FAKING THE SCIENCE FOR PUPILS – PART V

This newsletter is going to demonstrate once again how pervasive the imbecility in modern science is!

The newsletter is mainly about nuclear physics and neutrino, but don't be scared if you are an outlier for this field. Except one section which is more brain consuming, all the other sections are dedicated to pupils and the debate is much larger than nuclear science field. One can find here information about classical mechanics, astronomy, quantum theory, electricity, thermodynamics, chemistry, etc.

In fact this newsletter rules out the quantum theory from the nuclear domain once for all and the time is coming to rule out the classical quantum theory formulated for atomic structure.

The first section is a warming up discussion about the "concentration" of atmospheric neutrino and if they can be detected.

Strange enough, for this atmospheric neutrino concentration, I could not find a scientific text making a simple estimation of its range so the discussion is made based on some assumptions.

Even by transforming Earth into a radioactive hell, the atmospheric neutrinos are going to be outnumbered by the Sun neutrino in a ratio of at least 100 to 1.

By considering only one specific flavor like muon neutrino, the situation remains the same. Sun neutrino are assumed to oscillate and, at the Earth surface, one third of the total are going to be detected as muon neutrinos and this means about 21,6 billions per cm² and second.

Can someone think that a real experiment is able to select only a handful of atmospheric muon neutrinos and make them specifically interact with the detector?

Only an imbecile mind could think that having such situation, it is possible to put in evidence the atmospheric neutrino and a supposed atmospheric variation for them.

Some top personalities in modern science need to learn elementary physics again and a postulate formulated in a previous newsletter has to be the best starting information.

Postulate: For very weak signals, one cannot find an useful signal if the overlapping noise or other perturbing signals are an order of magnitude bigger.

The section presents also a real topic of research regarding the conversion of Nitrogen-14 to Carbon-14, just in case someone wants to invest some pocket money in it.

The title of the second section is more than self-explanatory about its content: *neutrino and the astronomy of the impossible.*

There are some scientists who advance the idea that neutrino astronomy is going to offer a lot of advantages in studying far away celestial objects.

I watched a video where such an enthusiast neutrino fanatic considers that neutrino astronomy is in the stage the optical astronomy was about four centuries ago.

Most of the developed nations are allocating serious amounts of money for neutrino research and in fact for some countries this has become a top priority. Many such neutrino detectors are in different stages of construction, with some of them already working at partial or full capacity.

What a wondrous view of the universe could we have when such telescopes capture the neutrino light coming from the most striking events taking place in the far away universe!...

Well, before dreaming so high, it is necessary to look a bit at some "other facts"!

For such neutrino fanatics but for laymen too, a simple question is necessary to be answered: *Could someone perform optical astronomical measurements during daytime?*

For any common sense mind the idea would appear preposterous! How could someone see stars or other cosmic objects when the Sun is glaring into the telescope field of view

Yet, in the neutrino case, how could some astronomers or nuclear physicists think that they can do neutrino astronomy if there is no way to block the huge flux of neutrinos coming from the Sun?

The Earth is transparent for the Sun neutrinos (one in 10 billions is stopped by passing through entire Earth), and therefore, at any location on Earth, at any moment, the neutrino telescope is going to be full of solar neutrinos.

As far there is no way to block the neutrino flux coming from the Sun, in order to detect something by this method, the neutrino flux coming from a cosmic object has to be more intense as the flux coming from Sun.

This section brings into discussion such "possible" cosmic objects or events which are supposed to be intense emitters of neutrinos.

The case of supernova 1987A, i.e. the most clear detection of neutrino so far, is the first case analysed. Interestingly enough, the flux of neutrinos coming from this supernova was estimated quite the double of the solar flux and *mon chapeau*! ... this supernova signal should be detected!

For a "theoretician" who has never seen a laboratory in his life or for a common laymen the results could be considered satisfactory and clear. Yet, for someone who stayed a decade in a laboratory, and is very keen on measurements techniques and results interpretation, there is something missing in the entire picture.

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If a beam of 105 billions neutrinos from supernova gave birth to 9 events in the detector, the baseline of the detector generated by the solar flux (65 billions) has to be much greater as the observed one! Unfortunately, this high baseline was never observed, and this means the SN1987 A results were cooked.

Maybe someone would consider my interpretation a bit inconclusive so the case of a supernova explosion in Andromeda, the closest bigger galaxy to us, is further analyzed; unfortunately, such a supernova flux is less than 5% the solar flux and it is obvious that no detection is possible.

As far I remember, my telescope of few hundreds Euros offered a quite reasonable view of Andromeda galaxy, so I suppose that such instrument would be useful for detecting a supernova there.

Why should a mad science spend a billion \$ or Euro for such neutrino telescope which are not able to do the job a toy optical telescope can do!?

Well, needles to say that even a pupil can deduce that neutrino method is not useful for other more distant supernovae at all!

The billion neutrino telescopes are not going to be able to detect a simple red giant star in our galaxy although the considered star is visible with an unaided eye!

The idea to be taken home is simple: Neutrinos, if exist, are completely different from photons. One cannot cover the source of neutrino with a blanket and do measurements for other sources around. There is also a postulate for those who wants to remain in this field of research:

Postulate: All the neutrinos detection of cosmic events are going to be only backward retrofit of data without any use for real science.

The third section is about neutrino oscillation and how these oscillations enters in contradiction with QM superposition principle and with classical conservation laws. It is the most brain consuming section and dedicated mostly to afficionados.

The forth section bring into discussion the matter antimatter problem and the challenges the neutrino branch is currently facing. There is a general introduction to this topic, to the mechanism and the current controversies regarding neutrino and antineutrino particles.

It is obvious that this section could not miss one of the most debated topic these days in this branch: is neutrino identical with antineutrino or not?

The case of double beta decay is also analyzed here and the conclusions are not so pleasant for the modern science. Two postulate are formulated and exemplified here:

Postulate : A mass particle cannot be its own antiparticle.

Postulate: The transfer of a form of energy through a volume of space occupied with

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matter has to generate a fingerprint in that matter.

There is striking experiment exemplified here which has some more important consequences: *it rules out the entire electromagnetism*.

The fifth section is dedicated to laymen and demonstrates how beta decay demolishes quantum mechanic theory.

A postulate and a corollary are exemplified too.

Postulate: The conservation of linear momentum during a so called quantum process (jump) rules out the process of energy quantization.

Corollary: Momentum conservation determines the redistribution of energy.

The exemplification of this postulate for recoil momentum from a riffle makes correction even for some classical concepts.

One can only imagine how a similar approach is necessary for electrons and what linear momentum and energy conservation is going to bring in case of atomic theory...

The sixth section is expanding the collection of paradoxes in science and presents the mass defect paradox in nuclear physics.

When some nuclear reactions are analysed, the mass defect calculation concludes that these reactions are exothermic but based on the total energy variation of nucleons in nuclides the same reactions are endothermic.

The exemplification is made for tritium and C-14 beta decay reactions.

Some other correlations between isotopes characteristics of the same element or between different elements are presented and these preliminary data blow off the entire nuclear physics.

The seventh section insists on beta decay and how this process rules out both the quantum mechanism and the mass energy conversion. It tries to offer a new perspective for the beta decay reactions and it analyses the "trigger" mechanism for the various kind of beta decays.

The case of electron capture should be one of the most debated topic in the fake neutrino science. One can see how Ph D in nuclear science are not able to make a difference between a gamma photon of a specific energy and a neutrino

The eights section frames the future of high energy physics for the next half century. A letter addressed to CERN management team is commented too.

It would be wise for young researchers to ask themselves a simple question before pursuing a career in high energy physics: *What is the use of breaking apart some nucleons when the framework for the entire nuclear physics is falling apart?*

It would be advisable for those common sense scientists who already work in this field to re-route to other domains and do some more useful things for the society.

The section further exemplifies two such direction of research: electrochemistry and nanotechnologies.

For those who want to start working in electrochemistry, there is a very important advice which has to be followed: everything has been written in the field is wrong.

There is a link to an experiment which demolishes the entire branch of electrochemistry and even the entire chemistry: *a battery where both electrodes undergo an oxidation process!*

The electrochemistry field of research has another big advantage for the newcomers: there is no fundamental theory formulated in this field, there is going to be no fundamental theory ever and any battery you want to build needs a starting from zero approach....

Good luck!

I suppose that after the release of this newsletter the neutrino domain is going to become a ghostly field of research; only some mummies or some walking zombies are going to appear from time to time. Are you still afraid of them?

More difficult is going to be for some institutions like nobel foundation who prized an entire list of imbecilities related to neutrino.

There is no place for them in the science of the future and they already know it !

The last section is a copy carbon from the previous newsletter (Old game, same scene, new actors and figureheads....), because it is important for people to get in touch with the expected unexpected...

SECTION I THE ATMOSPHERIC NEUTRINO IMBECILITY

Experiment for amoebas:

Imagine someone pouring a bottle of water in the sea - fig. 1.

Can a rational science demonstrate that, by picking up a sample of water from the sea a couple of days or a month later, would it be possible to find and label the water molecules coming from the bottle?





For an amoeba mind this is an impossible experiment as far there is no way to differentiate between the water molecules.

Even in case of different isotopic signatures for the bottled water and see water, it is impossible to pick up later a sample from the sea and tag a molecule of water as coming from bottled water or from sea water.

Of course, I am assuming that normal water is used in this experiment and not some kind of special water with a kind of special isotope like O-14 or an O-22, etc.

Yet, for some multicelular individuals who call themselves eminent scientists, it appears that performing such experiment and tagging the water molecules coming from the bottle is a simpler thing than a finger snap. Not only they think they have been able to do such a thing, but they dared to prize such performance too with some nobel prizes....

For common sense people, who have nothing in common with the neutrino research, it was difficult if not impossible to grasp the enormity of the imbecility advanced when dealing with atmospheric neutrinos; therefore this material is necessary to debunk these experiment for pupils understanding.

At the Earth surface, it seems that two consistent and "quite" different sources of neutrinos exist.

Sun is assumed to be one of these sources and it is further assumed that 1 cm² at the Earth surface is traversed each second by about 65 billions neutrinos coming from this source.

The second source of neutrino is Earth itself and it has two main components: natural radioactivity of terrestrial mantle and cosmic radiation.

As far in Earth mantle there are elements which decay following one of the known beta scheme, there is going to be a certain concentration of neutrinos generated and it is not the case to insist on this aspect.

On the other hand, this cosmic radiation, which consists mainly in high energy protons, interacts with atmosphere or even with Earth crust and produce some nuclear reactions which are supposed to subsequently release neutrinos.

Unfortunately, for this atmospheric neutrino concentration, I could not find a scientific text making a simple estimation of its range.

Despite of this fundamental flaw, a lot of articles has been written about the topic, serious money were spent for performing experiments, a nobel prize was granted too, etc.

Let us see what is remaining from all this endeavour when things are analysed at their face value...

There is indeed a slight "nuclear activity" generated by cosmic radiation in the upper atmosphere and this fact is known from quite a century.

At the edge of what is commonly called outer space, light atomic nuclei from unknown sources travelling at huge speeds collide with atmosphere components. These highly energetic species wreak havoc on the atoms in the upper atmosphere: tearing electrons from their orbitals and setting them free, knocking neutrons and protons from the atomic nuclei and setting them free, generating x-rays and gamma rays as they decelerate, and creating exotic particles like muons and pions directly from their excessive kinetic energy. These secondary cosmic rays are also highly energetic and will ionize atoms, transmute nuclei, and generate x-rays themselves.

Later on, when neutrino was invented, it was advanced the idea that atmospheric neutrino are produced around 15 kilometres above Earth's surface -fig. 2.

It is important to be highlighted that no beta decay reactions are known to this moment to occur in upper atmosphere in case of cosmic ray interaction with nuclei from atmosphere.

When cosmic rays strike an atomic nucleus in our atmosphere, short-lived particles called mesons form. These are unstable particles and they rapidly decay into muons and muon antineutrinos (or antimuons and muon neutrinos). A muon is also unstable, so it will usually decay into an electron, electron antineutrino, and muon neutrino. Thus, about two-thirds of atmospheric neutrinos are supposed to be muon neutrinos and antineutrinos, and the remainder are electron neutrinos and antineutrinos.



Figure 2 Production of neutrinos by cosmic-ray interactions with the air nucleus in the atmosphere at about 15 km above the ground. (internet picture)

There are also some new nuclides generated as result of cosmic ray interaction with atmosphere: Nitrogen-14 is transformed into C-14 and this fact was proved useful in dating materials based on their C-14 content.

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In order to have an idea about the intensity of this entire "nuclear activity", one has to estimate how much Nitrogen-14 is transformed into C-14.

Well, a simple search about this topic offers the following information: because the rate at which cosmic rays strike the Earth does not vary greatly, the overall quantity of radiocarbon in the atmosphere is fairly constant and this C-14 is however, only a very very small proportion of the total carbon present in the atmosphere – tab. 1.

Isotope	Protons	Neutrons	Proportion	Half life
¹² C	6	6	99%	stable
¹³ C	6	7	1%	
¹⁴ C	6	8	0,000000001%	5568 years

Table 1 Carbon isotopes ratio in atmosphere

For those who are not chemists, the CO_2 makes up only about 0,04% of the atmosphere, and in this concentration it is included also the CO_2 generated by our advanced civilization.

From this total amount of atmospheric carbon, only one C-14 in about 10¹⁰ carbon atoms is produced by the cosmic radiation, so the "intensity" of the cosmic radiation is, as it should be, negligible.

