mass reflected externally by the certain change: 939.57 MeV/c² onto 1115.68 MeV/c² by 176.11 MeV/c² difference. Kinetic protocosmic energy was increased in the same ratio as the external rest energy of lambda baryon and neutron. I really proved it mathematically by the given sizes although it follows from normal multiplication. I'm not a Friedrich Gauß.

There are no descendants of the Λ^0 electrically charged. So I mean that the lambda cosm is a higher energetic neutron by less internal mass M and more external mass m of internal energy condensed and stored. The particle lambda zero stands between neutron and sigma-zero-baryon and of this charged variants. Collision energy of protons and antiprotons is a little bit more than the pair formation energy of neutrons.

I assume that there are formed no additional ΔL -pairs except of that one, which already is in the neutron (or especially in antineutron). So may be, it is the reason why the electrically neutral lambda has a single location surely between unstable baryons.

Protocosms will be accelerated by higher internal energy. Their factor f_{SRT} has to increase beginning at the top of the amplitude down along the first sub-structures – to the sub-protocosms, sub-sub-PK, etc. Mathematic data come from older calculations. Nevertheless, they are very close to newer data of proton and neutron.

The orbital 1s will be locked partially by sub-PK in its both proton-PK. 2s is not yet involved. Here is the table of the interior of the lambda baryon. Its internal mass of 2.381223×10^{11} kg is the cause of the external baryon-mass of 1.98926×10^{-27} kg or 1115.68 MeV/c² acc. to eq. 4.1:

Lambda Table 5.3

PK rest mass	Theoretic proton	Estimated increased level	Head level				Quantum-number	Braking mass of proton-PK	Real braking mass of PK	Difference betw. braking masses	$M_{(PK)}$ complete	M_n upwards addition
$m_{(PK)}$ in GeV/c ²	f_{SRT}	f_{SRT}	n	Q_n	$m_{(PK)}$ in kg	$M_{(PK)}$ in kg	theor. $4n^2$	in GeV/c ²	in GeV/c ²	in GeV/c ²	in kg	in kg
-0.00018500		5.50E+04 $\bar{\nu}_e$ -R	1s-		-3.29855E-31	-1.43605E+15	4	1	-10.18		-3.29855E-31	-3.298550E-31
9.69314200	10.31657	10.74780	1 1s+		1.72829E-26	2.74079E+10	2	100.00	104.18	4.180	9.72521E+09	9.725212E+09
0.49600000		21.00000 PK ₊	2s-		8.84368E-28	5.35622E+11	16	1	10.42	4.180	8.84368E-28	9.725212E+09
9.89365400	10.52998	8.31995	2 2s++		1.76404E-26	2.68524E+10	3	104.18	82.31		8.05572E+10	9.02824E+10
21.56400000	10.63190	8.02580	2 2p		3.84486E-26	1.23200E+10	12	229.27	173.07	125.086	1.47840E+11	2.381223E+11

Pair of lambda baryon could be formed at the collision of proton p^+ and antiproton \bar{p}^- (more energy than at formation of neutron pair is necessary):

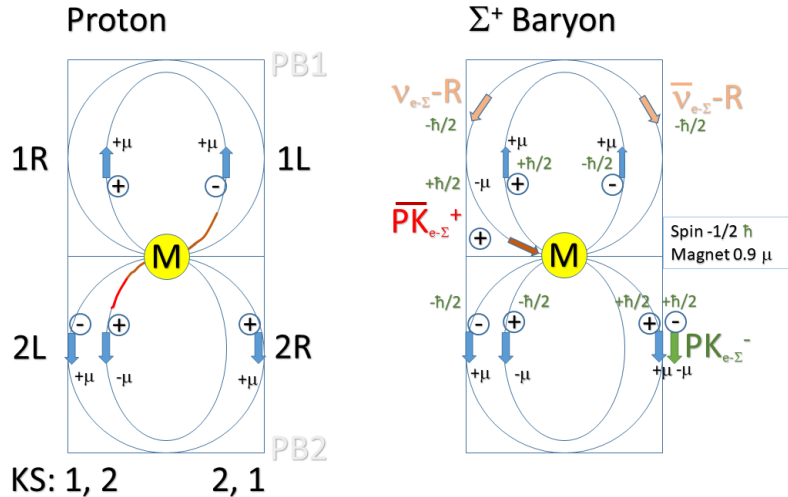
$$p^+ / \bar{p}^- \rightarrow p^+ + \Delta\epsilon \quad + \quad \bar{p}^- + \Delta\epsilon \rightarrow \Lambda + \bar{\Lambda} \quad (5.3)$$

It decays back to the proton/antiproton and the two pions of kinetic energy within mean lifetime of $\tau_L = 2.631(20) \times 10^{-10}$ s (Wikipedia). In this respect, the lambda baryon only can have the same half a fermion spin as the proton. Pions have spin zero. This spin problem remains for all the baryons.

When we would continue to increase the collision energy so further ΔL -pairs are offered to be built in. Partially, they must be forced to the protons because of their electrical repulsion. This way we get the level of the sigma baryons.

5.4 Sigma Plus Baryon

Now the next baryons like sigma, delta, ksi, sigma* and Ksi* could appear as zero charged variants of the lambda baryon Λ^0 supported by still more internal energy. No, it doesn't run this way! We find a **new step of change**. Neutral lepton shifts ΔL^0 are made from energy support to pair formation. They consist, if there aren't pairs of neutrino bodies ΔL^2 of $\bar{\nu}_\mu$ -R / ν_μ -R, just from pairs of external lepton-protocosms PK/ \bar{PK}^+ to ΔL^0 . By the consequence of their e. m. formation, they can annihilate quickly ("e. m. decay" and short mean lifetime) or – if formed along – a decay over pairs of neutrino-bodies could be possible, today called "weak decay" with long mean lifetime.



From this hypotheses, the sub-protocosm immediately becomes a sigma plus baryon Σ^+ by going a great step. Such a pair of sigma plus baryons could be formed from the collision of proton p^+ and antiproton \bar{p}^- under the condition of $\Delta L^0 + \Delta E \leftrightarrow \Delta L^- + \Delta L^+$

$$p^+ / \bar{p}^- \rightarrow p^+ + \Delta L^0 + \bar{p}^- + \Delta L^0 \rightarrow \Sigma^+ + \bar{\Sigma}^- \quad (5.4)$$

Lepton shifts of zero – the antineutrino-bodies - don't reflect an internal mass. They consist of contradictions. Consequently, they just reflect the energy plus inside the microcosm of a baryon. The internal mass of 2.23369×10^{11} kg yields the external mass of the baryon of 2.12065×10^{-27} kg or 1189.37 MeV/c² by eq. 4.1:

Sigma Plus Baryon Table 5.4

PK rest mass	theoret.	Head			Quantum-	Braking mass	Real braking	Difference betw.	$M_{(PK)}$	M_n	
$m_{(PK)}$	Proton	Real	level		number	of proton-PK	mass of PK	braking masses	complete	upwards addition	
in GeV/c ²	f_{SRT}	f_{SRT}	n	Q_n	theor.	$4n^2$	in GeV/c ²	in GeV/c ²	in GeV/c ²	in kg	
-0.49600000		22.000000	PK_c^+	1s+	4	1	-10.91		-8.84368E-28	-8.843680E-28	
9.69314200	10.31657	12.000000	1s+-	1.72829E-26	2.74079E+10	2	100.00	116.32	16.318	1.72829E-26	1.639850E-26
0.49600000		22.000000	PK_c^-	2s-	16	1	10.91	4.180	8.84368E-28	1.728287E-26	
9.89365400	10.52998	9.000000	2s+-	1.76404E-26	2.68524E+10	3	104.18	89.04		7.55292E+10	7.552921E+10
21.56400000	10.63190	8.02580	2p	3.84486E-26	1.23200E+10	12	229.27	173.07	125.086	1.47840E+11	2.233691E+11

A cloud of them decays within the mean lifetime of $\tau_L = 8.018(26) \times 10^{-11}$ s (Wikipedia).

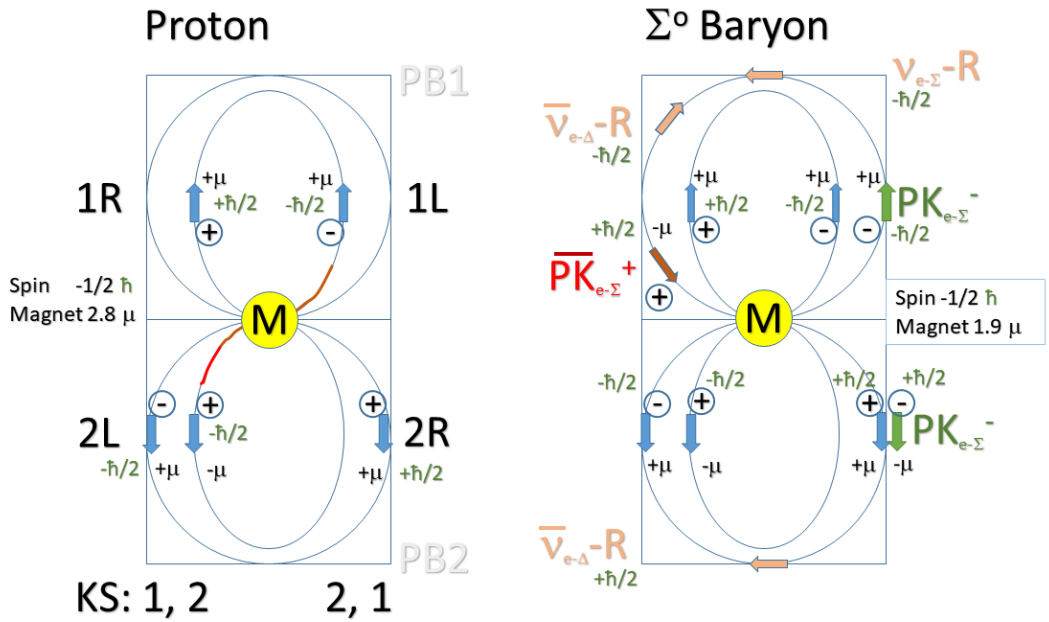
This baryon is hardly to hold because of its positive charge and because of the offer of different lepton shifts. Therefore, this baryon is the least probable sigma on its energy level. If you force it by a further positive charge with incoming lepton shift ΔL^+ then the energy is not enough to exceed the repulsive potential threshold. I think, by increasing of the energy you don't reach the level of sigma 2 plus baryon (by less lifetime) but immediately one step higher into the delta baryon area.

5.5 Sigma Zero Baryon

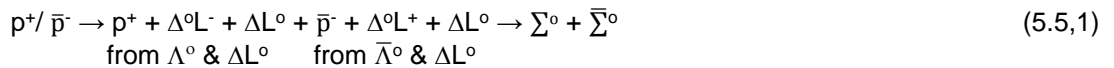
Its internal mass of 2.227565×10^{11} kg yields the external mass of the baryon of 2.12648×10^{-27} kg or 1192.64 MeV/c² according to eq. 4.1:

Sigma Zero Baryon Table 5.5

PK rest mass	Theoretic	Estimated	Head			Quantum-	Braking mass	Real braking	Difference betw.	$M_{(PK)}$	M_n	
$m_{(PK)}$	proton	increased	level			number	of proton-PK	mass of PK	braking masses	complete	upwards addition	
in GeV/c ²	f_{SRT}	f_{SRT}	n	Q_n		theor.	$4n^2$	in GeV/c ²	in GeV/c ²	in GeV/c ²	in kg	
-0.00018500		6.00E+04	$\bar{\nu}_{e-R}, PK_c^-$	1s-	-3.29855E-31	-1.436E+15	4	2	-11.10		-3.29855E-31	-3.298550E-31
9.69314200	10.31657	11.000000	1s+-	1.72829E-26	2.741E+10	2	100.00	106.62	6.625	1.72829E-26	1.728254E-26	
0.49600000		22.000000	PK_c^-, PK_c^+	2s+	8.84368E-28	5.356E+11	16	2	10.91	4.180	0.00000E+00	1.728254E-26
9.89365400	10.52998	11.000000	2s+-	1.76404E-26	2.685E+10	3	104.18	108.83		7.49174E+10	7.491741E+10	
21.56400000	10.63190	8.02580	2p	3.84486E-26	1.232E+10	12	229.27	173.07	125.086	1.47840E+11	2.227573E+11	



An electrically neutral sigma baryon pair could be formed from the collision of proton p^+ and antiproton \bar{p}^- :



Additionally, it might be possible to force a charged sigma baryon into an uncharged. It will simply run the same way as to force a further negative charged lepton shift on the neutral sigma baryon.

Now I give each a lepton shift ΔL^- to the proton-pair. The result is the sigma minus baryon Σ^- and its antiparticle $\bar{\Sigma}^+$:



or



An amount of them decays within the mean lifetime of $\tau_L = 7.4(7) \times 10^{-20}$ s (Wikipedia).

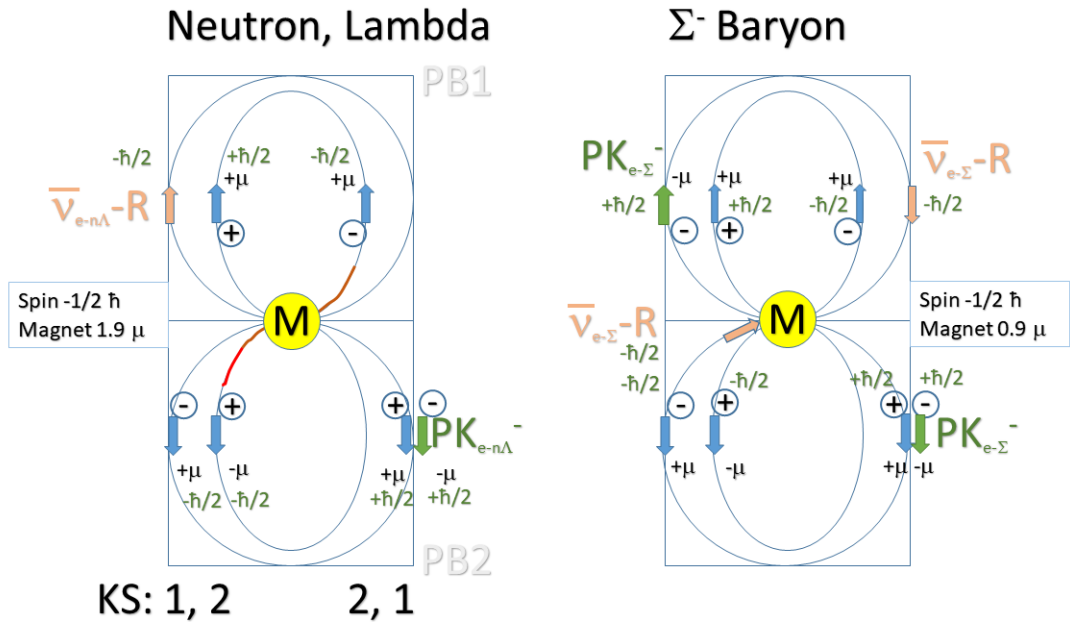
5.6 Sigma Minus Baryon and hypothetic Sigma double plus Baryon

Using eq. 4.1, its internal mass 2.218617×10^{11} kg yields the external mass of the baryon of 2.13505×10^{-27} kg or 1197.45 MeV/c²:

Sigma Minus Baryon Table 5.6.1

PK rest mass	Theoretic	Estimated	Head			Quantum-	Braking mass	Real braking	Difference betw.	$M_{(PK)}$	M_n
$m_{(PK)}$	proton	increased	level		$m_{(PK)}$	number	of proton-PK	mass of PK	braking masses	complete	upwards addition
in GeV/c ²	f_{SRT}	f_{SRT}	n	Q_n	in kg	theor.	4n ²	in GeV/c ²	in GeV/c ²	in kg	in kg
-0.00018500		6.00E+04	$\bar{\nu}_e-R, \bar{\nu}_e-R$	1s	-3.29855E-31	4	2	-11.10		-3.29855E-31	-3.298550E-31
9.69314200	10.31657	11.00000		1 1s+	1.72829E-26	2	100.00	106.62	6.625	1.72829E-26	1.728254E-26
0.49600000		22.00000	PK_e^+, PK_e^-	2s-	8.84368E-28	16	2	10.91	4.180	8.84368E-28	1.816691E-26
9.89365400	10.52998	11.00000		2 2s+--+	1.76404E-26	3	104.18	108.83		7.40221E+10	7.402208E+10
21.56400000	10.63190	8.02580		2 2p	3.84486E-26	12	229.27	173.07	125.086	1.47840E+11	2.218620E+11

Scheme of Internal Structure of the Sigma-Minus-Baryon 5.6.2



Here I compare my neutron to the interior of the certain baryon. Its magneton is relatively negative. Don't forget! The anti-mass body rotating to the right has $-\frac{1}{2}\hbar$!

In the balance, the spin sum of $-\frac{1}{2}$ remains. The electric charge is $1e_0$. Using the symbol M in the yellow circle, I marked those 12 protocosms from the center in the orbital 2p corresponding to the massblock (the "Small Bang" in the baryon).

The following scheme shows how protocosms distribute themselves internally. There are contradictions by exchanging the local arrangements leading to special features of baryons. That sigma-minus-baryon decays within the mean lifetime of $\tau_L = 1.479(11) \times 10^{-10}$ s (Wikipedia).

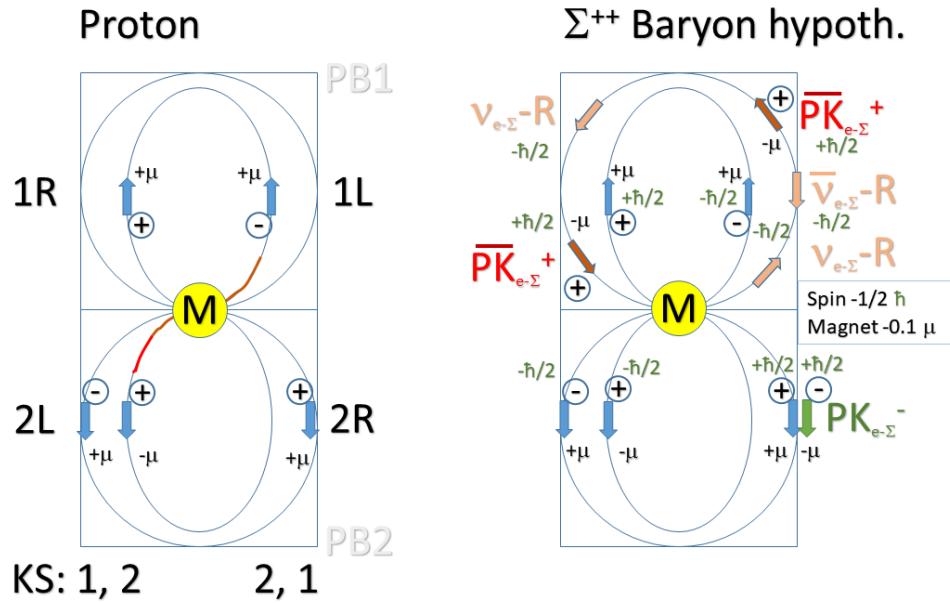
More doesn't simply fit into the proton's orbital structure. Another negatively charged parton Δ^- is extremely small probable forming a negatively charged twice sigma 2 minus baryon Σ^{--} (an anti is possible). We see that a high-energetic proton can simply become a sigma baryon Σ^+ . There is a location for a further Δ^+ . A strong electric repulsion extremely reduces the probability of the formation of sigma 2 plus baryon Σ^{++} . But this variant is possible! Three times positively charged is absolutely improbable because there is no internal space for such a case. A positive lepton shift Δ^+ you can't just give away like a handbag while a sigma 2 plus baryon Σ^{++} should be formed.

Sigma⁺⁺: 5.6,3

-0.00018500	8.00E+04	1v _e -R	1s up	-3.29855E-31	-1.43605E+15	4	1	-14.80	-3.29855E-31	-3.298550E-31
-0.49600000	8.00E+04	2PK _e ⁺	1s up	-8.84368E-28	-5.35622E+11		3		-2.65310E-27	-2.653434E-27
0.00018500	8.00E+04	2v _e -R	1s	3.29855E-31	1.43605E+15	4	2	14.80	6.59710E-31	-2.652774E-27
9.69314200	10.3166	8.00E+04	1 1s+-	1.72829E-26	2.74079E+10		2	100.00	775451.36	775351.360
0.49600000		8.00E+04	PK _e ⁻	2s-	8.84368E-28	5.35622E+11	16	1	39680.00	4.180
9.89365400	10.5300	13.00000	2 2s+-	1.76404E-26	2.68524E+10		3	104.18	128.62	7.63531E+10
21.56400000	10.63190	8.02580	2 2p	3.84486E-26	1.23200E+10		12	229.27	173.07	125.086
									1.47840E+11	2.241930E+11

Consequently, there is just an extremely small but given probability for a Σ^{++} . Much better you can change a sigma plus baryon into a delta 2 plus baryon at one higher energy level. Many Δ -pairs are offered and forced into the system by higher energy pressure.

By this strong energy support, it gets another lepton shift Δ^+ . So the delta 2 plus baryon Δ^{++} is essentially more probable than Σ^{++} . A special Δ^{++} was already discovered. Look at the hypothetic Sigma-2plus-Baryon structure:



5.7 Delta Baryons

In literature of internet publications, I don't find exact values of the rest masses of different delta baryons. I thought, they have to be different by the tendency that negative particles with m_0 have to be the heaviest and positive the lightest. Internally mass relations M_0 have to be reversed. Instead, the media only provide information about rounded amounts. The subject does not satisfy me with the statement that the spin would be responsible for this phenomenon.

The delta 2 plus baryon pair could be formed by collision of proton p^+ and antiproton \bar{p}^- during a surplus of lepton shifts:

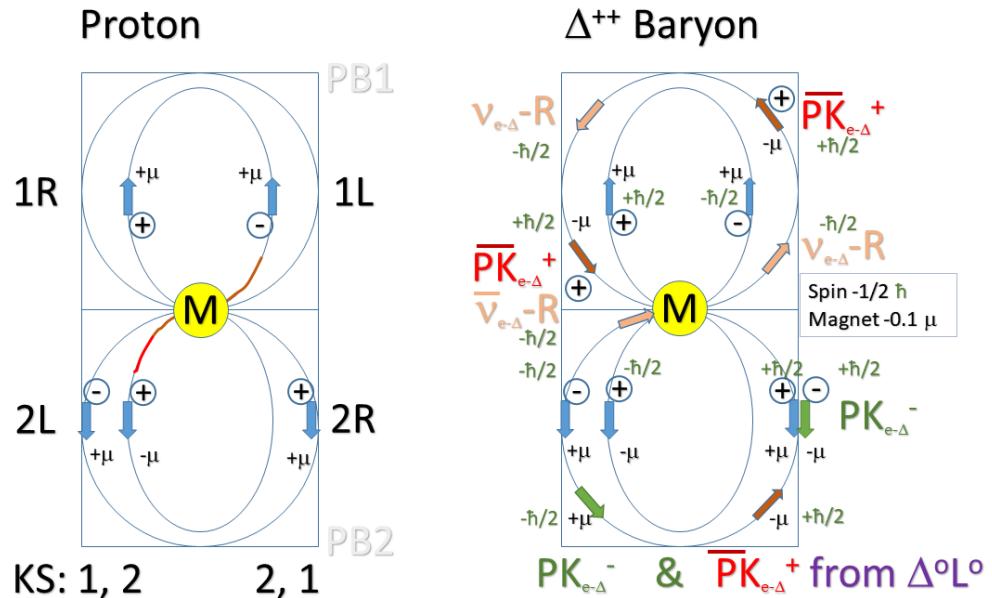
$$p^+ / \bar{p}^- \rightarrow p^+ + \Delta L^- + 2\Delta L^+ + \Delta L^0 + \bar{p}^- + \Delta L^+ + 2\Delta L^- + \Delta L^0 \rightarrow \Delta^{++} + \bar{\Delta}^{--} \quad (5.7,1)$$

Its internal mass of around 2.156×10^{11} kg yields the external mass of the Baryon of 2.197×10^{-27} kg or about 1232 MeV/c² by eq. 4.1 (no exact size found).