When a Geiger counter measures the "natural" radioactivity at a certain location on Earth, the counter measures in fact the level of "air ionization" near the detector and not directly the number of nuclear processes. In another section, it is going to be demonstrated that an "electric signal" is not all the time directly proportional with the nuclear activity and some correction have to be made, but this is another topic.

There is a certain incertitude regarding the number of nuclear processes a cosmic particle is going to generate in atmosphere. A conservative assumption would be less than 10 nuclear processes are taking place for each cosmic particle. Higher energy cosmic particles can generate more and lower energy cosmic particles can generate less nuclear processes.

In this simulation, I am going to play the devil advocate and assume that one thousand nuclear processes are generated by each cosmic particle hitting upper atmosphere.

It has to be straightforward even for a pupil that my assumption is exaggerated and far from reality. If this were to be real, people had to live in caverns because atmosphere is going to have a level of radioactivity which is already not safe.

The concentration of cosmic radiation at the limit of upper atmosphere is about one particle per cm^2 and steradian.

In my assumption, this initial concentration is going to generate at the level of Earth surface a secondary concentration of neutrinos of about 3000 neutrinos (2000 muon and one thousand electron) per cm^2 .

One can be even more generous, transform the Earth in a radioactive hell and assume that at level of Earth surface cosmic radiation generates some decades or even hundreds millions of neutrinos each second per cm².

Can the "intensity" of this atmospheric source be compared with the other source, i.e. the Sun?

For a surface of 1cm², depending of what value one assumes, there are going to be some thousands, some decades or hundreds of millions of atmospheric neutrinos and, on the other hand, there are going to be sixty five billions of neutrinos coming from the Sun!

Even by transforming Earth into a radioactive hell, the atmospheric neutrinos are going to be outnumbered by the Sun neutrino in a ratio of at least 100 to 1.

By considering only one type of neutrinos like muon neutrino, the situation remains the same. Sun neutrino are assumed to oscilate and, at the Earth surface, one third of the total are going to be detected as muon neutrinos and this means about 21,6 billions per cm2 and second. The atmospheric muon neutrino is a few thousands, a few millions or a few hundreds of millions if you consider that atmosphere is a radioactive hell.

Can someone think that a real experiment is able to select only the atmospheric neutrinos and make them specifically interact with the detector?

Only an imbecile mind could think that having such situation, it is possible to put in evidence the atmospheric neutrino and a supposed atmospheric variation for them.

By chance I found a video, where these relative concentrations are presented and as far the mathematical language is universal, it is not necessary for you to know the language in order to figure out the "real concentration" of each source of neutrino.

https://www.youtube.com/watch?v=x7HpPt4Ek64

Amphis pour Tous : Surprenants neutrinos

In an approximate translation, the neutrino generated by the interaction of cosmic rays with atmosphere are only one per cm^2 and second at the level of Earth surface– fig. 3.

Form my point of view no further commentaries are necessary.....

The experiment did not stop here... and one has to enjoy other imbecilities in top of this imbecility.

Surprenants neutrinos

Les neutrinos sont partout:



Soleil: Fusion thermonucléaire

65 milliard/cm²/sec



Produits dans l'atmosphère dans les cascades de rayons cosmiques

1/cm²/sec

(A)

Dans la terre: radioactivité naturelle (²³⁸U, ²³²Th) <=> réacteur nucléaire de plusieurs TW 7 000 000 (7 millions) par seconde et par cm²

Figure 3 Capture screen with relative concentrations of neutrinos at Earth surface

Some "serious" scientists claimed that in this experiment it was possible to put in evidence even the "flavour" of atmospheric neutrinos and here is the "trumpeted effect" for children understanding.

Due to the cosmic rays-atmosphere interactions, the atmospheric neutrinos can be generated everywhere in the atmosphere and they can arrive to the detector from any direction.

There is a certain symmetry of this atmospheric neutrino production along any line which intersects the Earth interior, and therefore there should be a quite equal numbers of atmospheric neutrinos coming from opposite directions; this symmetric production should generate a double size signal in the detector.

Take as example fig. 4. As far the Earth is practically transparent for neutrinos, the neutrinos coming from AO direction have to give a signal in the detector and the neutrinos coming from BO direction have to give another equal signal in the detector. Please be aware that signals do not cancel out in case of opposite fluxes of neutrinos as for electric currents because the detection has a completely different pattern. Each flux of neutrino, irrespective of its direction has an equal chance to generate a chemical or nuclear process in the detector, so there is a summation of the effects.

Yet, when the registered data of these atmospheric neutrinos coming from opposite locations were "analysed", it was observed that BO flux was smaller than AO flux.

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Figure 4 Direct and indirect atmospheric flux arriving to detectot

This was not the only neutrino case when "the measured flux" was smaller than the expected. The same situation happened in case of Sun neutrino in other similar experiments performed by other teams over decades and the measured value was again smaller than expected.

The craziest idea to get out from this conundrum was suggested previously by an Italian physicist who defected in Russia, Pentecorvo. He assumed that neutrino has a "perturbed personality", it can change some properties and have like a kind of metamorphosis between different states which later were called "flavours".

Now, with this new patch, in order to detect an already imaginary neutrino, one has to look after its flavour and set up the appropriate detector for that flavour; otherwise the detector is detecting nothing.

Anyway, by introducing this new concept of flavour, it was possible to give some ,,consistency" to the obtained results as follows: in the case of atmospheric neutrinos, on the short trip from A to O, neutrinos do not have enough time to change the flavour so all of them are counted; on the trip from B to O, some neutrinos change their flavour and as far the detector can detect only a certain flavour, not all neutrinos are counted.

From the perspective of new proposed theory, the experiment in itself and the flavour concept, are imbecilities on top of other imbecility.

Irrespective of the position of Sun relative to the detector, the flux of neutrinos coming from Sun outnumbers by many orders of magnitude the numbers of neutrino generated by cosmic rays or by Earth crusts. I am going to make one exemplification for a certain position of the Sun in rapport to the detector – fig. 5, but a similar analysis can be made for any other relative arrangement, and the conclusions are the same. In our case the detector is in the night time zone, so it receives the neutrinos coming from Sun and passing through the entire interior of the Earth.

Any cm² of detector area, is traversed by the following fluxes of neutrinos :

- **65 billions** neutrinos coming from Sun (21,6 billions electron neutrino, 21,6 billions muon neutrino, 21,6 billions tau neutrino);
- 7 millions neutrinos coming from terrestrial mantle radioactivity;
- 1 single neutrino from cosmic radiation.

One can make any kind of assumptions regarding the neutrino from cosmic radiation and yet, it cannot perform a sound measurement for atmospheric neutrinos or for those generated in the Earth mantle in presence of the solar flux of neutrino.

There is a nice video on internet where some "serious" scientists are debating between pistachio or other names for these neutrino flavors and this is considered science these days.



Figure 5 "Expected" fluxes of neutrino in detector

In the most worst scenario, a detector of pistachio flavour for each cm^2 of its surface, would receive about one third of solar neutrinos having this flavour, i.e. 65/3 = 21,6 billions neutrinos coming from Sun. Irrespective of the change of flavor for Earth neutrino, the flux of neutrino from cosmic radiation is outnumbered by nine orders of magnitudes in detector.

There is no possibility to have a signal from atmospheric neutrino or from radioactive elements on Earth in these conditions. It has to be further underlined that no possibility to cancel the solar neutrino flux exists, so any experiment in the field is doomed to fail.

Some top personalities in physics need to learn elementary physics again and a postulate formulated in a previous newsletter has to be the best starting information.

Postulate: For very weak signals, one cannot find an useful signal if the overlapping noise or other perturbing signals are an order of magnitude bigger.

In that newsletter I asked to be contacted if there are cases which contradict this postulate and so far no one came up with a peculiar situation.

Sound scientific data acquisition requires a rule of dumb to be respected: the useful signal has to be, or has to be made, an order of magnitude greater than other perturbing signals or noise. Of course, in the initial stage of most discoveries, the useful signal has been often on the same order of magnitude as the noise, but in order to put in evidence a new phenomena, the follow up work made possible to increase the signal to noise ratio.

For the neutrino case, there are more orders of magnitudes difference between various fluxes so one has to keep in mind the postulate before spending money on such imbecile experiments.

In case of Earth it is impossible to cancel the solar neutrino flux so, any measurement for atmospheric neutrino or for those generated by the Earth mantle are meaningless.

The following section is going to show how this postulate is applied for the so called ,,neutrino astronomy".

Because we have spoken about some nuclear reactions in atmosphere, I dare to present a simple but real topic for research here; who knows maybe someone is going to invest some little money in this topic which remained in the shadow for more than a half century.

It is assumed that a secondary generated flux of neutrons of sufficient energy striking a Nitrogen-14 nuclei in upper atmosphere can force it to eject a proton. In this way Carbon-14 is continually formed in nature by the interaction of neutrons with Nitrogen-14 – fig. 6.



Figure 6 Carbon-14 generation in atmosphere (internet picture)

The main reaction is supposed to be:



This is a reaction written by someone who has never seen a book of elementary chemistry in his life.

Nitrogen in atmosphere is found in a molecular state and not as atoms, so the up presented reaction makes no sense at all.



Furthermore, by transforming a nitrogen in carbon, the up presented reaction does not specify what happen with an electron from the initial nitrogen atom too; nitrogen has 7 electrons and carbon has only 6 in the classical chemistry.

As far this reaction is supposed to be supported by neutrons (which are previously formed in other processes), there is an unanswered question regarding what happen with the other nitrogen atom from the initial molecule.

If the nitrogen molecule get broken, then one nitrogen atom is going to be transformed in carbon, but the other nitrogen atom has to react with a molecule of oxygen too!

If the nitrogen molecule is not broken by the collision with the neutron, then an intermediate is formed; something like this would be a suggestion:



How this intermediate react with oxygen is an entire chapter of chemistry which need to be studied. Once the carbon react with oxygen and forms a carbon dioxide molecule, the remaining nitrogen atom, which is a very reactive specie, cannot react with another nitrogen molecule to form an hypothetical N3.

So far, I have not found a scientific reference that during this C-14 production, there should be a secondary production of nitric oxide(s), and further nitric acid. If there is no such production of nitric oxides, then it has to be analysed why ...

As far I know this possible natural production of nitric oxides and nitric acid is not taken into consideration for other secondary effects like acid rain and climate change.

In fact this introduction is supporting the idea that an entire new direction of research has to be opened: **chemical reactions driven by nuclear processes.**

The topic is not at all a banality because nuclear processes can generate various chemical reactions not only in the inert matter but in living cells too.

Other upper atmospheric nuclear reactions, like the formation of tritium and O-14, have to be reconsidered too:

 $^{14}N + {}^{1}H \longrightarrow {}^{14}O + {}^{1}n \qquad {}^{14}N + {}^{1}n \longrightarrow {}^{12}C + {}^{3}T.$

SECTION II NEUTRINO AND THE ASTRONOMY OF IMPOSSIBLE

There are some scientists who advance the idea that neutrino astronomy is going to offer a lot of advantages in studying far away celestial objects.

Of course, after the successful fake breakthrough in gravitational wave, now some are thinking it is worth to do the same thing in neutrino field.

I watched a video where such an enthusiast neutrino fanatic advances the idea that neutrino astronomy is in the stage the optical astronomy was about four centuries ago. He was advocating for more money to be pumped in such research and the results are going to be astonishing.

Most of the developed nations are allocating serious amounts of money for neutrino research and in fact for some countries this has become a top priority.

Many neutrino detectors dedicated to astrophysics observations, are in different stages of construction, with some of them already working at partial or full capacity.

Here are some examples of neutrino detectors projects:

- KM3NeT (future telescope; under construction since 2013);
- ANTARES (2006 on);
- "P-ONE". (prospective telescope; path finders deployed in 2018, 2020);
- Baikal Deep Underwater Neutrino Telescope;
- IceCube (2004 on);
- DeepCore and PINGU, an existing extension and a proposed extension of IceCube;
- Baksan Neutrino Observatory, Russia, site of SAGE, GGNT and the future BLVSD;
- Gran Sasso National Laboratories (LNGS), Italy, site of Borexino, CUORE, and other experiments;
- Soudan Mine, home of Soudan 2, MINOS, and CDMS;
- Kamioka Observatory, Japan;
- Underground Neutrino Observatory, Mont Blanc, France / Italy;

Neutrinos are considered ideal candidate to not only complement the present day astronomy, but even to go farther than what we have.

In comparison with photons, neutrinos are supposed to not be affected by cosmic gas, dust, etc. and these neutral weakly interacting particles come to us almost without any disruption straight from their sources, travelling at very close to the speed of light velocity.

One has to take into account that neutrino constitute much of the total number of elementary particles in the universe, so for the mainstream science, it is obvious that they need to be studied thoroughly!

What a wondrous view of the universe could we have when such telescopes capture the neutrino light coming from the most striking events taking place in the far away universe!...

Well, before dreaming so high, it is necessary to look a bit at some "other facts"!

For such neutrino fanatics but for laymen too, a simple question is necessary to be answered: *Could someone perform optical astronomical measurements during daytime?*

For any common sense mind the idea would appear preposterous! How could someone see stars or other cosmic objects when the Sun is glaring into the telescope field of view

Yet, in the neutrino case, how could some professional astronomers or nuclear physicists think that they can do neutrino astronomy if there is no way to block the huge flux of neutrinos coming from the Sun?

The Earth is transparent for the Sun neutrinos (one in 10 billions is stopped by passing through entire Earth), *and therefore, at any moment, at any location on Earth, the neutrino telescope is going to be full of solar neutrinos*.