Delta 2 Plus Baryon Table 5.7.1

PK rest mass	theoret.	Estimated	Head				Quantum-	Braking mass	Real braking	Difference betw.	$M_{(PK)}$	M_n	
$m_{(PK)}$	Proton		level		$m_{(PK)}$	$M_{(PK)}$	number	of proton-PK	mass of PK	braking masses	complete	upwards addition	
in GeV/c ²	f_{SRT}	f_{SRT}	n	Q_n	in kg	in kg	theor.	$4n^2$	in GeV/c ²	in GeV/c ²	in kg	in kg	
-0.00018500		8.00E+04	$1\bar{v}_{e-R}$	1s up	-3.29855E-31	-1.43605E+15	4	1		-14.80	-3.29855E-31	-3.298550E-31	
-0.49600000		8.00E+04	$3\bar{PK}_{e^+}$	1s up	-8.84368E-28	-5.35622E+11		3			-2.65310E-27	-2.653434E-27	
0.49600000		8.00E+04	PK_{e^-}	1s up	8.84368E-28	5.35622E+11		1			8.84368E-28	-1.769066E-27	
0.00018500		8.00E+04	$2v_{e-R}$	1s	3.29855E-31	1.43605E+15	4	2		14.80	6.59710E-31	-1.768406E-27	
9.69314200	10.3166	8.00E+04	$1\ 1s^{+-}$		1.72829E-26	2.74079E+10		2	100.00	775451.36	775351.360	3.45657E-26	3.279734E-26
0.49600000		8.00E+04	PK_{e^-}	2s-	8.84368E-28	5.35622E+11	16	1		39680.00	4.180	8.84368E-28	3.368171E-26
9.89365400	10.5300	13.00000	$2\ 2s^{+-}$		1.76404E-26	2.68524E+10		3	104.18	128.62		6.78001E+10	6.780013E+10
21.56400000	10.63190	8.02580	2p		3.84486E-26	1.23200E+10		12	229.27	173.07	125.086	1.47840E+11	2.156400E+11

Scheme of the Internal Structure of the Delta-2Plus-Baryon 5.7.2



This proton, which is here illustrated forms a g. m. spin, which is bound at the orbital as followed:

$$\frac{1}{2} (++++) \hbar = -\frac{1}{2} \hbar \text{ and } +2.8 \bar{\mu}.$$

Now the delta 2 plus Baryon has g. m. spins internally as followed:

$$\frac{1}{2} (-++-+- / - - - - +++) \hbar = -\frac{1}{2} \hbar \text{ and about } -0.1 \bar{\mu}.$$

If my kind of counting is still unclear yet after all my extensive explanations, an antimass rotating to the left yields the positive gravitomagnetic (g. m.) spin that means the positive gravitomagnet.

Let's have a look at further delta baryons. The result from the same scheme as before by increasing of the condensation energy at protocosms. Because there are certain steps, which I cannot comprehend until now why they just take these values and no others, I start thinking about the actions of the sub-protocosms. They are inside the protocosms. So they act and react by smaller steps. Delta-2plus-baryon should decay within extremely small mean lifetime of $\tau_L = 5.58(9) \times 10^{-24}$ s (Wikipedia), certainly, because it annihilates $\Delta^0 L^0$ electromagnetically. Easy come, easy go!

Possible equations of formation, I summarize here. A pair of delta baryons could be formed by collision of proton p^+ and antiproton \bar{p}^- and by formation of $\Delta^0 L^0$ -pairs ready to choose:

$$p^+ / \bar{p}^- \rightarrow p^+ + 2\Delta L^0 + \bar{p}^- + 2\Delta L^0 \rightarrow \Delta^+ + \bar{\Delta}^- \quad (5.7,2)$$

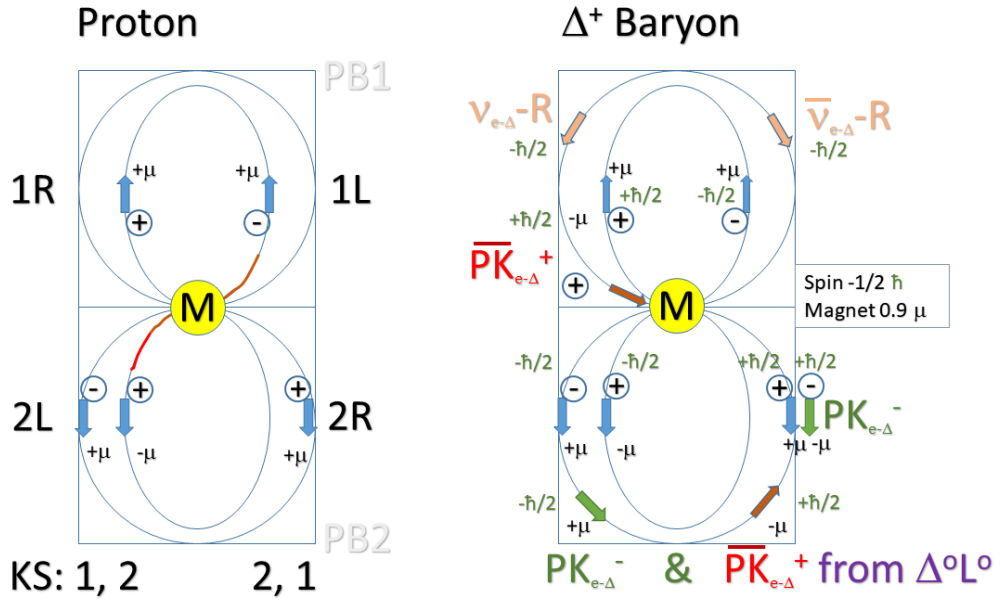
$$p^+ / \bar{p}^- \rightarrow p^+ + \Delta L^- + 2\Delta L^0 + \bar{p}^- + \Delta L^+ + 2\Delta L^0 \rightarrow \Delta^0 + \bar{\Delta}^0 \quad (5.7,3)$$

$$p^+ / \bar{p}^- \rightarrow p^+ + 2\Delta L^- + \Delta L^0 + \bar{p}^- + 2\Delta L^+ + \Delta L^0 \rightarrow \Delta^- + \bar{\Delta}^+ \quad (5.7,4)$$

The following table shows the internal structure, which is allowed at the baryon Δ^+ condensed from a proton.

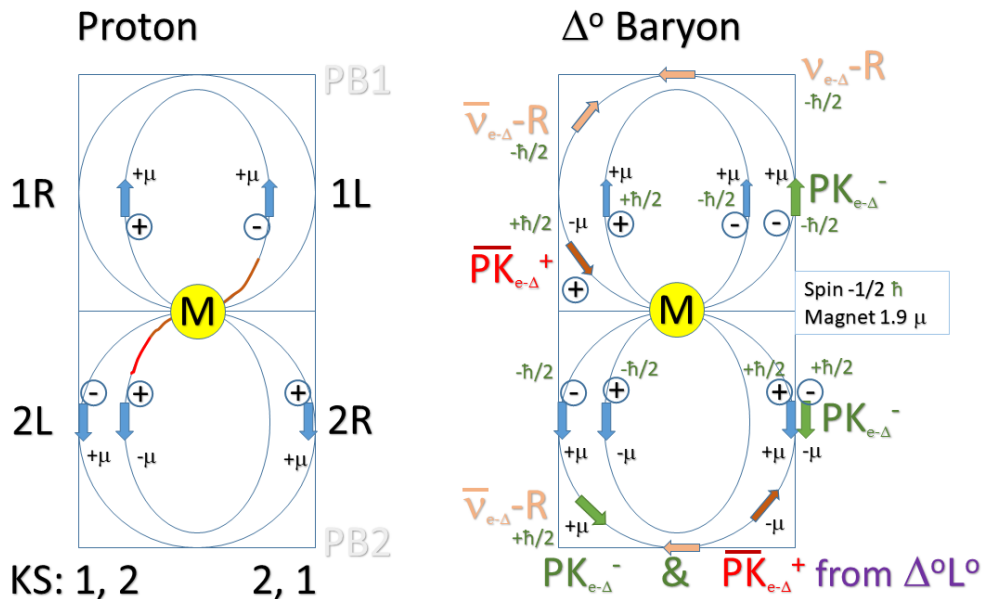
Delta Plus Baryon Table 5.7,2

PK rest mass	theoret.	Estimated	Head			Quantum-	Braking mass	Real braking	Difference betw.	M _(PK)	M _n
m _(PK)	Proton	f _{SRT}	level	n	Q _n	m _{0(PK)}	of proton-PK	mass of PK	Difference betw.	complete	upwards addition
in GeV/c ²	f _{SRT}	f _{SRT}				in kg	in GeV/c ²	in GeV/c ²	in GeV/c ²	in kg	in kg
-0.00018500		8.00E+04	1 \bar{v}_e -R	1s up		-3.29855E-31	-1.43605E+15	-14.80		-3.29855E-31	-3.298550E-31
-0.49600000		8.00E+04	3 \bar{PK}_e^+	1s up		-8.84368E-28	-5.35622E+11			-2.65310E-27	-2.653434E-27
0.49600000		8.00E+04	PK _e ⁻	1s up		8.84368E-28	5.35622E+11			8.84368E-28	-1.769066E-27
0.00018500		8.00E+04	2 v_e -R	1s		3.29855E-31	1.43605E+15	14.80		6.59710E-31	-1.768406E-27
9.69314200	10.3166	8.00E+04	1s+-	1s+-		1.72829E-26	2.74079E+10	100.00	775451.36	775351.360	3.45657E-26
0.49600000		8.00E+04	PK _e ⁻	2s-		8.84368E-28	5.35622E+11	39680.00	4.180	8.84368E-28	3.368171E-26
9.89365400	10.5300	13.00000	2s+-	2s+-		1.76404E-26	2.68524E+10	104.18	128.62	6.78001E+10	6.780013E+10
21.56400000	10.63190	8.02580	2p	2p		3.84486E-26	1.23200E+10	229.27	173.07	125.086	1.47840E+11



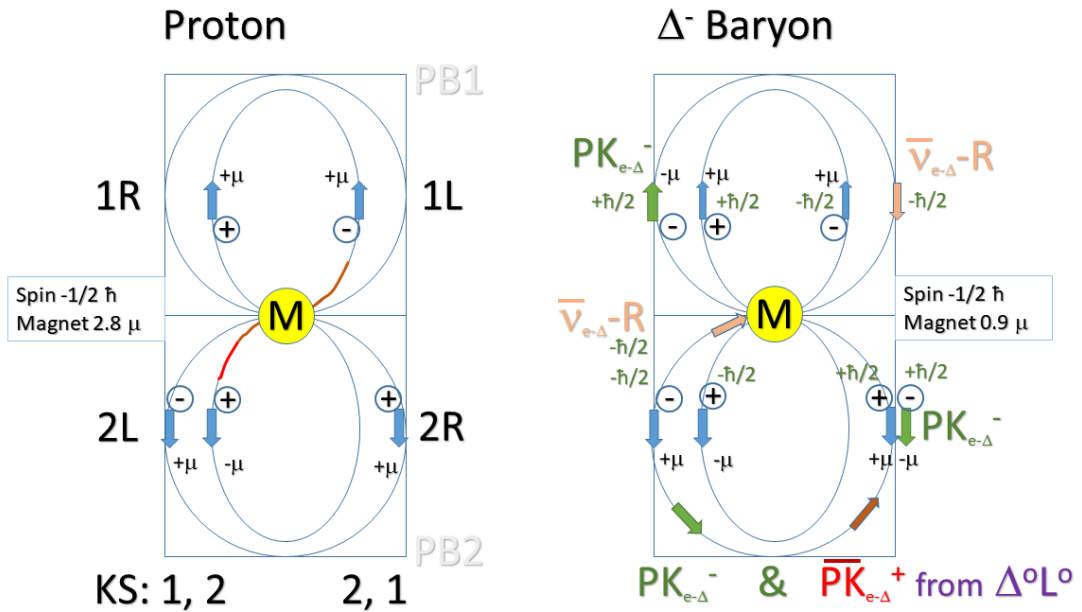
Delta-zero-baryon 5.7,3

PK rest mass	theoret.	Estimated	Head			Quantum-	Braking mass	Real braking	Difference betw.	M _(PK)	M _n
m _(PK)	Proton	f _{SRT}	level	n	Q _n	m _{0(PK)}	of proton-PK	mass of PK	Difference betw.	complete	upwards addition
in GeV/c ²	f _{SRT}	f _{SRT}				in kg	in GeV/c ²	in GeV/c ²	in GeV/c ²	in kg	in kg
-0.00018500		8.00E+04	1 \bar{v}_e -R	1s up		-3.29855E-31	-1.43605E+15	-14.80		-3.29855E-31	-3.298550E-31
-0.49600000		8.00E+04	1 \bar{PK}_e^+	1s up		-8.84368E-28	-5.35622E+11			-1.76874E-27	-1.769066E-27
0.49600000		8.00E+04	PK _e ⁻	1s up		8.84368E-28	5.35622E+11			8.84368E-28	-8.846979E-28
0.00018500		8.00E+04	2 v_e -R	1s		3.29855E-31	1.43605E+15	14.80		6.59710E-31	-1.768406E-27
9.69314200	10.3166	8.00E+04	1s+-	1s+-		1.72829E-26	2.74079E+10	100.00	775451.36	775351.360	3.45657E-26
0.49600000		8.00E+04	PK _e ⁻	2s-		8.84368E-28	5.35622E+11	39680.00	4.180	8.84368E-28	3.456541E-26
9.89365400	10.5300	13.00000	2s+-	2s+-		1.76404E-26	2.68524E+10	104.18	128.62	6.78001E+10	6.780013E+10
21.56400000	10.63190	8.02580	2p	2p		3.84486E-26	1.23200E+10	229.27	173.07	125.086	1.47840E+11



Delta-minus-baryon 5.7,4

PK rest mass	theoret.	Estimated	Head			Quantum-	Braking mass	Real braking	Difference betw.	$M_{(PK)}$	M_n		
$m_{(PK)}$	Proton	level			$m_{(PK)}$	number	of proton-PK	mass of PK	braking masses	complete	upwards addition		
in GeV/c ²	f_{SRT}	f_{SRT}	n	Q_n	in kg	in kg	theor.	$4n^2$	in GeV/c ²	in GeV/c ²	in kg		
-0.00018500		8.00E+04	2 \bar{v}_e -R	1s up	-3.29855E-31	-1.43605E+15	4	2		-14.80	-3.29855E-31	-3.298550E-31	
-0.49600000		8.00E+04	1 $\bar{P}K_e^+$	1s up	-8.84368E-28	-5.35622E+11		2			-1.76874E-27	-1.769066E-27	
0.49600000		8.00E+04	PK $_e^-$	1s up	8.84368E-28	5.35622E+11		1			8.84368E-28	-8.846979E-28	
0.49600000		8.00E+04	PK $_e^-$	1s	8.84368E-28	5.35622E+11	4	1			8.84368E-28	-3.298550E-31	
9.69314200	10.3166	8.00E+04		1s+-	1.72829E-26	2.74079E+10		2	100.00	775451.36	775351.360	3.45657E-26	3.456541E-26
0.49600000		8.00E+04	PK $_e^-$	2s-	8.84368E-28	5.35622E+11	16	1		39680.00	4.180	8.84368E-28	3.544978E-26
9.89365400	10.5300	13.00000		2 2s+-	1.76404E-26	2.68524E+10		3	104.18	128.62	6.78001E+10	6.780013E+10	
21.56400000	10.63190	8.02580		2 2p	3.84486E-26	1.23200E+10		12	229.27	173.07	125.086	1.47840E+11	2.156400E+11



5.8 Ksi Baryons

Also the ksi baryon Ξ follows the extension scheme by lepton shifts into the proton over strongly supported energy becoming here into a positively charged ksi Ξ^+ . In contradiction to the quarks theory, a twice positively charged ksi Ξ^{++} would be possible. You should search for it leaving the quarks theory. Surely, it is extremely less probable because of the high energy, which is alone necessary for the formation of the ksi baryon. So it is also a higher kinetic energy increasing the repulsion potential. To bring it then to confuse the ΔL -pair against all conditions could not be easy, rather it would be extremely hard into the energetic direction of an omega baryon:

$$p^+ / \bar{p}^- \rightarrow p^+ + \Delta L^+ + 2\Delta L^+ + \bar{p}^- + \Delta L^+ + 2\Delta L^- \rightarrow \Xi^{++} + \bar{\Xi}^- \quad \text{very small probability not proved yet} \quad (5.8,1)$$

$$p^+ / \bar{p}^- \rightarrow p^+ + \Delta L^- + \Delta L^+ + \bar{p}^- + \Delta L^+ + \Delta L^- \rightarrow \Xi^+ + \bar{\Xi}^- \quad \text{quite possible not proved yet} \quad (5.8,2)$$

$$p^+ / \bar{p}^- \rightarrow p^+ + \Delta^0 L^- + \Delta^0 L^0 + \bar{p}^- + \Delta^0 L^+ + \Delta^0 L^0 \rightarrow \Xi^0 + \bar{\Xi}^0 \quad \text{easily possible} \quad (5.8,3)$$

$$p^+ / \bar{p}^- \rightarrow p^+ + 2 \Delta^0 L^- + \bar{p}^- + 2 \Delta^0 L^+ \rightarrow \Xi^- + \bar{\Xi}^+ \quad \text{easily possible} \quad (5.8,4)$$

Ksi-baryons decay within the mean lifetime among the turn from above to bottom of: $\tau_{L^{++}} = 5 \times 10^{-11}$ s (my assumption), $\tau_{L^-} = 1.639(15) \times 10^{-10}$ s, $\tau_{L^0} = 2.90(9) \times 10^{-10}$ s and $\tau_{L^+} =$ no data (Wikipedia).

Why do Ksi-baryons not directly follow from delta varieties? All delta baryons are occupied by a lepton shift with zero spin and zero electric charge $\Delta^0 L^0$. These fractions decay extremely fast via the e.m. channel.

On sigma structures, Ksi-baryons build by storing more energy in them and further closing the sub-protocosms until entire orbitals are completely closed in even heavier baryons.

5.9 Intermediate Stages

Well-known are 2 further energy levels of sigma asterisk baryons Σ^* and ksi asterisk baryons Ξ^* .

Using my model, they also should fill all the positions of charged twice until charge of zero. By doing this but the probability decreases to find combinations charged positively because of the collision energy acting destroying (extreme kinetic energy).

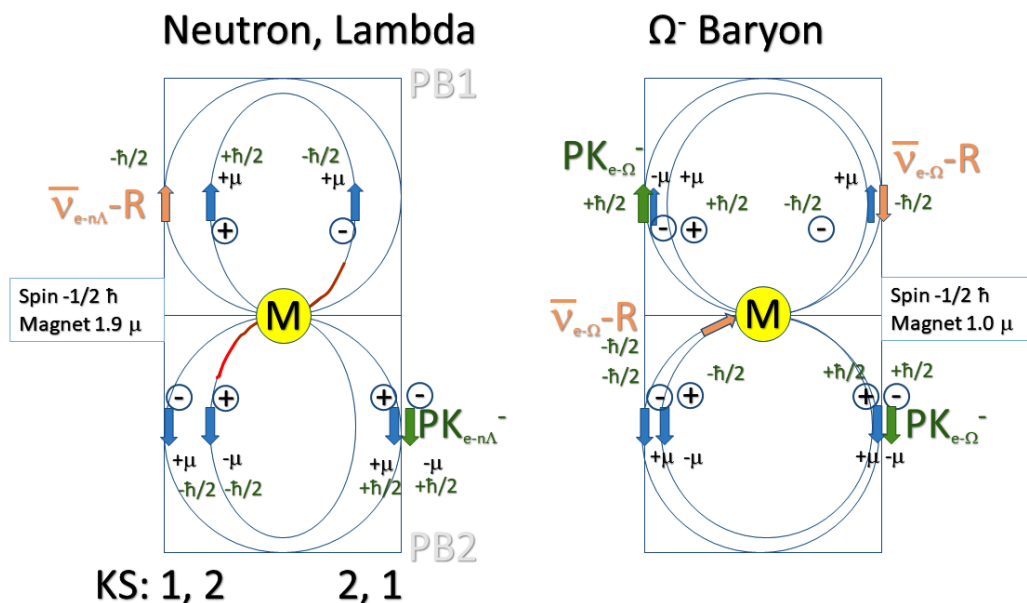
Nevertheless, one could prove an electrically neutral and a negative variant of the ksi asterisk Ξ^* . The positive feature Ξ^{*+} is buzzed around by very much ΔL -pairs so that it hardly cannot prevent from their attraction. It will be very difficult but still to prove the positive ksi Ξ^{*+} and its anti $\bar{\Xi}^*$. Nevertheless again I say, it is possible. Search for these ksi variants just as if you would search for a needle on the moon!

5.10 Omega Baryons and My Q-Particles

Now we have to grab the craziest baryon by the collar. To this date, only the negatively charged variant Ω^- has been found. Naturally, it was wonderfully fitting into the model of quarks. It seemed as if all messes were sung with it. But by my protocosmic solutions, all the other variants of zero and positive feature are still possible. They have a decreasing extremely low probability. Nevertheless, you should search for them! Omega-minus-baryon decays along $\tau_L = 8.21(11) \times 10^{-11}$ s (Wikipedia).

By the surplus of ΔL -pairs and of the facilitated formation of Ξ^{*0} , the installation of a negative lepton shift is easiest to realize in contradiction to the destructive action by kinetic energy between the particles.

Omega Minus Baryon Table 5.10

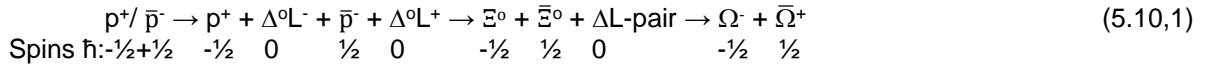


Omega Minus Baryon Table 5.11

EK mass		Head				By f _{SRT} locked		Quantum-	Max. braking	Real braking	Difference betw.	M _(PK)	M _{h,p} in kg
m _(PK)	max.	Estimated	level		m _{h(PK)}	M _{h(PK)}	Or reduced	number	mass of PK	mass of PK	braking masses	complete	upwards addition
in GeV/c ²	f _{SRT}	f _{SRT}	n	Q _n	in kg	in kg	M _(PK)	4n ²	in GeV/c ²	in GeV/c ²	in GeV/c ²	in kg	in kg
-10.99657928	9.20120	9.00E+04	∇-R	1s	-1.96069E-26	-2.41592E+10	-1.96069E-26	1	-101.18	-989692.14		-1.96069E-26	-1.960690E-26
-10.99657928	9.20120	9.00E+04	∇-R	1s	-1.96069E-26	-2.41592E+10	-1.96069E-26	-1	-101.18	-989692.14		-1.96069E-26	-3.921380E-26
10.73369145	9.37000	9.00E+04	PKe	1s-	1.91382E-26	2.47509E+10	1.91382E-26	1	100.57	966032.23		1.91382E-26	-2.007563E-26
12.63207748	9.20120	9.00E+04		1 1s+-	2.2523E-26	2.10312E+10	2.25230E-26	2	116.23	1136886.97		4.50460E-26	2.497036E-26
10.97450000	9.37000	9.00E+04	PKe	2s-	1.95675E-26	2.42078E+10	1.95675E-26	1	102.83	987705.00		1.95675E-26	4.453789E-26
12.87114275	9.37531	9.00E+04		2 2s+-+	2.29492E-26	2.06406E+10	1.51148E+10	3	120.67	1158402.85		4.53445E+10	4.534451E+10
28.02943330	10.70000	13.89610		2 2p	4.99765E-26	9.47819E+09	9.47819E+09	12	299.91	389.50	179.24	1.13738E+11	1.590828E+11

When I see the condensing proton structure including to negatively charged lepton shifts, and though I ask: why shouldn't there be even heavier baryons? Consequently, I also think that the kinetic energy supplies the destruction between the partons by targeted collisions.

While a collision of proton pairs, the omega Baryon could be formed by the state of an uncharged ksi baryon:



The problem isn't just the large number of ΔL -pairs. All the pairs have to be condensed fitting to each Baryon's energy. It means, they have to be knocked heavier. These are factors working along the probability of formation. Nevertheless, I think that it will be possible still proving further omega baryons heavier than this one. They almost lock the orbital 1s partially. There is enough place for further high energetic features.