As far there is no way to block the neutrino flux coming from the Sun, in order to detect something by this method, the neutrino flux coming from a cosmic object has to be more intense as the flux coming from Sun.

This section brings into discussion such "possible" cosmic objects or events which are supposed to be intense emitters of neutrinos.

The spectacular beginning of neutrino astronomy is linked to the supernova 1987A.

SN 1987A was a type II supernova in the Large Magellanic Cloud, a dwarf satellite galaxy of the Milky Way. It occurred approximately 51,4 kiloparsecs from Earth and it was the closest observed supernova since Kepler's Supernova.

The supernova was observed on February 23, 1987.

Unfortunately, the history of those events is already faked in "updated published materials" so I am going to recall those events from memory. At that time, I was curious of astronomy and of course any news about this event remained engraved in my memory.

The supernova was not predicted by "neutrino" detection! In fact, if my memory plays no trick on me, the "confirmation" of neutrino detection for this supernova came about ten days or two weeks later, after the optical detection.

About two weeks later, it was announced that someone from Kamiokande team, by analysing backwards the log of events from the neutrino detector, found in the same day of 23 February a signal in the detector.

At 07:35 UT, Kamiokande II detected 12 antineutrinos. This detector, which at 12 neutrinos had the largest sample population, specified that neutrinos arrived in two distinct pulses:

- one first pulse of 9 neutrinos, all of which arrived over a period of 1,9 seconds;
- a second pulse of 3 neutrinos arrived between 9,2 and 12,4 seconds after the first neutrino was detected, for a pulse duration of 3,2 seconds.

Later on, other neutrino detectors found their logbooks too, checked them, and with a new make up, the event is supposed to be observed in 3, 4, 5 different locations depending on the source of information.

First of all, one has to take with a pinch of salt the information that "neutrino" signal arrived two hour earlier as the optical signal and this is an important fact which has to be analysed.

From the information registered in my memory, the supernova 1987A was discovered by an astronomer who went for a coffee outside and observed it by chance. Now, the official sources say a different version too! Of course, he returned and pointed the telescope to this supernova and went to telegraph the news to other observatories.

I present this information not because I want to demerit this astronomer, but in order to see how the history of science became step by step falsified until there is no way to recover the real succession of events. In fact that astronomer should have got a prize only because he was able to have in his mind the map of Large Magellanic Cloud and spot the unusual. I am sure that a lot of astronomers have difficulties in locating the Magellanic Clouds these days...

The fact that he observed the supernova at a specific time t, it does not mean that this was the time when optical signal arrived at Earth.

Assuming that one telescope took an image of that region a night before, and there was no supernova in that image, the "first signal" from that supernova reached Earth at any moment in between. There is a incertitude of the moment this first signal came from this supernova and this incertitude is at least 12 hours. No one can know if this signal arrived during the daytime, but it was observed during the coffee break in the night....

At that time, the main idea was that both neutrino and photons were travelling with the same velocity in space. It was assumed that this small difference between arrival time of photons and neutrinos is caused by the fact that neutrinos gain an starting advantage in this run as far they

are not absorbed by the matter. In contrast, photons are later emitted, when the wave shock of explosion is spreading out the star matter in space.

It is a simple problem for a pupil to demonstrate that in case of a mass neutrino, i.e. neutrino is not allowed to travel with light velocity, the difference between arrival time of photon and neutrino cannot be a few hours but it has to be at least weeks and the signal from neutrino should have been observed in March or later.

This is only a parenthesis to show that any sound science has to be made with accurate data and not with circumstantial data. There are no sound data showing the exact moment the optical signal from supernova arrived on Earth.

About a total of 25 neutrinos were detected when the pulse of neutrino emitted from supernova arrived to Earth, if one makes the summation of all locations where it claimed to be detected.

The observations were considered consistent with theoretical supernova models in which 99% of the energy of the collapse is radiated away in the form of neutrinos. The observations were also consistent with the models' estimates of a total neutrino count of about 10⁵⁹ having a total energy of 10⁴⁶ J, i.e. a mean value of some MeV per neutrino.

Having this information, it is simple to estimate the flux of neutrinos which arrives to Earth. The maths is similar to the flux of photons arriving to Earth from that distance considering that a light source exists in that location and it emits 10^{59} photons per second.

Flux measured at the Earth location is equal with total number of neutrino covering the entire area:

$$\mathcal{D} = \frac{N}{A} = \frac{10^{59}}{4 \times 3,14 \times 1,58604^2 \times 10^{42}} = \frac{10^{17}}{31,6} = 3,16 \times 10^{15} \text{ neutrinos / 3 seconds / m}^2.$$

The Solar flux of neutrino is about 65 billions per second and cm² and the flux coming from SN1987A was about 105 billions per second and cm².

Well, the flux coming from SN1987A is quite consistent and one can consider that such flux can be measured from Earth.

For a "theoretician" who has never seen a laboratory in his life or for a common laymen the results could be considered satisfactory and clear. Yet, for someone who stayed a decade in a laboratory, and is very keen on measurements techniques and results interpretation, there is something missing in the entire picture.

If a beam of 105 billions neutrinos from supernova gave birth to 9 events in the detector, **the baseline of the detector has to be** :

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 $Baseline = \frac{9 \times 6500000000}{105000000000} = 5,57 \text{ events / s}$

This baseline is given by the flux of neutrino coming from Sun.

Now, the experimental data are inconsistent with such a baseline signal because no such signal is observed in the day by day detector work. As consequence the signal from the supernova 1987A is either an artefact or a error of events classification.

It is a pupil task to see how many events should be in one hour due to the solar neutrino flux with such baseline. A simple estimation gives about 19800 events

By comparison, as it is going to be presented bellow, in the SNO detector, there were 3000 candidate events in 18 months !!!!

Maybe someone would consider my interpretation a bit inconclusive so let us consider that an identical supernova explodes in Andromeda, the closest bigger galaxy to us.

For astronomy, the satellite galaxies are like the background garden; close to home and easy to see what happen.

What is the flux arriving to an Earth observer in case of an Andromeda supernova?

By applying the same formula and considering the different distance to Andromeda, the flux is :

 $\mathcal{Q} = \frac{N}{A} = \frac{10^{59}}{4 \times 3,14 \times 2,4006^2 \times 10^{44}} = \frac{10^{15}}{72,38} = 1,38 \times 10^{13}$ neutrinos/3 seconds/m2

When this flux is converted to cm2, the value is smaller than the solar flux, and as consequence a supernova in Andromeda galaxy cannot be detected by this method.

Solar flux = 65 billions per cm^2 and s

Andromeda supernova flux= 0,4 billions per cm² and s

As far I remember, my telescope of few hundreds euro offered a quite reasonable view of Andromeda galaxy, so I suppose that such instrument would be useful for detecting a supernova there.

Why should a mad science spend a billion \$ or Euro for such neutrino telescope which are not able to do the job a toy optical telescope can do!?

Well, needles to say that even a pupil can deduce that neutrino method is not useful for other more distant supernovae at all!

Let us see what is the use of such neutrino telescope for "detecting" some closer and strong neutrino emitters in our galaxy.

The preached idea is that every star emits a certain amount of neutrinos, and this amount is related to the stage of the star evolution as follows:

- a medium star like Sun emits about 5% in neutrino;
- a massive star emits about 10% in neutrino;
- a red giant emits about 50% in neutrino;
- a supernova emits about 99% in neutrino.

The closest red giant from us, is a star from southern sky - Gacrux. The distance to it has been determined using parallax measurements made during the Hipparcos mission, yielding 27,2 parsecs from the Sun.

The star is visible with naked eye and has a luminosity which is much higher as our Sun (about 758L☉).

One can make the same estimation and find that for an Earth observer, the neutrino flux from such "strong" emitter is less than 10% of the flux coming from Sun.

So, the neutrino telescope is useless for detecting objects in our galaxy either!

Assuming that neutrinos are real particles, what is the use to spend such amount of money for detecting nothing!

From the perspective of new theory, this entire field of research is only a financial and intellectual fraud.

Until these days, such intellectual criminals dared to pop up publicly and fool other people, because no one was able to make head or tails in this conundrum.

Once this newsletter is going to be in released, I do not think that they are going to get further exposed...

The idea to be taken home is simple: *Neutrinos, if exist, are completely different from photons. One cannot cover the source of neutrino with a blanket and do measurements for other sources around.*

A postulate for those who wants to remain in this field of research:

Postulate: All the neutrinos detection of cosmic events are going to be only backward retrofit of data without any use for real science.

By watching some presentations about neutrino, I found the following relevant information – fig. 7: according to this presentation, in about 19 months of neutrino detection, 500000 events were registered and only 3000 candidate events could come from neutrino interactions. In other words only a tiny 0,6 % of the observed events could be generated by a neutrino; even this tiny percent represents still candidate events and there is no 100% certitude that they are indeed generated by neutrinos.

When an instrument has such a big rate of false events, and such a small rate of "possible real events", it is so easy to fake the reports; it is even a piece of cake to retrofit the data and come after a few months to demonstrate that such instrument is able to predict anything in the past, based on registered data.

Who cares if few false events are labelled as real events for the sake of a nice report and continuing spending money for some imbecilities?



For those who want to make fun of the imbecilities published in this field, there is even a homework – fig. 8.

In the screen copied from another video conference, there is the information that in 20 years of measurements in the case of Davis experiment, only a total of 2000 solar neutrino units (SNU) were registered. Please look in internet what a SNU represents and then imagine what some people have done in 20 years of research.

Davis-Experiment (Detektion solare Neutrinos)

Nobelpreis 2002 für Physik. Tank mit 600 Tonnen Perchlorethylen. Auswaschen des erzeugten Argons. Nachweis des ³⁷Ar durch radioaktiven Zerfall. In 20 Jahren insgesamt 2000 SNU (Solar Neutrino Units).



There was no time to analyse how neutrinos are generated by supernova. For any common sense mind the number of beta decays during this star collapse cannot "generate" such a flux of

neutrinos and a new mechanism has to be invented. As presented in a subsequent section, the electron capture by nuclei do not ever generate neutrinos.

An army of theoreticians are so busy to fix other imbecilities in the field and they have forgotten to advance such a mechanism. As far this is a hot topic of research, by sure another nobel prize is going to be awarded for advancing a mechanism of this enormous production of neutrinos by a supernova event.

SECTION III NEUTRINO OSCILLATIONS AND

There has not been enough time to write a detailed history of neutrino starting with this "invention". This particle has to be considered the champion of inconsistency in physics and probably in the entire science ever.

The properties of this neutrinos have changed so many times along decades, that an entire book could be written describing the oscillation in the minds of theoreticians from one moment to another one.

In absence of time and resources, I resume the discussion to some simple but necessary facts which can be grasped by laymen too.

Some scientists still considers this particle as being an integrated part of standard model, but this is false because there is no place for it there...

The nobel committee decided to award the 2015 Nobel Prize in Physics to Takaaki Kajita and Arthur B. McDonald "for the discovery of neutrino oscillations, which shows that neutrinos have mass. [...] New discoveries about the deepest neutrino secrets are expected to change our current understanding of the history, structure and future fate of the Universe"

Yet, previously, the nobel society prized another neutrino experiment (Raymond Davis Jr.), at a time when neutrino was a massless particle and part of the famous standard model (SM).

At this moment the situation in neutrino field is much similar with the situation in quantum mechanic about a century ago. W. Bragg described it in a metaphoric way:

"Light is waves on Mondays, Wednesdays, and Fridays; it's particles on Tuesdays, Thursdays, and Saturdays, and on Sundays, we think about it!"

There is the same copy carbon situation for neutrino in this moment.

Neutrino is part of the Standard Model (SM) on Mondays, Wednesdays, and Fridays, but no one specifies that being there its mass has to be zero; it's outside the Standard Model on Tuesdays, Thursdays, and Saturdays, because it has to oscillate and this means a rest mass is necessary for it; on Sundays, theoreticians think how to get our from this situation with another imbecility and make another spectacular shoot for yet another fake nobel prize.

Well, in fact the list of imbecilities in this field seems endless....

Presently, there are endless discussions about the character of the neutrino as follows:

- is it a Dirac or maybe a Majorana type?
- is it its own antiparticle or is it different?
- is there a CP violation in case of neutrino or not?

- what ranges of masses are attributed to different flavours?
- is there other types of neutrinos? The sterile neutrino seems to be already accepted as a fourth type of neutrinos although there is no place for him in SM.
- what is the neutrino physics beyond the SM?

As far the winners always rewrite the history of events, it is necessary to have a short reminder of some events completed with other less known events from neutrino history....

The Homestake experiment was the first neutrino experiment designed to look for solar neutrinos. It started in 1965, and after several years of running produced a result for the average capture rate of solar neutrinos of 2,56±0,25 SNU (1 SNU = 10^{-36} neutrino interactions per target atom per second). The big surprise was that the theoretical prediction should have seen about 8,1 ± 1,2 SNU, over three times larger than the measured rate. This discrepancy became known as the Solar Neutrino Problem.

Some other experiments confirmed this discrepancy between theory and measurements in case of solar neutrino – fig. 9.





Figure 9: The state of the solar neutrino problem before SNO. Each group of bars represents a different type of experiment : Chlorine on the left, water in the middle and Gallium on the right. The blue bars in each cluster represent the measurements of individual experiments, in SNUs. The middle bar shows the Standard Solar Model prediction. In all cases, the measurements are less than prediction (internet source)

SAGE, which ran with 50 tonnes of Gallium, observed a capture rate of 70.8 ± 5.0 SNU compared to a model prediction of 129 ± 9 SNU. It's counterpart, GALLEX, observed a rate of 77.5 ± 8 SNU. Again the observations were lower than the prediction - this time by about 40%. This is, in itself, important as it shows that deficit is energy dependent.