There Higgs-blocks of tauon-feature H_τ will be formed. Three spatially ordered quadrupoles could be locked for two, step by step, about of 11 steps. The 12th step would be forbidden. Quarks-theory finds the area of top-quark there in coupling between lighter ones.

That's the way I predict my Q-particles decaying through the tauon Higgs-block H_τ . They follows from the line of omega-particles, which still decay using the muon Higgs-block H_μ . I count the heaviest baryons to my Q-Particles as they were Σ_Q^{-0+2+} ; Δ_Q^{-0+2+} ; Ξ_Q^{-0+2+} ; Ω_Q^{-0+2+} , inclusive their antiparticles.

Possibly, depending on their inner spin of the PK etc., further intermediate steps of baryons can be generated. Last but not least, we find that the PK are not completely locked in the elementary particles but partially as they move closer and closer together, packing the internal mass inside the **hierarchy of their sub-protocosms**.

Possible Q-Particles

Elsewhere, I will write about the lifetime of unstable particles in capital 6. It is obviously dependent on the collision probability of those protocosms closed by energy support, on location in orbitals, on search for parton partners, of the density in the upper shell where orbitals are compressed, etc.

My last conclusion is that I hope you see at these examples that it is possible to explain the internal world of the elementary particles using protocosms, sub-protocosms etc. Even I think that it is really logical to go on this way of research by valid physical laws and principles. So we could have been calculating my simply rough structures more precisely.

What we have understood here is the compression of elementary particles under free selection conditions. So a new compound of protocosms was created, but not in thinking. But in reality of collision it may be successful to merge protons and antiprotons multiple times. Then a compound have to be arisen, which is lighter. Consequently, such a new protocosm was flying away by high velocity. It is evaporated somewhere outside the collider.

Let us turn around the tables. We don't increase the collision energy, but we connect nucleons to one another. While this process, the neutron must deliver its energy internally stored being binding energy. But the proton even in a nucleus has no binding energy.

The result opens up an alternative view at the possibility of clearly explaining atomic nuclei, which I was able to design on the basis of my previous solutions:

“The Book ARCUS IV“ The Alternative Solution of the Atomic Nucleus Problem.

In the following section, I work out the most complex theme about microcosms, the lifetime of unstable particles. Right here, I follow again to Albert Einstein with his relativity theory before basic order in use of quantum orbitals.

5.11 Spin-Riddle of Baryons

I received different results than the particle theories with quarks that already received the Nobel Prize for the “Standard Model of the Elementary Particles”. On the German Wikipedia <https://de.wikipedia.org/wiki/Baryon>, one can still read in January 2022:

"State of the research

The model for baryon composition elaborated above is incomplete according to the current state of research. It is now believed that mass, spin, and other properties of baryons cannot be read directly from the properties of the quarks involved; for example, the spin of the three quarks in the proton accounts for only about one-fourth of its total spin ("spin riddle", "spin crisis").^{[2][3]}

Since the 1970s, quantum chromodynamics (QCD) has provided a quantum field theory for the strong interaction, i.e., the interaction between quarks. This theory, however, is difficult to handle and, especially in low energy ranges, cannot be treated in a perturbation-theoretic way. Instead, discrete lattices with as fine a mesh as possible are used (lattice gauge theory). One example is the calculation of the baryon masses in relation to each other.^{[4][5]}

The biggest unsolved question is still how the color confinement, which can only be postulated so far, can be derived from the foundations of QCD. This is the above described fact that in nature observable particles are always "white", which particularly results in the unobservable free quarks.

For theoretical treatment one is therefore dependent on effective theories or quark models. A frequently observed peculiarity of such quark models is the prediction of many more baryon states than those observed so far. The search for such missing resonances is one of the main fields of experimental research on baryons. In addition, research is taking place on the electroweak properties (e.g., form factors) and decays of baryons." Consequently, I give the statement, there simply cannot be a spin of $-3/2$, which would resolve as follows:

$$\begin{array}{l} \Delta^- \quad \rightarrow \quad n \quad + \quad \pi^- \\ -3/2 \quad \neq \quad -1/2 \quad + \quad 0. \end{array}$$

The ISO-spins of the quark-theory are unreal. All baryons must have the same half-spin of $\pm 1/2\hbar$ like their birth-helper, the proton. There is no other way to solve it, even if the lepton shifts are offered in three variants, with spin -1 , zero, and $+1$. Only spin zero works. With spin $+1$ the baryon is formed with $+1/2$, with spin -1 the baryon is theoretically formed with $-3/2$. But these are only theoretical considerations! Never the spin conservation can be outwitted! Thus, lepton shifts with $\pm 1\hbar$ can never be incorporated into a proton or other baryon. This simply does not work. For this example and generally valid, always must be proceeded as follows:

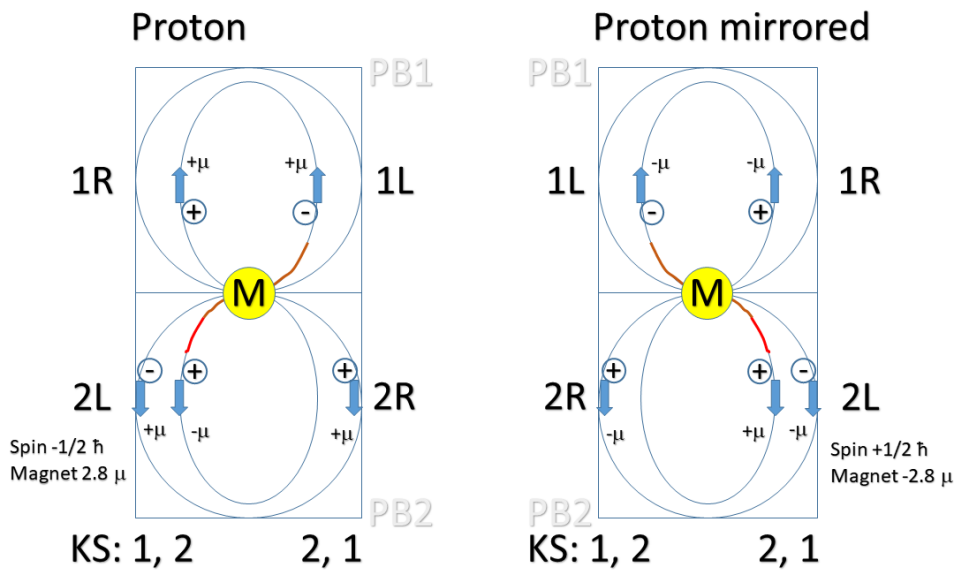
$$\begin{array}{l} \Delta^- \quad \rightarrow \quad n \quad + \quad \pi^- \\ -1/2 \quad = \quad -1/2 \quad + \quad 0. \end{array}$$

All the other tricks with so-called spins you can put out of your mind! They are just inventions of the quarks-theory.

And this is not enough! The Pauli principle demands an order of the partons in a cosmos. Yes, but strictly speaking only in a stable system. To the instability belongs certainly also a great mess of the order particularly in the Upper Shell. Elementary particles aren't "white" but "black boxes" like BWH!

5.12 Mirror Symmetry and Asymmetry of Proton-Antiproton

If you flip one of two protons with the same position and put it next to the other, it has mirror-like symmetry:

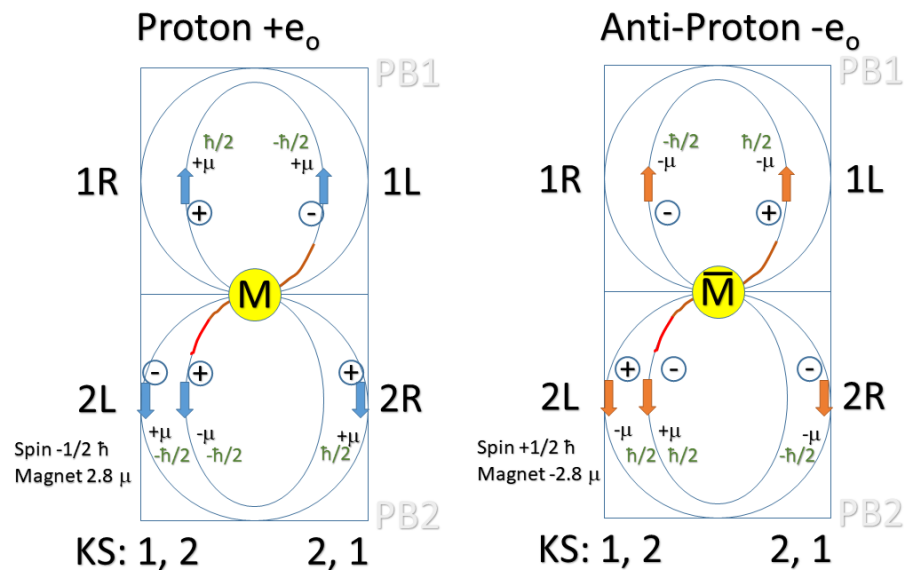


The crazy thing is now that physics expected the same mirror-like feature for proton and antiproton. But I asked myself: "How should then these two baryons annihilate by just such annihilation of their internal structures?"

My question only can arise if an internal structure is given. Physics does not know a real inside. Three quarks are quasi outside. Thus, an answer results only by my theory and its solutions. It reads: particles and their antiparticles have no mirror symmetry!

They put themselves attracted by the charges and the elementary magnets on top of each other and dissolve to both external photons and two internal radiation cosms in vacuum.

At the following scheme, the extinction is to be recognized very well. You have to put the right plane exactly over the left plane.



And this is not enough craziness! If you want to approach both protons despite the repulsion of the proton charge, then only about their opposite elementary electro-magnets (their e. m. magnetons). Their gravitational poles, however, repel each other. But physics defined a proton with both positive $+\bar{u}$ and $+\bar{d}$. Since, however, according to my opinion, an elementary particle does not turn around its own axis for an electro- and a gravito-magneton, but internally, the subparticles provide for it, the above definition of parallelism is not probably in need.

6. Mean Lifetime of Unstable Particles

I don't call them elementary particles, because I only think of the following ones being elementary: protons, electrons, and electron neutrinos. They are stable. All the other particles are unstable or filled by energy surplus. Currently, science explains lifetime τ_L of particles as follows, found on <https://www.goruma.de/erde-und-natur/strahlung/zerfallsgesetz-halbwertszeit-lebensdauer>, translated from German by myself:

“The mean lifetime τ (tau) is understood as the time after which a large number of particles or their activity has decayed to one part of $1/2.71$, i. e. to around 37% of the original activity.”

Another article informs as follows by <http://www.quantenwelt.de/elementar/lebensdauer.html>, self-translated from German into English:

“Elementary particles do not disintegrate due to an external cause or after an internal process, but purely randomly at any point in time. This means that their probability of decaying is the same at any point in time.”

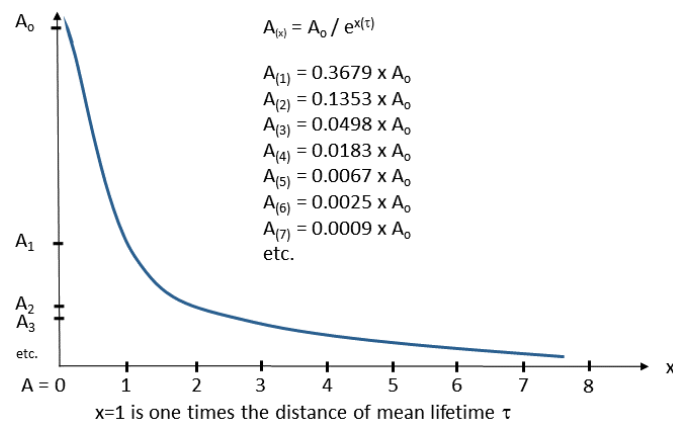
Well, the author doesn't know it better. Today, no internal structures are discovered. But I found a new base by relativity of protocosms in my theory!

Besides, every coincidence in a closed communicating and coherent world is only a *pseudo-coincidence*. There is always a causal chain and a spatial connection condition at the bottom, which, however, the human being cannot dissolve. There are therefore nevertheless causes for the decay in the inside of the microcosms. However, how they were circumscribed mathematically by mankind is defined arbitrarily. After the first time unit of the average life span always $1-1/e^1$ shares of the original particle quantity have decayed (63.212%). Euler's number $e = 2.718281828459\dots$ is taken to the basis of the exponential function (Wikipedia).

Another solution for the decay is defined: after the duration of the half-life $T_{1/2}$ always half of the originally present particles have decayed (exactly 50%). One could have defined other arbitrary time units, if e.g. 66.67% (significance of $2/3$) have decayed. *None of these time specifications tells exactly, when such a particle really decays.*

Always a *cloud of particles* is assumed, but then they already take an interval of their age from zero to current. I.e., there are extremely young and extremely old with all ages mixed. And no researcher knows how old the singles are. The cloud of such a particle people comes flying along. Its mortality rates result now as probability. Internal processes allow an interval when decay is possible or probable. This time interval is best expressed with the mean lifetime as a projection of it.

Illustration 6.1: Mean Lifetime Periods and Decay of Unstable Particles



The quantity A_0 is the initial number of the particle quantity. It decays in the first time step from zero to τ down to 36.79% of the initial quantity A_0 . So we call the first result A_1 . This quantity A_1 at time 1 decays in the same way in the second time step from 1τ to 2τ down to 13.53% of the initial quantity A_0 to A_2 , and so on. If we take 5 unstable particles, the fifth τ step goes to zero (although to assume parts of the particle does not make sense at all). If we take 100 unstable particles, the eighth τ step goes to zero. With ten million particles, it is then the twentieth τ step which goes towards zero. This means *that individual particles become older the more they are allied in large quantity*. Or, the graph of this function is shifted to the right with increasing initial quantity A_0 . τ is constant selectable for a special kind of particles.

Illustration 6.2: Spreadsheet of the possible Substeps

x:	e =	2,71828183	Difference	Ao ...											
				5	10	50	100	250	500	2500	5000	1,00E+06	1,00E+07		
1	$1/e^1 =$	0,36787944	0,6321206	1,8	3,7	18,4	36,8	92,0	183,9	919,7	1839,4	367879,4	3678794,4		
2	$1/e^2 =$	0,13533528		0,7	1,4	6,8	13,5	33,8	67,7	338,3	676,7	135335,3	1353352,8		
3	$1/e^3 =$	0,04978707		0,2	0,5	2,5	5,0	12,4	24,9	124,5	248,9	49787,1	497870,7		
4	$1/e^4 =$	0,01831564		0,1	0,2	0,9	1,8	4,6	9,2	45,8	91,6	18315,6	183156,4		
5	$1/e^5 =$	0,00673795		0,0	0,1	0,3	0,7	1,7	3,4	16,8	33,7	6737,9	67379,5		
6	$1/e^6 =$	0,00247875		0,0	0,0	0,1	0,2	0,6	1,2	6,2	12,4	2478,8	24787,5		
7	$1/e^7 =$	0,00091188		0,0	0,0	0,0	0,1	0,2	0,5	2,3	4,6	911,9	9118,8		
8	$1/e^8 =$	0,00033546		0,0	0,0	0,0	0,0	0,1	0,2	0,8	1,7	335,5	3354,6		
9	$1/e^9 =$	0,00012341		0,0	0,0	0,0	0,0	0,0	0,1	0,3	0,6	123,4	1234,1		
10	$1/e^{10} =$	4,54E-05		0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,2	45,4	454,0		
11	$1/e^{11} =$	1,6702E-05		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	16,7	167,0		
12	$1/e^{12} =$	6,1442E-06		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	6,1	61,4		
13	$1/e^{13} =$	2,2603E-06		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	2,3	22,6		
14	$1/e^{14} =$	8,3153E-07		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,8	8,3		
15	$1/e^{15} =$	3,059E-07		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,3	3,1		
16	$1/e^{16} =$	1,1254E-07		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	1,1		
17	$1/e^{17} =$	4,1399E-08		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,4		
18	$1/e^{18} =$	1,523E-08		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,2		
19	$1/e^{18} =$	5,6028E-09		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1		
20	$1/e^{20} =$	2,0612E-09		0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0		

Nevertheless, I cannot get over it. Only very large particle quantities keep this system close to reality. If we take a development to few countable particles, then the following question has long arisen: "How do actually the unstable particles know that they can survive longer in a larger quantity?" They don't know, of course. Rather, the mathematical system is an approximation. With such an example you can see what probability calculation is worth. Statistics are more or less senseless. We compare the system with the dice game. Pure probability that with large number of throws all 6 possibilities are evenly distributed.

Lifetime τ_L with an index L (life) for differentiation from pure τ as time period of oscillation seems to be dependent on the following causes:

1. **Hits** of the **wavequanta WQ** from their protocosms PK on **densest space** in the **center** of the spherical shell called **upper shell**. This is a function of the density of the amount of PK and their mass. There, top-protocosms are flying.
2. PK just are able to exist, if they are surrounded by a stable energy of radiation. This energy generates the equilibrium of internal and external radiation pressure so that these PK cannot be opened. From this behavior, a temporary stability arises. It is a density of energy and the amount of PK.
3. These PK do not hit directly. Their wavequanta WQ are interacting in the center of their rotating movement near half the amplitude radius $\frac{1}{2}R_0$ of their receptacle cosm. WQ are very closer in the center than PK in the upper shell. When an anti-PK is there, so it disturbs the normal orbits of all the others e. g. in the neutron.
4. While pair formation of PK, radiation pressure is decreasing. Time after time, enough PK are made. Enough energy of radiation and motion (kinetic energy) was spent for this process. Now the temporary equilibrium has finished. Locked PK are able to open. Their decay seems to begin while new PK-pairs are forming new Higgs-blocks (pairs of bodies of Leptons).
5. How much time does it take for formation of a Higgs-block of the types of leptons e , μ or τ ? The answer can be that it is the oscillation period $\tau/2$ of the bodies next to the oscillation of their complete particles: **4e-21 s for H_e , 2e-23 s for H_μ and 1.2e-24 s for H_τ .**

6. Lifetime also is dependent on the level of the orbit in that a PK is interacting. The level depends the energy quantum. How much energy is in need in special level of the orbit?
7. The amount of possible hits generates the interval from smallest to highest lifetime.
8. As soon as hits of WQ arise, the collection of PK-pairs of leptons starts growing up to Higgs-blocks.
9. Now they are on their way searching for their partners to form the real particles both. If they cannot find them in the environment, they have to rotate once more another period of the receptacle cosm. This can take very much time, we call it the finding cycles C_p .
10. Why are they lepton protocosms at all? Because there are lepton-PK that were shifted while destabilization of the particles – Lepton- shifts ΔL . It is their own world in the world of protons and electrons. These parts were forced to the stable particles. For reproducing the stability, nature gives back what is missing namely Higgs-blocks.
11. For towing away lepton-shifts of the types $\Delta L_{e\mu\tau}$, Higgs-blocks $H_{e\mu\tau}$ have to be generated.
12. During these attempts at formation, the conditions can cause the processes to come to a partial standstill again or even to be completely reversed. Thus, extremely long absolute durations of experience occur.

Mathematically, it can be estimated for a decay of a muon. Its body μ -R oscillates with $\tau/2 = 2e-23s$. *Forming Higgs-blocks and finding three* parts restoring the real particles electron, muon neutrino and electron antineutrino, takes a long time (TBIII, p. 31) of $\tau_L = 2.197e-6$ s (Wikipedia). This time span is the end point where we expect 63% decay. In the shortest case already particles are decayed after 10^{-22} s. They decay further until we humans set the 63% decay as a mark! How many times has oscillated the muon which has decayed in the time span Tau at the end? We calculate as follows:

$$C_p = \tau_L / \tau/2 = 1.1e17 \text{ period cycles.}$$

This is the number of periodic cycles marked by C running by until the first 63% of all the resting muons have decayed. That cycle-period C always runs in parallel to the tau-period τ_x , and also always numerically similar. The rest of all muons needs further cycles parallel to each further period of the mean lifetime until all muons have decayed. The finding is therefore a process that we cannot understand. It appears "random" like roll the dice for us.

It is hard for this system forming Higgs-blocks and finding three partners to the same time period for restoring three particles. In tau-lepton, partons are very near to each other. It is easier to hit and to find those three partners in the space of upper shell:

$$C_p = \tau_L / \tau/2 = 2.9e-13 \text{ s} / 1.2e-24 \text{ s} = 2.4e11 \text{ period cycles.}$$

Inside a neutron, the negative lepton-PK rotates on a perfect orbit. It does not disturb any other orbit. The only problem is the anti-material parton called anti-neutrino-body $\bar{\nu}_{e-n}$ -R. Shocking the order of perfect orbitals takes extreme lifetime of 877.75 s. Probability of a hit forming an electron-Higgs-block is extremely small. If it is made, both parts of the Higgs-block have to find their partner, the one to the anti-neutrino body, the other to the electron-protocosm.

Constructing a world with protocosms, lifetime τ_L is dependent on internal processes. Consequently, I give you a list of causes for decay (restoration to stable particles):

1. Protocosms of stable particles are open. There is no upper shell. So their lifetime is eternal.
2. Protocosms of unstable particles are locked partially or totally surrounded by radiation energy.
3. Unstable particles additionally can have antiprotocosms locked and flying in upper shell.
4. In upper shell, they have a great chance that their wavequanta bump into each other in the center.
5. Every hit of much dense concentrated wavequanta is the origin of a Higgs-block formation (a Higgs-block is a pair of both lepton bodies as hulls -R, an anti and an ordinary, e. g. e -R & \bar{e} -R is H_e ; μ -R & $\bar{\mu}$ -R is H_μ ; τ -R & $\bar{\tau}$ -R is H_τ).
6. Under conditions of extreme energy of gravitation inside the particles, giant pair products can be expected as new protocosm-pairs collecting each other to build Higgs-blocks of the types electron, muon, taon $H_{e,\mu,\tau}$.
7. Formation takes different time dependent on oscillation.

- Success of real particle formation is dependent on forming Higgs-blocks per shocks and finding the special partons to combine the real structures.

These reforming conditions are dependent on different factors.

They are a function of

- Energy support from the outside
- Relativistic velocity of all PK
- Environment of radiation energy
- The amount of PK in upper shell for hits
- The type of PK, if ordinary or anti-matter
- Open or locked PK-state
- The amount of anti-PK in upper shell for annihilation
- Probable time period Higgs-blocks finding their partners forming real particles (this condition strongly depends all the other circumstances!)
- Location and position of the PK and hulls in orbital tracks.

Probability of hits per area, amount of locked PK and time period of particle oscillation rapidly increases. We see that it runs exponentially in three dimensional volume. Don't forget that I told you some pages before in my scripts (TBAI, TBAII, TBAIII) that particles like cosmos and protocosms cannot hit themselves directly. Only their wavequanta interact with each other. This upper shell as a spherical shell is not the space of hits! In the center of their rotations, there is the area of hits of wavequanta! This area is much denser than the area in the upper shell. New protocosm-pairs will be formed from there in the center of interactions of wavequanta, but born on perimeter ways around this center. I think so that one protocosm is up and its antiprotocosm is located down when starting their movements.

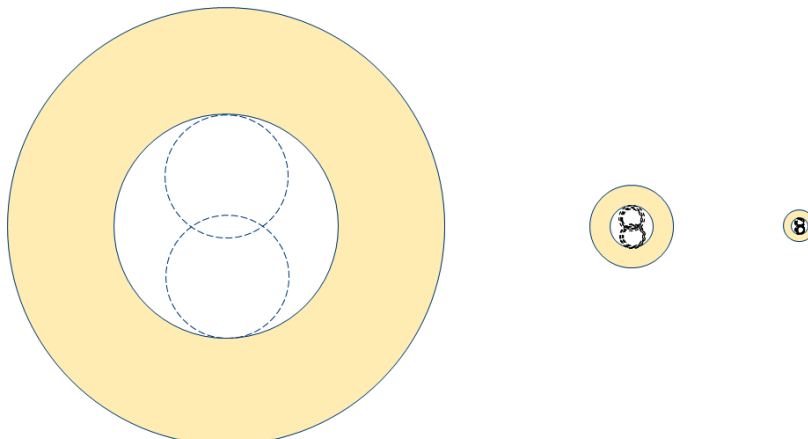
So, forget hits of particles directly! Always think of interaction between their wavequanta! And forget the correctness of the conception of a decay of unstable particles!