In all experiments, the theoretical model seems to overestimate the solar neutrino capture rate by approximately a factor of two. Furthermore, the discrepancy appears to be energy dependent - the lower in energy the experiment is able to probe, the less the discrepancy.

Such a discrepancy could have two solutions: either the production of solar neutrino is overestimated or there is something wrong with the neutrinos coming from the sun.

The decade 1980-1990 can be considered the crazy period for neutrino case, but now it is already pushed under the carpet.

In 1980, Reines et. al. performed a new experiment at the Savannah River nuclear plant. The result was 2-3 sigma from the theoretical predictions and has been interpreted as a possible neutrino oscillation, but later the result has been proved to be over-interpreted, i.e. data faked.

Another international team measured the neutrino oscillation at the fission reactor of the Laue Langevin Institute (ILL) in Grenoble and they found no-oscillation at all.

The series of experiment continued with a change in location for the experiments: Goesgen nuclear power plant in Switzerland and Bugey in France.

The first series of results announced in 1984 found opposite results: Bugey observed a neutrino deficit interpreted as an oscillation but Goesgen did not confirm. The Bugey team found later the error in the analysis and retracted their premature announcement.

There were also several experiments using accelerators at Los Alamos, Brookhaven, Fermilab and CERN, all with negative results.

Today it is assumed that these experiments in the 80's and 90's did not discover the neutrino oscillation, since the distance and/or the energy did not correspond to the real values of the oscillation parameters.

In 1989, experiments at CERN's Large Electron-Positron (LEP) accelerator determine that no additional neutrinos beyond the three already known can exist. Today at least a new specie of sterile neutrino is assumed to exist

Anyway, in the neutrino history, all the time later experiments proved all it was necessary to be proved.

In case of neutrino oscillation, SNO and Kamiokande proved this effect without any doubt – fig. 10, and such performance was rewarded with a nobel prize .







The final solution to the neutrino problem, was to consider that neutrino has some "problems" during its trip and the concept of neutrino oscillation and flavour were adopted.

The term neutrino "oscillation" was coined because the transition between neutrino types is not one-way. An electron neutrino will transform back and forth into a muon neutrino or in a tau neutrino along its trip. This process is considered a probabilistic consequence of quantum mechanics. Given a neutrino produced as a certain type, after travelling a certain distance, the neutrino will become a mixture of two or three types.

The first idea of neutrino mixing and oscillations was suggested by Bruno Pontecorvo in 1957 when he advanced the idea that neutrino has a perturbed personality. At that time only electron neutrino was known, and the only possible oscillation predictable was between neutrino and antineutrino; this imbecility is going to be analysed in another section.

After the invention of the muon-neutrino, Pontecorvo changed his mind and assumed that an electron neutrino can oscillate to a muon neutrino, which is a completely different process as neutrino-antineutrino oscillation; but who cares about consistency in the nuclear domain?

Later on, the model was further developed to include the tau neutrino in this chain of oscillations too.

Neutrino oscillation is considered a very important case from various reasons, one of the most important being the challenges it raises for the Standard Model of particle physics.

According to mainstream interpretation, the neutrino change of flavour is a quintessentially quantum-mechanical effect; the problem is no one has a clear idea about this effect and this ,,oscillation" is still an open debate. I found this idea to be formulated this way:

For the three neutrinos species that we know to exist, the principle of superposition from quantum theory allows "flavour" states, namely neutrinos that interact to produce electrons, muons, or taus, to be (orthogonal) combinations of three neutrino states with definite mass. In other words, when a weak interaction produces a flavour state, such as a muon neutrino, that state is a mixture of states with different mass. These states evolve at different rates so that a later time, the state may acquire some component of a new flavour state, such that if it interacts, it may do so as a flavour state different from its original flavour. This possibility of flavour change, namely that a neutrino is created in one flavour and interacts some time later as another, is the primary manifestation of neutrino oscillations.

For me, the up presented formulation, although plain English, need to be revised in order to express some clear ideas.

Let us try to present these facts in a much simpler intellectual luggage....

Neutrinos are classified in terms of "flavours" but also as "mass". One would expect that each flavour corresponds to a certain mass. Electron neutrino produced in beta decay should be a certain rest mass m_1 , muon neutrino should have a rest mass m_2 and tau neutrino should have a rest mass m_3 .

As far the quantum mechanics assume that matter has a dual nature (corpuscle and wave), it is normal to further associate to each of these masses m_1 , m_2 , m_3 , a wave which frequency is related to their momentum.

Some people are invoking a strange quantum mechanic formalism in order to allow this change of properties, but they do not understand the imbecility they preach....

Even in the framework of quantum mechanics, which is considered a probabilistic scientific theory, one cannot have an "oscillation" for some properties of elementary particles without a cause.

The fact that an electron or an hypothetical neutrino has a probabilistic description in quantum mechanics it does not mean some of its properties change aleatory.

Ok, any particle can have a wave character or a corpuscular character in QM, but in essence the characteristics of "its innate wave" or the characteristics of its innate particle does not change aleatory when this electron makes a walk, etc. The same should be valid for neutrino!

The framework of quantum mechanic cannot periodically change the characteristics of an elementary particle! In order to demonstrate this fact a comparison between neutrino case and photons emission is more than necessary.

An gas mono-atomic which receive enough energy can emit photons on various energies and let us consider the emission in IR, VIS and UV.

All the emitted photons are generated in the same type of process (jump of electron between orbits), yet photons have different characteristics and they cannot change properties even in the worst case they mix together.

For photons, the principle of superposition works fine in theory, but one has to be aware that this principle of superposition in QM cannot be applied to disjunctive quantum systems. Any detector could separate the IR from VIS and UV photons, although they come from the same source and travel the same path - let us consider the Sun-Earth path.

The fact that present science consider that photons coming from Sun are generated by a quantum process and they obey quantum law, it does not mean they act according to quantum principle of superposition all the time; there are some peculiar cases where this principle of superposition applies and these are already known facts.

In contrast to photons, *the different flavours of neutrinos or different types of neutrinos are supposed to be generated in completely different nuclear processes*. This idea has to be the headline of any article about neutrinos because different nuclear processes could generate different particles and there is no study to confirm that an electron neutrino is the same kind of particle as a muon or tau neutrino.

In the happiest case that electron neutrino and muon and tau neutrino are from the same class of particles (this is possible too!) their characteristics have to be much different and no superposition is ever possible.

The most important aspect, which is not clear even in the mind of those who advanced these absurdities, has nothing to do with superposition principle (which is quasi invented here to

fool the neophytes); the most important aspect here, which has to be properly underlined, is the fact that individual and intrinsic characteristics of neutrino modifies by themselves without any perturbing factor.

The change of neutrino flavour (if possible!) is an individual and intrinsic characteristic change and it is not affected by the fact that other neutrinos are presents in the beam along the path travelled. I can expand about this important characteristic but this would open an entire new topic, so if necessary I am going to come back with other occasion.

One has to imagine a neutrino, which by itself, and without interacting with anything, during a trip in this universe, changes his flavour and something in its mass periodically as in fig. 11.



Figure 11

For any commons sense mind, the superposition principle in QM completely forbids this change of flavour and for exemplification I am going to quote what Dirac says about this principle:

The general principle of superposition of quantum mechanics applies to the states [that are theoretically possible without mutual interference or contradiction] ... of any one dynamical system. It requires us to assume that between these states there exist peculiar relationships such that whenever the system is definitely in one state we can consider it as being partly in each of two or more other states. The original state must be regarded as the result of a kind of superposition of the two or more new states, in a way that cannot be conceived on classical ideas. Any state may be considered as the result of a superposition of two or more other states, and indeed in an infinite number of ways. Conversely, any two or more states may be superposed to give a new state.

In a laymen words, Dirac affirms that one quantum system which is in a state could be in other quantum states states (or a quantum state is a superposition of other quantum sates) in agreement with some quantum rules.

The superposition principle never assumes that a quantum system in one state generates by itself other quantum states.

In our case a solar neutrino emitted by the Sun, has to generate other quantum states (a muon neutrino or a tau neutrino) which do not exist initially. The nuclear reactions taking place in the Sun do not produce muon neutrino or a tau neutrino, nor the quantum states associated to them.

So if two quantum states are missing from the picture, it is impossible to consider that an electron neutrino can be in that quantum states.

To describe this process and its rationality, is not a simple task for present theoreticians! But one has to envisage the answer: Give us more money and we are going to invent another imbecility worthing of a nobel prize...

The up presented neutrino oscillation is what would appear in a forced and extended interpretation of quantum mechanic .

The problem is such "predictions" cannot work for various reasons so the theoreticians in the field have invented a even more outrageous imbecility. Of course only "few selected" know the core of this imbecility and it is high time to be explained for laymen understanding.

When an electron neutrino is generated by a nuclear reaction in Sun, it is generated with "innate" characteristics for muon neutrino and tau neutrino too!

In other words, somehow, the electron neutrino instead of having a mass m_1 and a certain frequency λ_1 , has also an inbuilt mass m_2 and a frequency λ_2 , and also an inbuilt mass m_3 and a frequency λ_3 .

After that, a quite complicated mathematical formalism (no need to be inserted here) is applied with some matrices, eigenvalues etc. and the results are as expected: neutrino oscillates and so on

There is even a greater imbecility which pop up from this formalism and this imbecility cannot have superlative for being described:

Flavour eigenstates and mass eigenstates cannot be determined at the same time.

This is a kind of Heisenberg approach for some imbecile invented units...

Let us debunk this idea with an example provided here:

http://www-sk.icrr.u-tokyo.ac.jp/sk/sk/neutrino-e.html

First of all, the flavour and mass for each type of neutrino are considered independent physical units – fig.12.

Any neutrino flavour is considered a mix between different neutrino masses as in fig. 13.

Only these ideas need an entire chapter or an entire book to be analysed. If such a process is possible, where a particle is generated as a composite mass or some composite properties, the same thing has to be valid for all other elementary particles.

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Figure 13

Let us not forget that neutrino is a left over from the beta decay and in this case the same formalism which apply for neutrino has to be applied at least for the other particles generated in the same nuclear process, like positron or electron.

Well, I admire the "practicality" of a German team, i.e. the KATRIN experiment, which set up an expensive device to measure the mass of neutrinos; in fact, they want to establish a limit for the maximum rest mass a neutrino can have!

But, if the mass of electron neutrino is a "composite" mass of different percentages of three masses, what is this experiment doing eigentlich?

Far away from the well known quantum mechanic percepts, it is assumed that an neutrino is generated in a "quantum state" with three different masses. Now, the consequences of this assumption are beyond anyone imagination:

- a neutrino with exactly one, definite mass must be a mixture of electron, muon and tau neutrinos;
- A neutrino with one specific flavour is a mixture of neutrino with different masses.

The situation is even more tragicomic or absurd because in Sun it is assumed that only electron neutrino are produced. They are produced in one flavour and they are supposed to be a mixture of masses m_1 , m_2 and m_3 . Yet, in order to explain the change of flavour, the same neutrino has to undergo a change of mass composition somehow because a tau neutrino as example has a different percentage of masses m_1 , m_2 and m_3 .

It is complicate to simplify this entire series of imbecilities but let us try to do the best and analyse how this neutrino oscillations take place having this "special framework".

It is further assumed that neutrino actually interferes with itself during its journey. When a neutrino is born, it does not propagate as a single wave (as matter corpuscle duality requires), but as pre-packaged combination of three waves. Here is a quote:

Neutrinos exhibit the properties of a particle as well as a wave. Therefore, neutrino1, neutrino2 and neutrino3, each with different mass eigenstates, travel through space as waves that have a different frequency. The flavour of a neutrino is determined as a superposition of the mass eigenstates. The type of the flavour oscillates, because the phase of the wave changes (see fig.14).

So when an electron neutrino (and its combined matter wave) is produced and starts to propagate, the three different mass values interfere with each other. Depending on the difference in frequency between the three waves, the initial electron neutrino combined wave will sometimes be dominated by one or the other waves subcomponents which has a specific mass and frequency.

As consequence it is assumed that *what started as a pure electron neutrino with a mixture of masses has become a neutrino with a pure mass and a mixture of electron, muon and tau neutrino.*

Could someone ever imagine how this process takes place?

The theoreticians, who advanced this mechanism, need to go back to learn elementary physics.

The question they should find an answer is very simple: Is it possible to recover the initial waves after an interference phenomena takes place?

For children and laymen knowledge, this is again an impossible task...

The mechanism presented in fig. 14 enters in clear contradiction with the mechanism presented in fig. 13.

In fig. 13, for a simple exemplification, the electron neutrino is a linear combination of 75% mass 1, a 25 % mass 2 and a 5 % mass 3. One can admit that waves corresponding to these mass percentages would somehow add together, according to classical or quantum superposition rules.

The problem is in fig. 14 an process of interference is taken into consideration and once the interference takes place, it is impossible to recover the initial waves later. Let us not forget that an born electron neutrino after oscillating back and forth, at a certain moment must return to be an electron neutrino and of course it has to return to its initial characteristics.



Figure 14 The type of the flavour oscillates when neutrinos travel through space.

After being involved into an interference phenomenon, it is impossible to recover the initial wave pattern later, so there is no way to have a cyclical conversion of neutrino. Maybe it is possible to convert from one type to another type, but never to have a periodical change of flavour and never to return to the initial state. The model advanced for this change of flavour is worth to

be reminded for the future in order to see the level of imbecilities advanced by a gang of intellectual criminals in order to substitute the scientific truth.

I would recommend to this gang of intellectual fakers to go back and perform some simple experiments with water waves interference before advancing other imbecilities.

One could assume some non interference conditions for these waves, but the conclusions remain the same. If there are no interference conditions, each and any wave remains the same all the time, so no neutrino oscillation is possible either.

Well, I could continue with the description, but the situation get messier and difficult to be grasped ...

The new proposed theory is going to cut short this list of imbecilities and therefore a new postulate is necessary:

Postulate: No property of an elementary particle changes periodically without a cause.

The postulate is valid even in case of fake theories like quantum mechanics. No electron ever changes its innate characteristics without a cause. Ok, one can assume that being so small there is some incertitude for measuring in the same time its momentum and position, but this does not mean that in QM, an electron is going to change its mass or its charge! Neither is going to change an electron its momentum or the associate wavelength in absence of a cause!

Some theoreticians have confused neutrino change of flavour with a kind of wave superposition (possible interference) without thinking much at the absurdity they preach.

When a faked electron neutrino is emitted in a beta nuclear process, in conformity with wave-corpuscular duality, it must have a specified rest mass and also an associated wave with a specific frequency.

To assume that an neutrino is in fact a complicated toy which components interact each other in order to change the properties of this particle is far beyond the quantum mechanic theory and a new theory has to be invented.

Before inventing other imbecilities, a theoretician should have in mind this simple question: *How many other elementary particles are assumed to have such a strange comportment*?

Neutrino should have been excluded from the Standard Model only for the simple fact it is a special particle, without any similarities to other elementary particles.

Quantum world is a bit complicated, but I made this long introduction because soon there is going to be a come back to this theory.
As sub-intended in the title of this section, this metamorphosis of neutrino between different flavours can be dismantled based on classical conservation laws too.

In fig. 13 it was presented that any flavour of neutrino is a combination between some linear combinations of masses.

In classical and even in quantum mechanics too there are some phenomena which are a result of a combination of some initial states.

The simplest example is the circular polarization of a wave as coming from a combination between two linear polarised waves - fig. 15. By combining the initial wave A and the wave B, a new wave C is generated and this wave has different properties as the initial waves.

Needles to say that this is not an interference situation and by using some techniques, the initial waves can be recovered.

Very important to be underline though, even in this case where the initial waves can be recovered, this process need an external intervention, i.e. a device. By itself, the combination of waves continues to propagate as a "unique" feature until it is absorbed or interact with something. It is not possible that this "combined" wave makes magic and transpose in a wave with other characteristics in absence of a external factor.



Figure 15

When an electron neutrino is considered as a linear combination of three masses m_1 , m_2 , m_3 , it has to be assumed that these masses travels independently and each of this mass generates its own wave.

There could be no sound mind in the entire universe to imagine a quantum or classic process of a beta decay where three different masses are emitted at once and they travel independently only in order to combine themselves and generate a neutrino flavour - fig. 16.

If this really happen not only the quantum or classical physics have to be ruled out, but the idea of mass as it is perceived by the simple laymen or by science has to be changed.



Figure 16

For a laymen, it is common sense that violet, blue and green dots of matter have to travel independently one of the other.

Yet, in order to change flavor these masses has to get somehow converted between them as in fig. 13. The violet percentage has to decrease and the blue and green percentage has to increase in order to obtain a muon neutrino.

It is completely nonsense to further discuss about these masses and how they undergo a linear combination in order to keep a neutrino travelling

The list of imbecilities goes even further and some theoreticians in order to explain the neutrino oscillations assumes that those dots of matter travel with different velocities; other are

assuming that even different flavours of neutrinos propagates with different velocities along the trajectory.

The fact that green dot travels with different velocity as blue dot means there is no connection between them whatsoever; yet, for an imbecile science it means that those dots wave can interfere in these conditions.

The fact that different flavours travel with different velocities rules out the classical conservation laws of physics, but who cares....!

Let us suppose that an electron neutrino changes to a muon neutrino and then back to an electron neutrino according to the schematic from fig. 17.

Two assumptions are necessary to be made a priori in order to have a certain consistency for this conversion.

An electron neutrino has to return to its previous characteristics after making an entire conversion cycle. If for example one starts with an idea that energy of state 3 becomes smaller than energy of state 1, then during this cycle energy is somehow released in the universe and a new pawkins (or it was hawkins!?) radiation has to be invented.

The mass of each flavour is a linear combination of some subcomponent masses, but in the end the rest mass of one electron neutrino has to be different from the rest mass of a muon or tau neutrino. If the rest mass of an electron neutrino is the same as for an muon or tau neutrino, then, they are identical because there is no possibility to differentiate between them.

If there is no rest mass difference between different flavours, then there is no oscillation phenomena at all either.

In my analysis, I supposed that muon neutrino is more massive as the electron neutrino.

The rest is a pupils understanding to see that no conservation laws are respected during these processes.





By passing from state 1 to state 2, the electron neutrino becomes more massive, by an unknown procedure which is clear only to some genial theoreticians in the field. An increase of mass automatically supposes a decrease in velocity, in order to have the momentum conservation law holding. As consequence, muon neutrino travels with a lower velocity.

By passing from state 2 to state 3, the opposite process takes place. Now, the mass is reduced, and the velocity is increased again, because the state 3 has to be identical with state 1.

Well someone is going to advance another imbecile idea to demonstrate that a change in mass is simultaneously corroborated with a change in velocity and in this case the conservation of momentum law can hold.

Nice try, but no such trick is going to work in order to have both the conservation of momentum and the conservation of energy to hold simultaneously.

This is because the supposed velocity and mass variation cannot be a general solution for an equation of first order and another equation of second order, for any values of v and m; in the energy expression velocity is squared and in momentum expression velocity is at the power one.

The situation with the angular momentum is even more strange. Any particle in QM is born with a certain angular momentum and there is no way to change this amount. So far, the angular momentum conservation holds for both classical and quantum processes.

Yet, by changing the mass of electron neutrino from m1 to m2, the amount of angular momentum have to change either. It is impossible to assume that muon neutrino has the same angular momentum as electron neutrino if one is converted to another by a mass increase.

The change of mass has to be followed by another adjustment for angular momentum and as far this is considered a quantum process, there are no possibilities to change this value. In the quantum theory all neutrinos has a unique value for this unit.

The same situation is encountered when muon neutrino is converted back to electron neutrino or when other conversions to tau neutrino are analysed.

The idea to be taken home is simple: *The classical conservation laws are completely disrespected in each and any of these neutrino change of flavour.*

Furthermore, the entire field of neutrino oscillation should have never been accepted as far it leads to absurd phenomenological conclusions.

When a neutrino interacts with matter, it can either continue as a neutrino after the interaction ("neutral current interaction") or create the corresponding charged particle ("charge current interaction"). The electron neutrino creates an electron, the muon neutrino a muon, and the tau neutrino a tau lepton.

So, one can start an experiment where an intense and quite pure electron neutrino beam is generated. Sun can be considered such an typical example as far most of the neutrinos are considered produced by the main reaction between two protons.

This beam of electron neutrino is oscillating during the trip to Earth and it is converted to let us say 1/3 muon neutrinos and 1/3 tau neutrinos and the rest of 1/3 remain as electron neutrino.

The consequences are outrageous and absurd for any rational science because now the muon neutrinos can generates muons and tau neutrino can generates tau lepton out of nothing....

There are other "common sense" facts which should have been discarded the entire fake model of neutrino oscillation.

Has someone ever tested the spectra of muons and tau particles to see if these have a similar pattern like for the electron spectra in beta decay? How did they do it and where are these data?

I bet to anyone that no such experiment was ever performed and yet the muon and tau neutrino were adopted only for the fact that muon and tau lepton are some negative particles generated in high energy collision and are negatively charged similar to electrons.

On the other hand, the entire idea of neutrino oscillation flies in the face of wave corpuscle duality character of matter.

An electron when is born, has a certain momentum and based on the wave corpuscle duality a certain wave is associated to it. This associate wave is related to the electron momentum.

By modifying the electron momentum (i.e. its velocity) the associated wave changes too.

What about neutrino?

Well, the duality wave corpuscle cannot work in this case because the neutrino is born like a pre-package of three masses and three associated waves.

The discussion about these aspects can be further expanded and other absurdities are unveiled....

SECTION IV NEUTRINO AND ANTINEUTRINO

It is a known fact that particles and their correspondent antiparticles, in certain conditions, annihilate when they meet each other.

Well, in my opinion "annihilate" is a "quite misleading word" when describing this process.

In its classic meaning annihilate means to reduce something to non-existence and this does not really happen in case of particle antiparticle collision.

Maybe it would appear strange but this annihilation process in particle physics is a process that occurs when a particle collides with its respective antiparticle and other particles are produced.

In the simplest case when at relatively low energies, an electron and an positron annihilate, two gamma photons are generated as in fig. 18.



Fig.18

The total energy and momentum of the initial pair are conserved in the process and distributed among a set of new particles in the final state.

However, by using high-energy electrons and positions particle for collision, the same process generates a wide variety of exotic heavy particles.

The main driving process for this annihilation phenomena, at least for low energies domain, is mostly related to the charge extinction.

In case of electron-positron pair, each particle were charged before collision and after collision this charges got extinct as far the photons are not carrying any charge.

In the present frame of particles physics, there is also a kind of "mass extinction" because both electron and positron have an intrinsic mass (rest mass) but the generated photons are considered to have no rest mass at all.

Although the process of matter antimatter annihilation is known from close to a century, it is still a mystery and there is little information about the mechanism of this process. The mainstream theoreticians felt obliged to invent infinite imbecilities in the field instead of concentrating on explaining such simple facts....

One simple question which should pop up in the mind of anyone who looks at that diagram in fig. 18 should be: *why the generated photons do not follow the reverse path after the collision (or at least in most of the cases)?*

I have seen a lot of theoreticians speaking about symmetry in physics and how important this concept seems to be. When a ball is hitting a surface, based on symmetry and classical conservation laws, one can predict the path of the ball after collision.

In case of matter antimatter annihilation, the symmetry expected from the momentum and energy conservation means to have a situation like in fig. 19.





In order for annihilation to be effective, the initial particles has to follow a frontal collision and, statistical speaking, in most cases, the generated gamma photons have to return back on the same path or with a small angle of scattering – fig.19. There should be much less number of pairs of photons detected after the direction MN - perpendicular to the initial direction of collision, as the number detected after the initial direction of collision.

I do not know if this experiment was performed in this purpose, but from the general information I read so far, there is no preferred distribution of the pairs of photons generated after annihilation; they are scattered uniformly after any possible angle.

The fact that expectations are not observed in measurements it means that something is missing in the entire picture. I already advanced with other previous occasions the idea that a magnetic interaction becomes very relevant in a lot of atomic and nuclear processes and this is again a typical case.

When two magnets collide, there is a torque which increases in size at short distances and this torque is dependent on the orientation of these magnets.

In the case of a electron-positron beams collision, the fact that after annihilation, the pair of gamma photons is scattered at any angle relative to the initial direction of collision means that initial magnetic moments of electron and positron had aleatory orientations.

This is an entire new chapter of research, but it has to be opened when a new generation of scientists is educated to do real science and not phantasmagorias.

After this quite long introduction, it is high time to come back to the neutrino and antineutrino case.

Again the real and important facts are somehow pushed under the carpet when neutrino and antineutrino are presented.

When this particle was gradually accepted by nuclear physicists, it was considered as being mass-less and charge-less; the nuclear science was in its period of glory at that time and the only way to prove it right was to test as many bombs as possible. In fact it is a pure luck that other supplementary nuclear bombs were not detonated in the purpose of studying neutrinos as far these were the initial experimental designs.

At that time, no one was disturbed by the fact that neutrino was considered its own antiparticle; both the particle and antiparticle had no change and no mass, so how could someone distinguish between them?

As consequence when Bruno Pontecorvo suggested the idea of neutrino oscillation for the first time, he assumed that such process means a change from neutrino to antineutrino.

So the paradox of the situation was that neutrino and antineutrino were indistinguishable from physical point of view, yet they could be involved in different processes by interacting with matter.

By default, electron neutrino and antineutrino are generated in quite different conditions and therefore their interaction with matter should be also different:

 $\frac{Ve + n \rightarrow e^{*} + p}{Ve + p \rightarrow e^{*} + n}$

Later on, other types of neutrino were invented like muon neutrino and tau neutrino.

The muon and tau neutrino were invented by some scientists in a high state of mind and there should have been no place for them in a rational science. These hypothetical muon and tau neutrino are generated in particles collisions or after collision decay and they have nothing to do with a continuous emission spectra of an atomic nucleus. But if they were accepted, it is important to take them into discussion too.

Beside these particle, one has to take into consideration the existence of their correspondent antiparticles: electron antineutrino, muon antineutrino and tau antineutrino – fig. 20.

Leptons/Anti-leptons				Quarks/Anti-quarks			
e ⁻ Electron	e ⁺ positron	Ve electron neutrino	ν _e electron anti- neutrino	u աջ	U anti- up	d _{down}	d anti- down
µ ⁻ Muon	μ ⁺ Anti- muon	ν _μ muon neutrino	$\overline{\nu_{\mu}}$ muon anti- neutrino	C charm	\overline{C} anti-	S strange	$\overline{S}_{ ext{antistrange}}$
τ ⁻ Tau	τ ⁺ anti-tau	ν _τ tau neutrino	$\overline{{oldsymbol{ u}}_{ au}}_{ au}$ tau anti- neutrino	t top	- t anti- top	b bottom	b anti- bottom

Figure 20

By adopting the neutrino change of flavour, it was necessary to attribute a rest mass to each type of neutrino and this changed completely the entire situation again.