A so-called "decay" is just a *change* of the building *from unstable to stable*. The stable part of the unstable particle remains or survives. Lifetimes or periods of decays are really periods of formations and finding restoration conditions! Higgs-blocks $H_{e\mu\tau}$ of lepton-body-antibody are made from formations of protocosm-pairs of leptons by losing energy from locked PK. Contrarily, while destabilization of stable particles, lepton-shifts ΔL consisting of lepton-protocosms will be formed and distributed inside the stable particle. For stabilization, these lepton-shifts ΔL have to be executed by the help of Higgs-blocks forming real particle pairs escaping this area.

The following illustration should show as dense protocosms lay to each other after locking by energy support.

Illustration: Increase of locked Protocosms while Change of Electron to Muon, Tauon

	e^-	μ^-	τ^-
m_0	0.511 MeV/c ²	105.66 MeV/c ²	1777 MeV/c ²
R_0	3.89e-13 m	1.88e-15 m	1.12e-16 m
τ_L (lifetime)	∞	2.197e-6 s	2.91e-13 s (Wikipedia)
PK state	all open	mostly locked	only one PK-area is open yet



Let us have a short look at neutrinos. It is said, they all are stable. Yes, they don't decay into another feature of particles. But tau neutrinos change to muon neutrinos or electron neutrinos emitting gravitational energy quanta (TBAIII, pp. 27-29). They are not stable, because they change into the last step electron neutrino that is almost eternally existent in this property. It doesn't change itself from nothing but from energy supply. Both other neutrinos change themselves from loss of energy.

So you see the analogy to the change of charged leptons, but which only can be changed by reactions of pair formations. This way, science watches those decays directly on pairs. But that purely energetic decay of neutrinos, nobody can watch it directly. Possibly, the increase of kinetic energy E_{kin} and radiation energy E_w expressed as mass equivalent of complete internal mass action has to be taken into account:

$$2M_{o(unsafe\ particle)} = \Sigma E_{kin}/c^2 + \Sigma m_w(\text{radiation cosm}) + \Sigma m_o(\text{PK locked}) + \Sigma M_o(\text{PK open}).$$

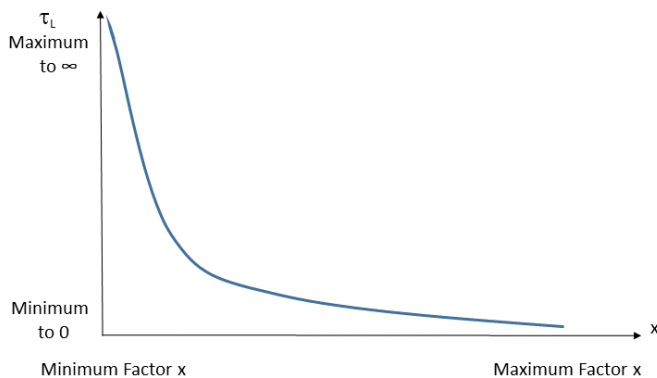
Now the cause of lifetime of elementary particles seems to be discovered. If all the protocosms are open (they are sucked out by total evaporation), they are stable for the theoretical eternity.

Spatial probability "P" of hits of WQ of top-PK is zero.
Their internal order "n" is perfect and so extremely high.
Disorder or entropy "s" is extremely small.
Locked top-PK aren't there, their amount "a" is zero.
No PK has to find another one. So its parameter "f" equals zero for it.
Energy surplus "E" is zero.
For correction, there may be reserved a factor "g". This way, x is the product of 7 factors:

$$x = P n s a f \epsilon g \tag{6.1}$$

Probably as function of Euler's number e (from Wikipedia), lifetime decreases essentially by increase of closed/locked protocosms. Furthermore, a theoretical state in that all the PK are locked is not reality. In this case, such a particle would not really exist. Matter would not be stable; law of conservation of universe material would be disturbed. You also can express this fact vice versa: *a real matter system consisting of permanently non-open PK cannot exist.* Consequently, number of open protocosms never can equal zero. It really is a special analogon to exponential function $f(x) = e^{1/x}$ when $x \neq 0$.

Illustration: Dependence of Lifetime

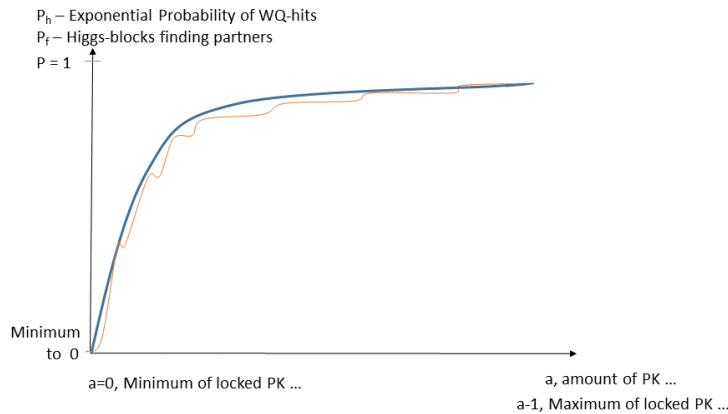


This function finally equals to the following:

$$\tau_L = t_x e^{1/P n s a f \epsilon g} \tag{6.2}$$

P increases in the interval of $0 < P < 1$,
n decreases in the interval of extremely high to smaller amounts, $0 < n < \text{maximum}$,
s increases in the interval of almost zero to less than 1, $0 < s < 1$,
a increases as counter of locked or disturbing PK in the Upper Shell, $0 < a < \text{max}$,
f increases because of more chances of finding partners for pairing, $0 < f < 1$,
E increases while unstable particles become heavier and more energetic, $1 < E < \text{max}$.
g can be selected freely.

Illustration: Hit-Probability of closed Protocosms and of Higgs-blocks finding their Partners



Examining the probability of WQ hits of the PK, I set a relationship of the amplitudes or the external masses m_{PK} of the top-PK to the masses m_{GK} of the receptacle cosms. I think the spatial hits are best calculated by the quantity “a” of the top-PK in a quadratic equation:

$$P = a^2 m^2_{GK} / 4m^2_{PK} \tag{6.3}$$

I chose some examples for baryons, leptons, neutrinos, and mesons. At them I can show that my special choice of the parameters for x are reasonable to justify the mean lifetime with internal changes. It has become at least possible. To what extent the factors approximate reality, I can leave only to future researches.

In the following, you see the results of the exemplary calculations from the tabular calculations without comment. They are based on the selections of particles of the pages 89 to 102. In this cohesion, my explanations come to their end in this book Arcus III.

Baryon’s Lifetime

		Input		Calculation of	Around
t particle's time period	H_e	t =	1.0985E-24 s	Tau L =	877.6 s
n Neutron factor		n =	4000000000		877.75 s
Euler's number		e =	2.718282		Assumption of high order.
a amount of locked PK, SPK		a =	1		One anti-PK is disturbing.
s Entropy		s =	3.9558E-07		
e Energy supply		ϵ =	1		
f Finding factor		f =	0.05		
g Correctures		g =	1		
P probability of hits and of finding locked PK		Interim result			
		P =	2.04E-05		
$m_p =$	938.272 ...	$m_n =$	939.5653	MeV/c ²	for relation of radii.
t p =	1.10E-24 s	$d12^2/dGK^2 =$	8.16E-05		
mPK =	104000	MeV/c ²			
Here is a jump from H_e to H_{ii} .					

		Input		Calculation of	Around
t particle's time period	H_{ii}	t =	9.2509E-25 s	Tau L =	2.63E-10 s
n Neutron factor		n =	1010000000		2.63E-10 s
Euler's number		e =	2.718282		Decreased order.
a amount of locked PK, SPK		a =	2		Complete Leptonshift
s Entropy		s =	4.3629E-06		Increased
e Energy supply		ϵ =	1.189		Increased
f Finding factor		f =	0.05		
g Correctures		g =	1		
P probability of hits and of finding locked PK		Interim result			
		P =	1.15E-04		
$m_p =$	938.272	$m_l =$	1115.68	MeV/c ²	
t p =	1.10E-24 s	$d12^2/dGK^2 =$	1.15E-04		
mPK =	104180	MeV/c ²			

					Calculation of	Around
		Input			Sigma minus Baryon	Known value
t particle's time period	H_{μ}	t =	8.6191E-25 s	Tau L =	1.48E-10 s	1.48E-10 s
n Neutron factor		n =	7000000		Decreased order.	
Euler's number		e =	2.718282			
a amount of locked PK, SPK		a =	6			
s Entropy		s =	0.00005014		Increased	
e Energy supply		ϵ =	1.276		Increased	
f Finding factor		f =	0.06		Increased	
g Correctures		g =	1			
P probability of hits and of finding locked PK		Interim result				
		P =	1.14E-03			
$m_p =$	938.272	$m_s =$	1197.45	MeV/c ²		
t p =	1.10E-24 s	$d12^2/dGK^2 =$	1.26E-04			
mPK =	106620	MeV/c ²				

					Calculation of	Around
		Input			Sigma plus Baryon	Known value
t particle's time period	H_{μ}	t =	8.6777E-25 s	Tau L =	8.02E-11 s	8.02E-11 s
n Neutron factor		n =	13600000		Increased relatively.	
Euler's number		e =	2.718282			
a amount of locked PK, SPK		a =	5			
s Entropy		s =	0.00005019		Decreased	
e Energy supply		ϵ =	1.268			
f Finding factor		f =	0.055			
g Correctures		g =	1			
P probability of hits and of finding locked PK		Interim result				
		P =	6.53E-04			
$m_p =$	938.272	$m_s =$	1189.37	MeV/c ²		
t p =	1.10E-24 s	$d12^2/dGK^2 =$	1.05E-04			
mPK =	116320	MeV/c ²				

					Calculation of	Around
		Input			Sigma null Baryon	Known value
t particle's time period	H_{μ}	t =	8.6539E-25 s	Tau L =	7.40E-20 s	7.40E-20 s
n Neutron factor		n =	12000000			
Euler's number		e =	2.718282			
a amount of locked PK, SPK		a =	6			
s Entropy		s =	0.000051265			
e Energy supply		ϵ =	1.271			
f Finding factor		f =	0.1		High increased	
g Correctures		g =	1		Electromagnetic decay!	Mixup Decay
P probability of hits and of finding locked PK		Interim result				
		P =	1.13E-03			
$m_p =$	938.272	$m_s =$	1192.64	MeV/c ²		
t p =	1.10E-24 s	$d12^2/dGK^2 =$	1.25E-04			
mPK =	106620	MeV/c ²				

					Calculation of	Around
		Input		E. g.	Delta minus Baryon	Known value
t particle's time period	H_{μ}	t =	8.3774E-25 s	Tau L =	5.59E-24 s	5.59E-24 s
n Neutron factor		n =	33430000			
Euler's number		e =	2.718282			
a amount of locked PK, SPK		a =	9		Much more hits possible.	
s Entropy		s =	0.0000558			
e Energy supply		ϵ =	1.313			
f Finding factor		f =	0.07			
g Correctures		g =	1		Partially, electromagnetic decay!	
P probability of hits and of finding locked PK		Interim result				
		P =	3.07E-03			
$m_p =$	938.272	$m_D =$	1232	MeV/c ²		
t p =	1.10E-24 s	$d12^2/dGK^2 =$	1.52E-04			
mPK =	100000	MeV/c ²				

		Input		Calculation of Kaon charged	Around Known value
t particle's time period	H_{μ}	t =	4.2803E-24 s	Tau L =	1.24E-08 s
n order factor		n =	700000		
Euler's number		e =	2.718282		
a amount of locked top PK		a =	4		
s Entropy		s =	0.000002002		
e Energy supply		ϵ =	4.673		
f Finding factor		f =	0.0011		
g Correctures		g =	1		
P probability of hits and of finding locked PK		Interim result P =	3.90E+00		
$m_{my} =$	105.66	$m_{kaon} =$	493.7	MeV/c ²	
$t\tau =$	1.20E-24 s	$d12^2/dGK^2 =$	9.75E-01		
mPK =	500	MeV/c ²			