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If all three neutrinos had zero mass, or even the same equal mass, this oscillation would not be allowed.

If neutrinos have different rest masses it was considered that an oscillation phenomenon is possible and this case was analysed in a previous section.

An antineutrino has to be an "opposite version" of a neutrino, but the situation is not so simple. Up to this moment, the main idea of distinguishing between matter and antimatter has grounds in the opposition of charges. Unfortunately neutrino and antineutrino are considered neutral particles so there is no way to distinguish between them in this way.

Well, the expectations for the annihilation process in case of neutrino and antineutrino are a bit odd, but in the same time challenging for the modern physics and here is why....

As far they have no electric charges, it is odd to assume that this process takes place similarly as for charged particles.

Yet, the process is not forbidden, and in fact is allowed by the "most infamous" formula in science $E=mc^2$.

According to this formula there is no problem to have an annihilation between neutrino and its antiparticle with the conversion of their rest mass in energy, i.e. gamma photons.

The neutrino antineutrino annihilation would be the first clear case when "pure matter" is converted to energy as far in this process the rest mass of some particles is converted into energy. In this case, there is a collision between two neutral particles and they are converted to photons, an event which has never been observed so far.

To date, there is no general consensus in the mainstream science regarding the relation between neutrino and antineutrino. This is an open topic for discussion and there are many experiments under way or proposed to elucidate this situation.

After this newsletter is going to become widespread, the entire topic is going to fall in desuetude though!

It is necessary to start again with some historical facts in order to offer a clear image of the situation.

Although many people have seen the electron energy spectra in a beta decay, there is no information available about the energy spectra of antineutrino generated in this process.

The antineutrino spectra generated in the beta decay has to be as in fig. 21. There is a greater number of generated neutrinos with higher energies as their corresponding electrons because the energy of an neutrino plus the corresponding energy of an electron has to be a constant for a certain nuclear reaction.



Figure 21 Beta decay antineutrino spectra

It is obvious that the rest mass of this hypothetical electron antineutrino has to be a constant; the case of a variable mass antineutrino in this process is not worth to be analysed in a consistent theory of science.

A quite similar profile has to be observed in case of positive beta decay when neutrinos are generated.

Now, in the case neutrino and antineutrino are identical particles, then the entire theoretical framework is going to become pure nonsense.

It would mean that "identical" processes are generated either by a neutrino or by an antineutrino and this generates and entire chain of unpleasant and unpredicted consequences.

For example, in Davis experiment, electron neutrino is supposed to interact with a Cl-37 nuclide and generate a radioactive isotope of Ar-37, according to the reaction:

$$u_{
m e} + ~^{37}{
m Cl} \longrightarrow ~^{37}{
m Ar} + {
m e}^-.$$

If the neutrino is identical with antineutrino, the same products are generated by an antineutrino:

$$ar{
u_{
m e}}+~^{37}{
m Cl}\longrightarrow~^{37}{
m Ar}+{
m e}^-.$$

This means that interpretation of that experiment would be at least biased if neutrino is identical with antineutrino....

Well, if this is possible, the entire theoretical framework is under fire; not only some corrections like conservation of leptonic number has to be revised, but the entire framework of how matter and antimatter interact is undermined

Some have been thinking to solve this problem with other even more faked type of experiments like double beta decay.

Similar to β -decay, double β -decay is when two β -decays occur simultaneously, releasing two electrons and two antineutrinos.

Here is a simple description of the process:

https://www.rcnp.osaka-u.ac.jp/candles/index.html?Lang=EN&InputContents=Study#DBD

"Double beta decay" is the process in which two neutrons in a nucleus are converted into two electrons and two protons. At the same time two anti-neutrinos are also emitted. This "two neutrino double beta decay", which emits the two anti-neutrinos, is allowed within the standard model of particle physics, although the decay rate is extremely small.

On the other hand, there might be the other process of double beta decay where the emitted anti-neutrino is converted to the neutrino inside the nucleus and is absorbed. In this process, no anti-neutrinos are emitted. This "neutrino-less double beta decay" is allowed only if the neutrinos are Majorana particles - fig. 22.



Figure 22

One has here a clear example about how the sound scientific judgement is deterred and replaced with all kind of imbecilities only to perform other useless experiments!

A quite consistent interpretation, in the frame of mainstream physics, of double beta decay would be as follows:

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- if the two emitted antineutrino annihilate each other then neutrino and antineutrino are identical.
- if the two antineutrino do not annihilate, then neutrino and antineutrino are different particles.

Why was it necessary to invent a new physically absurd and impossible mechanism for this double decay?

What is the physical process which takes place behind the following "scientific formulation": "where the emitted anti-neutrino is converted to the neutrino inside the nucleus and is absorbed"

Is the antineutrino emitted or not?

If the antineutrino is emitted, there is no chance to catch it back!

Is this antineutrino converted to neutrino inside nucleus and what is the rationale behind?

How can a nucleus convert a particle in its antiparticle without releasing some energy or some other particle?

This absurd mechanism is simple to be discarded if someone understand why it was invented.

If antineutrino and neutrino were real particles, once they are emitted, they could annihilate in certain conditions and after annihilation a pair of gamma photons has to be observed. As far data accumulated so far for this double beta decay cannot support the idea of a gamma photons emission, then it was necessary to invent a mechanism to avoid this gamma photons annihilation.

The present theoreticians have not observed the real challenges such a double beta decay raises for a "consistent" experiment...

First of all, there is a very small probability that both electrons are emitted with the same energy. If the energy of these emitted electrons is different (probability >99%), then the energy of the correspondent antineutrinos is different too and the entire situation become a mess....

The entire experiment makes no sense for any rational mind because one has to take into consideration the infinitesimal probability of a real collision between the two emitted antineutrino; well in the picture is simple to show that both emitted anti neutrinos have a collision path, but in reality the situation is much different.

As a general rule, it is not possible to build an entire "neutrino" science based on an infinitesimal cross section for this particles, and with the first occasion when a collision is "necessary" the cross section jumps with 10^{20} orders of magnitudes. An imbecility, once advanced

must be consistently preserved and one cannot ruled it out and replaced with another imbecility only to save the appearances.

Furthermore, in the overwhelming number of cases the antineutrinos should have different paths and also different energies.

So, if antineutrinos are real particles, the expectations from double beta decay are simple to be predicted: *one has to observe a double beam of anti neutrinos because they have no chance to interact each other at all.*

For any common sense mind, the experiment is completely futile for establishing the relation between neutrino and antineutrino particles.

The experiment still present an interest for establishing the real mechanism of beta decay in case of a peculiar and different spectra for the released electrons but this is another story.

Now, the second possibility which is supported by most of the theoreticians nowadays assumes that neutrinos and antineutrinos are distinct and different particles.

This alternative situation is generating other paradoxes in this field and I would like to present one of them.

Sun is producing mostly electron neutrino according to the following equation:

$p^+ + p^+ \rightarrow {}^2H + e^+ + \nu_e$

On the other hand most of the nuclear processes in atmosphere and in the Earth crust generates preponderantly electron neutrino.

The simplest way to analyse the "comportment" of these particles is to arrange a simple experiment of annihilation.

There are some nuclides which by themselves or in an induced way can undergo an electron beta emission with a supposed antineutrino emission.

The experiment has the purpose to detect the annihilation between antineutrino generated by such a terrestrial decay and the neutrino coming from the Sun.

The experiment is very simple to be performed and does not require complicated and expensive new instruments.

A consistent piece of a electron beta radioactive material is surrounded by gamma detectors and each gamma event is registered.

The neutrinos from the Sun, which are in a huge number – about 65 billions per cm2 and s, are bathing the entire volume occupied by this radioactive material.

Occasionally, one neutrino from Sun is going to interact with an antineutrino generated by the radioactive material and some gamma photons are going to be registered.

$\nu_e + \overline{\nu}_e \rightarrow \gamma + \gamma$

As far the background of gamma rays at the level of Earth surface should be zero, the experiment can be arranged at the Earth surface without any problem. Even in case some background gamma photons are present, it is impossible to have two gamma photons at 180° as those produced by the advanced experiment.

Of course the experiment can be performed in a abandoned mine as it is usually done for other neutrino detectors.

From the perspective of mainstream physics, the result of this experiment has to be positive. Once in a while, two detectors at 180 degrees, have to detect simultaneously two gamma photons.

From the perspective of the new theory, only a negative result is possible in this experiment, because neutrinos and antineutrinos are imaginary particles.

There is still another justification for the negative result of this experiment, but first some important concepts has to be postulated.

Postulate : A mass particle cannot be its own antiparticle.

Postulate: The transfer of a form of energy through a volume of space occupied with matter has to generate a fingerprint in that matter.

For the new propose theory, it is false to assume the existence of a particle-antiparticle relationship in absence of a mass particle. There is going to be an extension of this postulate to the charged particles soon.

The second postulate assumes that one cannot transfer energy between two region of space without having at least some kind of trace interactions with the matter encountered in the way.

It is necessary to exemplify this postulate for the particle world, because in macroscopic situations no demonstration is necessary.

I would like to start the exemplification of this postulate with an experiment which apparently is not related to the topic.

Imagine a carbon nano sheet is connected to an sensitive pico-ammeter as in fig. 23.

Parallel to the sheet, a very dim beam of electrons is travelling along the sheet, without ,,touching" the nano-sheet.

Nowadays it is possible to obtain very dim beams of electrons. In fact for the experiment is it necessary to have a beam so dim as in the electron by electron interference. The idea is to have only one electron at a time travelling over the entire nano sheet.

The entire device has to be under advanced vacuum in order to avoid other perturbing factors.



Figure 23 Energy transfer experiment -picture not at scale

When only one electron is travelling horizontally over the carbon nano sheet, an electric current is going to be registered by the pico-ammeter.

Now, the second part of the experiment is more interesting and implies to replace the source of the electrons with a dim source of high energy photons – X-ray or gamma.

When only one such photon at a time is travelling over the carbon nano-sheet, the picoammeter is still going to detect again an electric current, of course different as value from the previous case.

The interpretation for this experiment is far beyond the topic discussed, but I presented it here as a exemplification for the energy transfer postulate.

In fact the experiment can have a second variation which opens some other topics of research, if the pico-ammeter is crossing the direction of beam movement – fig. 24.

In our case, there is no direct interaction between photons or electrons and carbon nanosheet. Yet, in these conditions energy cannot be transferred without having some interactions. Well, for electrons someone is going to assume that somehow the movement of the electron is affecting the electrons in the matter by the classical electric force interaction. Yet, the movement of that electron, hoovering above the nano sheet, cannot force some electrons from carbon atoms to jump out of their orbits, ans start marching in the circuit. *This simple experiment demolishes all the classical electromagnetism and there is going to be time to return to this topic too.*



Figure 24

An high energy photon, although has no charge at all still is going to produce an electric signal in the circuit too.

The transposition of this experiment in real situations has to be made with a bit of care. I am going to discuss what happen in case of a gas where no direct interaction between atoms and the particle take place.

When a charged particle or a photon is passing at a certain distance from an atom and there is no direct interaction, there is still a secondary interaction present because a energy is carried in that space. In case of a gas it is very difficult to measure this secondary interaction. As far the atom is already in motion and possible involved in a chemical bond with another atoms, etc., the energy of this secondary interaction is converted in other forms of energy, usually thermal.

A part of the air conductibility, which is measured in any point of the Earth surface is generated by the simple fact that such particles travelling through atmosphere affect the atoms indirectly and some energy is transferred to these atoms, in absence of any ionization phenomenon. Of course, a great part of the air conductibility is given by air ionization due to direct interaction with charged particles and photons.

In case of neutrino, it is assumed that such ghostly particle has a very small cross section and from theoretical point of view it can travel through a layer of lead having a thickness of about one light year before being captured.

Yet, a real neutrino cannot arrive to travel some decade of kilometres in a layer of led and it has to disappear. In absence of direct interactions with matter components, a real neutrino having energy of the order of decade of MeV, cannot pass through matter without losing energy.

When there is going to be some time, I am going to make a correlation between the up presented experiment and Casimir force; first, I have to be sure that Casimir force is indeed a real thing....

Of course, if this force is real, it has nothing to do with vacuum energy.

This energy transfer postulate is going to calm down a lot of imbecilities advanced so far in physics, but in an indirect way – fig. 25.

When an eminent physicist is going to come with such picture and present it as a real scientific fact, ask him what is the total amount of energy carried by all those neutrinos and travelling each cm2 of surface in a second. In this way, you can test the advanced mathematical knowledges and the interpretation of some simple facts in case of some people who lost any sense of reality and pop up with stunning imbecilities ...

There is no time to discuss here, but for a consistent science a neutrino of MeV energy has to interact with matter in quite a similar manner as a high energy photon. There are many things to be discussed, and in any case the "cross section" of interaction can be "artificially modified" and this changes the entire perspective.

If all what is presented in the fig. 25 would be true, the energy would be ,,to cheap to meter" as some nuclear supporters were thinking a half century ago.

The problem is there would be no living organism to enjoy this paradise because only the flux of neutrinos from Sun with 65 billions neutrino at decade of MeV for each cm² of Earth surface would have made impossible the life of a simple bacteria.