		Input		Calculation of D charged	Around Known value
t particle's time period	H_{μ}	t =	1.1303E-24 s	Tau L =	1.04E-12 s
n order factor		n =	10000		
Euler's number		e =	2.718282		
a amount of locked top PK		a =	4		
s Entropy		s =	0.000003335		
e Energy supply		ϵ =	17.695		
f Finding factor		f =	0.0011		
g Correctures		g =	1		
P probability of hits and of finding locked PK		Interim result P =	5.59E+01		
$m_{my} =$	105.66	$m_D =$	1869.65	MeV/c ²	
$t\tau =$	1.20E-24 s	$d12^2/dGK^2 =$	1.40E+01		
mPK =	500	MeV/c ²			

Hypothetic particle

		Input		Calculation of Sigma 2 plus Baryon	Around Known value
t particle's time period	H_{μ}	t =	8.7466E-25 s	Tau L =	8.02E-11 s
n Neutron factor		n =	2000000	Order decreased.	
Euler's number		e =	2.718282		
a amount of locked PK, SPK		a =	8	3ΔL, 1s are locked	
s Entropy		s =	0.0000109	Increased	
e Energy supply		ϵ =	1.258	Increased	
f Finding factor		f =	0.06162	Decreased	
g Correctures		g =	1		
P probability of hits and of finding locked PK		Interim result P =	1.84E-03		
$m_p =$	938.272	$m_s =$	1180	MeV/c ²	
t p =	1.10E-24 s	$d12^2/dGK^2 =$	1.15E-04		
mPK =	110000	MeV/c ²			

Hypothetic Q-particle, H_t sequence begins

		Input		Calculation of Q1 minus	Assumed estimated value
t particle's time period	H_t	t =	4.4176E-25 s	Tau L =	2.62E-21 s
n Neutron factor		n =	2500000	Decreased	
Euler's number		e =	2.718282		
a amount of locked PK, SPK		a =	8	2ΔL, 1s, 2s are locked.	
s Entropy		s =	0.00016	Increased	
e Energy supply		ϵ =	2.490	Increased	
f Finding factor		f =	0.07		
g Correctures		g =	1		
P probability of hits and of finding locked PK		Interim result P =	1.65E-03		
$m_p =$	938.272	$m_{Q1} =$	2336.36	MeV/c ²	
t p =	1.10E-24 s	$d12^2/dGK^2 =$	1.03E-04		
mPK =	230000	MeV/c ²			

Lepton's Lifetime

		Input		Calculation of Electron	Around Known value
t particle's time period	H_e	t =	4.0000E-21 s	Tau L =	infinite s
n order factor		n =	extreme		infinite s
Euler's number		e =	2.718282		
a amount of locked top PK		a =	0	All PK are open.	
s Entropy		s =	0	Minimum. Perfect order.	
e Energy supply		ϵ =	1	Starting state.	
f Finding factor		f =	0	Nobody has to find itself.	
g Correctures		g =	1		
P probability of hits and of finding locked PK		Interim result			
		P =	0.00E+00		
$m_e =$	0.511005 ...	$m_n =$	0.511005	MeV/c ²	for relation of radii.
te =	4.00E-21 s	$d12^2/dGK^2 =$	1.31E-06		
mPK =	446.9	MeV/c ²			
Here is a jump from H_e to H_{μ} .					

		Input		Calculation of Muon	Around Known value
t particle's time period	H_{μ}	t =	1.9345E-23 s	Tau L =	2.197E-06 s
n order factor		n =	63955000		2.197E-06 s
Euler's number		e =	2.718282	Decreasing starting order.	Closed PK on ordered orbitals.
a amount of locked top PK		a =	5		
s Entropy		s =	0.00000026	Increasing entropy.	
e Energy supply		ϵ =	206.8		
f Finding factor		f =	0.9	strong	
g Correctures		g =	1		
P probability of hits and of finding locked PK		Interim result			
		P =	8.23E-06		
$m_e =$	0.511005	$m_{my} =$	105.66	MeV/c ²	
tmy =	2.00E-23 s	$d12^2/dGK^2 =$	1.32E-06		
mPK =	92082	MeV/c ²			

		Input		Calculation of Tauon	Around Known value
t particle's time period	H_t	t =	1.1503E-24 s	Tau L =	2.90E-13 s
n order factor		n =	638600		2.90E-13 s
Euler's number		e =	2.718282	Minimum starting order.	4 orders.
a amount of locked top PK		a =	5		
s Entropy		s =	0.0000021	Maximum entropy.	3 orders.
e Energy supply		ϵ =	3477.5		
f Finding factor		f =	1	Maximum finding together.	
g Correctures		g =	1		
P probability of hits and of finding locked PK		Interim result			
		P =	8.17E-06		
$m_e =$	0.511005	$m_{\tau a u o n} =$	1777	MeV/c ²	
ttau =	1.20E-24 s	$d12^2/dGK^2 =$	1.31E-06		
mPK =	1554442.5	MeV/c ²			

Neutrino's Lifetime

		Input		Calculation of	Around
t particle's time period	v_g	t =	1.0480E-15 s	Tau L =	infinite s
n order factor		n =	40,000,000,000		infinite s
Euler's number		e =	2.718282		Assumed high orbital order.
a amount of locked top PK		a =	0		All PK are open.
s Entropy		s =	0		Minimum. Perfect order.
e Energy supply		ϵ =	1		Starting state.
f Finding factor		f =	0		Nobody has to find itself.
g Correctures		g =	1		
P probability of hits and of finding locked PK		Interim result P =	0.00E+00		
$m_{en} =$	0.0019 ...	$m_{en} =$	0.0019	keV/c ²	for relation of radii.
te =	1.05E-15 s	$d12^2/dGK^2 =$	1.81E-11		
mPK =	446.9	MeV/c ²			
		Input		Calculation of	Around
t particle's time period	v_g	t =	1.0480E-20 s	Tau L =	2.640E+00 s
n order factor		n =	400,000		none s
Euler's number		e =	2.718282		Decreasing starting order.
a amount of locked top PK		a =	5		
s Entropy		s =	0.0000002		Increasing entropy.
e Energy supply		ϵ =	100,000.0		
f Finding factor		f =	0.1		
g Correctures		g =	1		
P probability of hits and of finding locked PK		Interim result P =	2.66E-05		
$m_{en} =$	0.0019	$m_{my} =$	190	keV/c ²	
tmy =	1.05E-15 s	$d12^2/dGK^2 =$	4.26E-06		
mPK =	92082	MeV/c ²			
		Input		Calculation of	Around
t particle's time period	v_g	t =	1.1062E-22 s	Tau L =	1.20E-22 s
n order factor		n =	50,000		none s
Euler's number		e =	2.718282		Minimum starting order.
a amount of locked top PK		a =	5		
s Entropy		s =	0.0000003		Maximum entropy.
e Energy supply		ϵ =	9,473,684.2		
f Finding factor		f =	0.1		Maximum finding together.
g Correctures		g =	1		It appears and disappears.
P probability of hits and of finding locked PK		Interim result P =	8.38E-04		
$m_{en} =$	0.0019	$m_{\tau a u o n} =$	18000	keV/c ²	
ttau =	1.05E-15 s	$d12^2/dGK^2 =$	1.34E-04		
mPK =	1554442.5	MeV/c ²			

Meson's Lifetime

	Input		Calculation of Pions charged	Around Known value
t particle's time period	H_{μ} t =	1.5141E-23 s	Tau L = 2.601E-08 s	2.600E-08 s
n order factor	n =	1000000	Assumed order.	
Euler's number	e =	2.718282		
a amount of locked top PK	a =	4		
s Entropy	s =	9.219E-07		
e Energy supply	ϵ =	1.321		
f Finding factor	f =	0.006		
g Correctures	g =	1		
P probability of hits and of finding locked PK	Interim result P =	3.90E-01		
$m_{\pi} =$	105.66 ...	$m_{\pi} =$	139.57	MeV/c ²
tmy =	2.00E-23 s	$d12^2/dGK^2 =$	9.75E-02	
mPK =	446.9	MeV/c ²		

	Input		Calculation of Pion uncharged	Around Known value
t particle's time period	H_{μ} t =	1.5656E-23 s	Tau L = 8.522E-17 s	8.520E-17 s
n order factor	n =	1000000		
Euler's number	e =	2.718282		
a amount of locked top PK	a =	4		
s Entropy	s =	0.000001	Increasing entropy.	
e Energy supply	ϵ =	1.277		
f Finding factor	f =	0.017313	<i>E. m. decay.</i> Finding better.	
g Correctures	g =	1		
P probability of hits and of finding locked PK	Interim result P =	2.92E-01		
$m_{\pi} =$	105.66	$m_{\pi} =$	134.98	MeV/c ²
tmy =	2.00E-23 s	$d12^2/dGK^2 =$	7.29E-02	
mPK =	500	MeV/c ²		

	Input		Calculation of Kaon charged	Around Known value
t particle's time period	H_{μ} t =	4.2803E-24 s	Tau L = 1.24E-08 s	1.24E-08 s
n order factor	n =	700000		
Euler's number	e =	2.718282		
a amount of locked top PK	a =	4		
s Entropy	s =	0.00002002		
e Energy supply	ϵ =	4.673		
f Finding factor	f =	0.0011		
g Correctures	g =	1		
P probability of hits and of finding locked PK	Interim result P =	3.90E+00		
$m_{\pi} =$	105.66	$m_{kaon} =$	493.7	MeV/c ²
ttau =	1.20E-24 s	$d12^2/dGK^2 =$	9.75E-01	
mPK =	500	MeV/c ²		

	Input		Calculation of D charged	Around Known value
t particle's time period	H_{μ} t =	1.1303E-24 s	Tau L = 1.04E-12 s	1.04E-12 s
n order factor	n =	10000		
Euler's number	e =	2.718282		
a amount of locked top PK	a =	4		
s Entropy	s =	0.00003335		
e Energy supply	ϵ =	17.695		
f Finding factor	f =	0.0011		
g Correctures	g =	1		
P probability of hits and of finding locked PK	Interim result P =	5.59E+01		
$m_{\pi} =$	105.66	$m_D =$	1869.65	MeV/c ²
ttau =	1.20E-24 s	$d12^2/dGK^2 =$	1.40E+01	
mPK =	500	MeV/c ²		

Dear reader, I hope you had a great time.

With best wishes for the complete dumbing down of mankind,

Heinz-Joachim Ackermann on April 6th, 2022

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- 1: "The Book Arcus I" – Theoretical Opinions
from "Einheitliche Feldtheorie – Antworten auf die Weltfrage" by Heinz-Joachim Ackermann, Pseudonym
"Arcus", published in Germany 1998 at Frieling Verlag, Berlin, self-translated version published by internet
www.arcusunivers.com since 1998
- 2: "The Book Arcus II" – Philosophical Opinions
from "Einheitliche Feldtheorie – Antworten auf die Weltfrage" by Heinz-Joachim Ackermann, Pseudonym
"Arcus", published in Germany 1998 at Frieling Verlag, Berlin, self-translated version published by internet
www.arcusunivers.com since 1998
- 3: My own website including some more of work by articles on <https://www.arcusuniverse.com>
There are a lot of further premises and hypotheses.
- 4: "Allgemeine Relativitätstheorie", by Hans Stephani, published 1980, VEB Deutscher Verlag der Wissen-
schaften, Berlin, Germany
- 5: Wikipedia in the internet for all special publications of physical data
- 6: "Grundriß der Atom- und Kernphysik", by Helmut Lindner, published in Leipzig a) 1963, b) 1981

Declaration

On the basis of my own acknowledge and of the less information from the given literature as well as with the aid of irrefutable fundamental laws of the natural sciences and some research on the internet, I have created my work myself by proposed solutions within the framework of my own theories of the “Ideal Oscillator” and my own creations of new words. No other person has worked with me.

The product

The Book ARCUS III

The Alternative Solution of the Problem of the Elementary Particles

remains my sole private ownership. It is subject to international rules and laws of copyright valid for more than 70 years after my death.

On oath on April 6th, 2022.

Heinz-Joachim Ackermann, D-02828 Görlitz, Germany,
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