Figure 25

SECTION V QUANTUM MECHANIC AND BETA-DECAY

The neutrino "case" is definitely related to the discovery of radioactivity and especially to the peculiarity of β -decay, Unfortunately, no one have ever had the little insight about the real problems and challenges this β -decay reaction raises for the nuclear science and especially for quantum mechanic. This section and another subsequent one are discussing about such main problems, which are going to be some bitter pills to be swallowed by mainstream science.

In both alpha and gamma decay, it is assumed that the resulting particles present a narrow energy distribution since the particle "carries" the energy from the difference between the initial and final nuclear states -fig. 26.



Figure 26 Quantum idea applied to alpha decay

In contrast, the first studies about kinetic energy distribution of beta particles showed multiple lines on a diffuse background. It took more than a decade and a tedious work until further investigations showed without any doubt that beta decay spectrum was continuous.

If one plots the fraction of electrons having a given kinetic energy against that energy, the graph appears as shown below -fig. 27.

Emitted beta particles have a continuous kinetic energy spectrum. The energies range from 0 to the maximum available energy.



Figure 27 Energy spectrum of electron in beta decay:

The distribution of beta particle energies was in apparent contradiction to the law of conservation of energy. If beta decay were simply electron emission, then the energy of the emitted electron should have a particular, well-defined value; the graph should appear as the red spike in the fig. 28 similar to alpha decay.





This spectrum was puzzling for many years; it was thought at the time in a breakdown of classical conservation laws.

Even the patriarch of quantum mechanic, Niels Bohr was dismayed and, as many other scientists, considered that conservation laws are not respected in this situation.

The rescue came from Wolfgang Pauli, who suggested that another particle was emitted in this β -decay and this particle was compensating the missing energy of electron. He assumed that this particle was not electrically charged, had no mass and he named it neutron.

Soon after, the "real" neutron was discovered by J. Chadwick and its properties were much different from the Pauli suppositions.

E. Fermi renamed Pauli's "neutron" to neutrino, and later on, Fermi published a theory of β -decay which, with some annotations, is still in use today.

It is assumed that curios shape of electron energy spectrum occurs because the total energy of the process is shared between the electron and the antineutrino.

The conservation of other strange "quantum number" require that an electron is emitted with an antineutrino and a positron with an neutrino; this idea is going to be analysed in a future newsletter, if necessary.

It is a pity that in about one century of so called scientific progress from the moment these ideas were advanced, no one has ever observed that the patch invented by Pauli solved the conservation laws aspect, but it rules out completely the quantum theory. It is high time to teach an army of theoreticians the basic percepts of quantum mechanics and a bit of classical physics.

The fact that energy and momentum are conserved with the addition of this new imaginary particle, it is obvious even for a child. As far no one can measure the amount of energy or momentum for this imaginary particle - neutrino, the difference between total energy and the electron energy was assumed to be gained by this particle; the same approach was made for momentum.

Yet, the quantum theory assumes that everything happen at a certain microscopic level, is discrete and can take place in quanta (a sort of jumps) without intermediate steps. As consequence one of the most important consequence of QM sounds like this: *it is not allowed in quantum theory to have a continuous variation for a physical unit.*

The quantum idea was first developed for electron motion in atomic shells and it was further extended to the nuclei, although nuclear processes are much more energetic as what happen for electrons shells. It is going to be a further article about ,,conceptual" comparison between atomic and nuclear physics, in order to demonstrate that a theory for electronic shells cannot be extended to the nuclei, but for the moment let us stick to our topic.

What are the expectations if quantum theory is respected in case of beta decay?

For the moment it is not important to understand how the process itself takes place or the details behind. One has to imagine the situation like a quantum black box where the nucleus enters and as result of some quantum jumps or processes there, everything which goes out has definite and narrow values for the energy, momentum, angular momentum.

When a beta decay occurs, there should be a clear ratio between the energy of each particle, at the exit from the quantum box in a form of

$E_{daughter nucleus}$: $E_{electron}$: $E_{neutrino} \rightarrow a$: b:c were a,b,c are real numbers This relationship can be easily presented in a graphic as in fig. 29.



Figure 29 Quantum expectations for a beta decay process

Do not look at the specific order; the graph is there to exemplify the expectations and is not a quantitative analysis; one have to grasp the basic assumption of QM which regards the discrete (quantic) nature of any process at atomic and nuclear level.

When comparing this expected distribution of particles involved into a β -decay with a observed one, even a child is going to deduce that quantum theory is ruled out by this phenomena.

Even in a fake theory like quantum mechanic, a quantum process cannot have a "continuous classical distribution". Pauli patched the problem of the total amount conservation (energy and momentum) but he did not observe the problem of continuity. Assuming that neutrino is a real particle, then, the distribution of energy between electron and neutrino has nothing to do with quantum processes and it can be considered a classical continuous distribution – fig. 30. Electron and neutrino can "have" any value for energy in a certain interval, with the restricting condition that the total amount generated in a nucleus decay has to be a certain value. In **quantum processes there is no such option at all!**

The quantum mechanic, as fake as it is, still have a certain consistency in describing some phenomena and is by no chance a lottery! What you see in the energy distribution of β -decay is a simple lottery, where the amount is redistributed back to the participants with no clear established rules, except the total amount conservation.

This is an introductory part in this topic in order to spot the imbecility of present day interpretation.

The entire field of nuclear physics and quantum theory is going to become a priority in the near future, so the topic is going to be reloaded and extended.

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Figure 30 Comparative energy spectra for electrons and neutrinos in beta decay

In fact the β -decay, although is not such a complicate process, has many escape doors for evading a consistent interpretation; anytime something is not as expected ,,the oddity" is charged on the neutrino's shoulders and ,,everything" seems fine.

A real approach can start with a simpler case, i.e. the α -decay, because here there are no such escape doors; and this real approach has to be started with a discussion about conservations laws so a new postulate is formulated.

Postulate: The conservation of linear momentum during a so called quantum process (jump) rules out the process of energy quantization.

Corollary: Momentum conservation determines the redistribution of energy.

Well, in order to exemplify this postulate and the corollary, it is necessary to start with a classical example and fix some things there.

Let us imagine that that a riffle, standing on a table, kicks off by mistake a bullet -fig. 31. It is obvious for everyone that conservation of momentum requires to have momentum of the bullet equal and opposite as sign with the momentum of the riffle.

$$\vec{p}_1 = \vec{p}_2 i.e. mv_1 = Mv_2$$

In case of an organised shooting, the situation is a bit different - fig. 32. Again the conservation of momentum requires that momentum of the bullet is equal with the momentum of the riffle+additional mass of the shooter.

$$p'_1 = p'_2 i.e. mv'_1 = M'v'_2$$





There is a very important and subtle question in this example: is the momentum of the bullet the same in these two situations? With other words is the following relation true?

$$\vec{\mathbf{p}}_1' = \vec{\mathbf{p}}_1$$

I still remember solving this kind of problems in high school and until about a decade ago, like any other physicist, I would have assumed that momentum of the bullet is equal in these two

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situations. The accepted explanation seems obvious and only the recoil of the riffle in the second case seems to be smaller when an additional weight is added in the left part of the system.

Some things are obvious and correct, but some things are subtle and what is obvious is not all the time correct.

Although it will be strange, the solution to this problem comes from thermodynamics, i.e. how the so called thermal engines and their working principle.

Let us see analyse the things from the perspective of the gas expansion inside a burning chamber and let us consider a special engines, one with a double piston for the cylinder – fig. 33.

Instead of having a normal fuel this engine uses gun powder, so no air is necessary for the burning. The details about how the gun powder is sparked or other set up details are not relevant for the experiment. The important aspect is that each time the same amount of gun powder is used, the burning is complete and of course the same amount of gases is released in each repetition of this experiment.



Figure 33

In the first case, both pistons have the same mass and after burning the gun powder, both pistons are displaced equally from their initial position – fig. 34. The momentum gained by each piston is equal and opposite as sign. It is important to be highlighted here that not the momentum law rules the comportment of the pistons, but the comportment of gases.



Fugure 34

After burning or explosion, the gradient of pressure (pressure inside chamber – atmospheric pressure) acts in a symmetrical way on both pistons and both arrive to have the same displacement at the end of the experiment.

The situation becomes a bit more complicated if the mass of one piston is increased, by adding other supplementary weights around its axis. When the experiment is performed with the

same amount of gun powder, the same gradient of pressures is generated in the gun powder chamber, but the effects are different on each piston - fig. 35.



Figure 35

In this case as far M>m, the displacement of left piston is smaller as in the previous case (y<x as absolute value) and the displacement of the right piston is greater than in the previous case (z>x). The conservation of linear momentum comes as a indirect consequence of the gas expansion, and of course the momentum of pistons have to be equal as size and opposite as sign.

The most striking fact is that momentum of the piston with mass m is greater in this case as in previous case. Apparently someone would find this situation strange, but it is not!

There is a gradient of pressure which practically displace both the left and right piston and this gradient of pressure decide the amount transferred to each piston.

In extremis one can imagine a situation where the mass M becomes so huge, that displacement to the left is practically negligible and in this case there is a maximum gain in momentum for the right piston.

Isn't it funny that in about six centuries from the time when the gun powder started to be used for military purposes no scientist advanced a consistent theory about the basic ideas behind?

Now, for the nuclear processes, we are in the warm up stage so the up presented example can offer some insights about the kitchen behind this process. Please be aware that the theoretical model for nuclear processes has to be completed with a magnetic interaction, which is going to bring other supplementary terms and complications, i.e. a possible different pattern for the mechanism, but this is a work for the future...

Let us suppose that a nuclide in gaseous state, low pressure and at low temperature, undergoes a α -decay as in fig. 36.

It is obvious that such process has to respect the conservation of linear momentum and there are some interesting consequences, which have not been observed so far; well, the conservation of momentum is a complicated law for some quantum minds...





If the nucleus is considered at rest before it decays, its momentum is zero. After nucleus decays, the fragments must fly in opposite directions with equal-magnitude momenta so that total momentum remains zero - fig. 37.



Fugure 37

The first important thing to be spotted is the fact that both daughter nucleus and alpha particle are gaining momentum and energy. The fact that daughter nucleus increases its energy means there is an increase in the temperature of the nuclear material over time too.

The conservation of momentum is simple to be applied as far the motion is along a line in a plan:

$$MV_1 = mv_2$$

The conservation of energy is a bit more subtle to be applied, because the entire energy of the process is subtracted from the energy of parent nucleus.

$$\Delta \mathbf{E} = \mathbf{E}_{\text{parent}} - \mathbf{E}_{\text{daughter}} = -\frac{M \times V_1^2}{2} + \frac{m \times v_2^2}{2}$$

It is a simple system of equations with two unknowns V_1 and v_2 , because M, m and ΔE are considered known data.

It is going to be a further discussion about how the energy and the speed of an alpha particle measured experimental fits into such predictions, because now there are more important things to do.

Let us imagine an "impossible" thing: by an imaginary rope or something similar, I am going to fix the parent nucleus to something more massive M_x .

When the decay take place, again the law of momentum and energy conservation have to be respected, but the situation changes a bit - fig. 38.

The conservation of momentum is simple to be applied as far the motion is along a line in a plan:

$$(M+M_X)V_3 = mv_4$$

The conservation of energy is similar as previously coming from the energy of parent nucleus.

$$\Delta \mathbf{E} = \mathbf{E}_{\text{parent}} - \mathbf{E}_{\text{daughter}} = \frac{(M + M_X) \times V_3^2}{2} + \frac{m \times v_4^2}{2}$$

It is again a simple system of equations with two unknowns V_3 and v_4 , because M, M_x, m and ΔE are considered known data.



Figure 38

In our simulation, as far M+M_X >>M, is going to result in $v_4 > v_2$.

The conclusion is simple to be grasped even by a pupil or a laymen: the momentum and energy energy of alpha particle are not fixed by a quantum law, but they have to be consistent with classical conservation laws.

Sorin Cezar Coşofreț

There is no such thing as a quantization of energy, there are only classical levels of energy and these levels can be affected by various factors.

One of the most important factor to be taken into account is the linear momentum conservation, because this is going to decide the amount of energy carried by the alpha particle.

The same considerations needs to be applied in case of β -decay or γ -decay but also in case of atomic levels of energy.

When someone compare the spectra decay of tritium with the spectra decay of Kr-85, although the same mechanism has to take place inside nucleus, the energy of particle emitted by Kr-85 has to be greater as the energy emitted by tritium; both tritium and Kr-85 materials are in gaseous phase.

And indeed, tritium decays into helium-3 by beta decay and it releases maximum 18,6 keV of energy in the process. By comparison, Kr-85 - beta decay generate a particle with maximum energy of 687 keV This is the effect of anchor due to the different masses of parent nuclei although in case both nuclides are in gaseous state.

There is another expected variation when the same nuclide decays in gaseous state or in solid state. I did not find such information in literature but let us consider a bromine radioactive mixture. Bromine has a boiling point of about 58C, so it is easy to have a gaseous phase and a solid phase for study.

The same nuclide has to emit a particle with smaller energy when is in gaseous state and a particle with greater energy when it is in a solid phase.

These are some simple effects but there are other factors which affect the energy of emitted particle, the pattern is more complicated; these factors cannot explains the entire complexity of nuclear processes....

Another simple and handy application of this approach regards the spread of an energy level with temperature in nuclear or atomic physics, but this is another story and only some insights are presented here

The conversion of nuclear energy directly into ",thermal" energy is not only a specific feature of gases; even solid matrices can perform this direct conversion in a simple manner.

Have you ever heard about plutonium-238 and its use?

Well this nuclide as pellets is used for radioisotope power systems to provide electricity and heat for space missions and it was used for Voyager I and II too.

Here you have a photo which can be found on internet and the photo is self explanatory even for a child...

The pellet is glowing red because the energy of alpha decay is shared between the alpha particle and the daughter nucleus. As far the parents and daughters nuclei are in a lattice, it is obvious that energy spreads out between more atoms and the entire pellet get hotter.



Figure 39

There was an entire newsletter about the new concept of temperature and there is some information about chemical bounds too on my website. I was not aware that the article "mysteriously" disappeared from my website due to an sabotage, but now it is uploaded again:

https://www.pleistoros.com/images/en_content/TEMPERATURE_and_Coherence_-

<u>Newsletter_for_physics.pdf</u>

There was also a postulate in another newsletter advancing the idea that temperature in nuclear processes has nothing to do with concept of temperature in kinetic molecular theory...

https://www.pleistoros.com/images/ABOUT%20KINETIC%20MOLECULAR%20THEORY, %20STATES%20OF%20MATTER%20AND%20NUCLEAR%20REACTIONS%20IN %20STARS.pdf

In the future there is going to be an article describing in details this nuclear to thermal conversion in case of a nuclear processes.

One can only imagine how a similar approach is necessary for electronic processes and what linear momentum and energy conservation is going to bring in case of atomic theory...

Anyway, someone can find one very old articles about angular momentum conservation and its comportment in atomic processes and how this thing solved some thorny paradoxes in quantum mechanics about two decades ago...

https://www.pleistoros.com/en/books/atomic/stern-gerlach-experiment

Sorin Cezar Coşofreț

https://www.pleistoros.com/en/books/atomic/space-quantization-and-entanglement

Well, there are some "serious" people who still spend huge amounts of money for enlarging such kind of imbecilities and they still dream to quantum entanglement or quantum computers, etc., but soon the Sun will rise here too.

It is curios that some already advance the idea that they have gained the quantum supremacy. How the heck did they do it, when a quantum computer is not able to do a simple addition of two natural numbers, nor is going to be able to do it in the future.

Other claims that quantum computers have already solved some problems which for classical computers would take decades....

Well, I am still waiting to see the scientific report of EU commission for the Horizon 2020 program dedicated mainly to quantum push (they intended to make Europe competitive with US in this field) and after that the quantum idea is going to become a priority...

SECTION VI THE MASS DEFECT PARADOX IN NUCLEAR PHYSICS

I have been thinking to expand the collection of paradoxes in science and to jump from astronomy to nuclear physics, so this sections deals with mass defect paradox in nuclear physics.

In some previous newsletters there have been some introductory articles about the mass defect topic for chemistry and for physics.

For those who missed the advertisements, the **Section VII** in the **part two of Faking the science for pupils** is a must and it has to be read because this article continues the ideas presented there.

Anyone who has heard about the most venerated formula in modern science $E=mc^2$, should also know that this formula represents the foundation for the entire nuclear physics.

As far some readers are not nuclear physicists, it is important to highlight from the beginning that, according to mainstream interpretation there are two different aspects of this mass defect in nuclear science:

- first aspect of mass defect is linked to the binging energy and stability of an individual nuclide.
- second aspect is linked to the energetic of nuclear reactions.

Applied to an individual nuclide, this "mass defect", sometimes also called the missing mass, is the difference between the experimental and calculated mass of an isotope.

Nuclear mass defect = $M_{\text{measured}} - (Z \times M_{\text{H}} + N \times m_{\text{N}})$

where :

M_{measured} is the mass of the nuclide measured with a mass spectrometer;

Z atomic number of the nuclide;

 $M_{\rm H}$ mass of hydrogen atom (for simplification a superior nuclide is considered a summation of H-1 nuclides); the same thing is obtained by considering the total number of electrons and protons;

N the number of neutrons;

 $m_{\rm N}-mass$ of the neutron.

The energy equivalent of this nuclear mass defect is further converted to a total binding energy for the considered nuclide; by dividing this amount to the number of nucleons, an energy per nucleon in each nuclide is obtained. I am going to make an exemplification here and calculate the binding energy per nucleon in case of tritium (H-3) and He-3 because these values are necessary to be taken in discussion further.

All measured values for the nuclides masses (by mass spectrometry) can be found here:

https://wwwndc.jaea.go.jp/NuC/index.html

The measured mass for tritium is 3,016050 a.m.u. and for He-3, this is 3,016029 a.m.u. For tritium, as far this nuclide has a proton and two neutrons, the nuclear mass defect is $\Delta m_{\text{H-3}} = 3,016050 \text{ a.m.u}$. - [1,00728 a.m.u. + 2×1,00867 a.m.u. +5,5 x 10⁻⁴] = 3,016050-3,02515598 = 0,009105 a.m.u.

The energy expended in this process is the binding energy of tritium. It is calculated using the Einstein equation, as follows:

 $\Delta E = \Delta mc^2 = -(0,009105 \text{ a.m.u.}) (1,66056x10^{-27} \text{kg/a.m.u.}) (3 \times 10^8 \text{ m/s}^2) = -1,360745 \times 10^{-12} \text{ J} = -8,4829 \text{ MeV}.$

It is useful to note that 1 a.m.u. of mass converted to energy produces 931,5 MeV.

That was is the total binding energy of the tritium nucleui. Because tritium has three nucleons, its binding energy per nucleon is:

Tritium binding energy per nucleon = Total binding energy/Number of nucleons = -8,494 MeV/ 3 nucleons = -2,8276 MeV

For He-3 a similar approach is going to give us:

 $\Delta m_{\text{He-3}} = 3,016029 - 3,024316 \text{ a.m.u} = -0,008286 \text{ a.m.u}$

 $\Delta E = \Delta mc^2 = -0,008286 \times 931,5 MeV = -7,7188 MeV$

He-3 binding energy per nucleon = Total binding energy/Number of nucleons = -7,718819MeV/ 3 nucleons = -2,5729 MeV

So with this artefact, the total energy of a nucleus or of a bound system, is lower than the total energy of the separated nucleons, and one must expend energy to separate them.

Please be aware of another possible confusion: usually this binding energy is presented with a minus sign, and other times with positive sign. In fact the curve of binding energy variation is all the time plotted using the absolute value of this binding energy per nucleon.

The second aspect of mass defect is related to the nuclear reactions. In a similar manner to the binding energy of a nuclide, modern physics assumes that classical law of mass conservation is not respected for nuclear reactions too.

The energy released in a nuclear reaction can be calculated by simply finding the mass difference between the initial and final nuclear states, and converting this mass difference into an energy difference by using the $E = mc^2$ formula. The energy released in a nuclear transformation is typically referred to as the Q-value of the reaction.

When the final products have less total mass, Δm is positive, and the reaction releases energy (is exothermic). When the products have greater total mass, the reaction is endothermic (Δm is negative) and must be induced with an energy input.

Little is known about endothermic nuclear reactions though and the nuclear physics carefully avoid this topic!

When discussing about nuclear reactions, the classical exemplification is made for uranium decay, but I think it is necessary to start with some simpler cases. The beta decay of tritium to He-3 is a good start and even a pupil will soon understand why....

Normally, tritium (H-3) during beta decay is part of a molecule like H_2 or something similar, but for simplicity of analysis, the following partial reaction presents only the nuclide transformation – fig. 40; from the same reasons, the change in the configuration electronic shell is not considered either.



Figure 40 Tritium decay (internet picture)

I presented the tritium decay in a more detailed manner in fig. 40, with neutrons, protons and all generated particles, because it is high time to analyse the ground absurdities preached so far in nuclear field.

When a pupil analysis this reaction, it will find that contradicts all the sound principles assumed to work in classical physics or chemistry.

Before doing some simple arithmetic, based on classical electromagnetism, the tritium has to be by far more stable as the He-3 nuclide. In tritium there is one positive specie and two neutral ones, and in contrast, the He-3 has two positive charges and one neutral. There is a much greater repulsive interaction in He-3 as in tritium.

The total binding energy for each nuclide supports this "classical" idea as far tritium has a value of -8,4829 MeV and He-3 has a value -7,7188MeV; these values shows that tritium is the most stable nuclide and more energy is necessary to break a H-3 nuclide as a He-3 one.

As far both nuclides have the same number of nucleons inside, the energy per nucleon, in absolute value, is smaller for He-3 as for H-3. H-3 has a energy per nucleon of 2,8276 MeV and He-3 has a energy per nucleon of 2,5729 MeV.

When these values are inserted into the general curve of binding energy variation, He-3 is below the H-3 as in fig. 41.



Figure 41 Binding energy per nucleon variation for various nuclides

The general theoretical idea remains the same as previously: the greater is a nucleus binding energy, more stable the nucleus is and more amount is necessary to break it in pieces.

Present nuclear physics assumes that various exothermic nuclear reactions take place in order to arrive at nuclides with bigger binding energy per nucleon and in the same time the shift is
toward more stable nuclides like Fe-56 and its neighbours, which are considered the most stable ones.

When a pupils translates the up presented ideas for our case, the exothermic reaction should be:

 $^{3}_{2}$ He + $e^{-} \rightarrow ^{3}_{1}$ H

...Now, it is obvious that if He-3 conversion to tritium is an exothermic process the opposite process of H-3 conversion to He-3 has to be an endotherm process.

Without knowing any data about energetic of nuclear chemistry, a pupil can observe from fig. 41 that tritium decay into He-3 goes against the expected trend which assumes that a nuclide after performing an exothermic nuclear reaction jumps toward iron island of stability.

The general rule is very simple: The production of nuclides whose binding energy per nucleon is greater than that of the reactants, have to result in the release of energy.

Is this basic rule respected in the case of tritium decay? I do not think so ...

On the other hand, data accumulated so far, in more than half century of nuclear technology, shows without doubt that H-3 conversion to He-3 is an exothermic process in complete contradiction with the up presented energetic of the nuclear reaction....

What?!!! And how was it possible to fake the outcome of a nuclear reaction in such crass mode and no one observed this so far?

I really do not understand how, for about a century, millions of people have seen, learned or applied these data and no one was able to see between the lines!

Well, the subtlety of this faking can be easily grasped now. The up presented energetic of the reaction is completely ignored and another "approach" replaced it, in order to arrive to the expected results.

The measured mass (mass spectrometry data) for tritium nuclide (3,016050 a.m.u.) was found to be a bit higher than the mass of He-3 (3,016029 a.m.u.); by making the difference between mass of reagents and mass of products and further convert the mass difference in energy a faked result is obtained and it also fits the bills.

So, the conclusion is simple: the energetic of species involved in this nuclear reaction comes in flagrant contradiction with the mass variation and no one observed this in a century....

But who cares about consistent science!? And does someone thing that this is the only one thing faked in moderns science?

No wonder that after close to a century of nuclear fusion research the only available result was the H-bomb!

I have verified for other beta decay reactions this "pattern" and the results are ambiguous. For some of them the mass defect predict them as being exothermic and on the other hand the energetic of reaction based on total energy variation and energy per nucleon variation imply that these reactions are endothermic. There are also beta decay where the mass defect is in concordance with the energetic of reaction given by the energy per nucleon and energy nucleus variation.

Here are some other example.

Let us analyse the C-14 decay into N-14. This is the well known reaction of radioactive carbon decay:

$${}^{14}_{6}\text{C} \rightarrow {}^{14}_{7}\text{N} + \text{e}^- + \overline{\text{v}}_{\text{e}}$$

In this case, the measured mass of C-14 is again greater as mass of N-14, the difference is a positive number and the reaction should be exothermic toward the right.

 $\Delta m = M_{C-14} - M_{N-14} = 14,0032419884 - 14,0030740044 = 0.000167984 > 0$

Yet, if the energetic of reaction is considered, the picture is completely opposite. Both nuclides have the same number of nucleons and the following energy values:

C-14 has a total binding energy of 105,2896 MeV and an energy per nucleon of 7,5207 MeV;

N-14 has a total binding energy of 104,6634 MeV and an energy per nucleon of 7,4759 MeV.

The energy per nucleon and total energy of nuclides show that exothermic reaction has to be the reverse one, i.e. the nitrogen-14 conversion to carbon-14!

The general rule is very simple: The production of nuclides whose binding energy per nucleon is greater than that of the reactants have to result in the release of energy.

Isn't C-14 binding energy greater as N-14?

In case of a sodium beta decay to magnesium, the energetic of the reaction is in synchronicity with the mass defect.

$$^{24}_{11}Na \longrightarrow ^{24}_{12}Mg + e + v_e$$

 $\Delta m = M_{Na-24} - M_{Mg-24} = 24,98995397 - 24,985836977 = 0,004116993$

Na-24 has a total binding energy of 202,5441 MeV and an energy per nucleon of 8,1017 MeV; Mg-24 has a total binding energy of 205,5964 MeV and an energy per nucleon of 8,2238 MeV.

In this case it is true that the most famous formula in science matches with the energetic of nuclides.

Welcome to the mass defect paradox in nuclear science where data are simple to be faked.....!

In order to go further with this mass defect paradox, it is high time to start a detailed analysis of the supposed energy per nucleon in an atomic nuclei and see how this information can be interpreted.

Around 2005, a similar approach was made for electrons in electronic shells and the conclusions were not so pleasant for quantum mechanic, but the topic needs to be revisited again. This is the link for the atomic structure for those who want to stay in touch with the future articles and to have a comparison for the nuclear case:

https://www.pleistoros.com/en/books/chemistry/ionization-energy-and-work-function

For nuclear domain, I started to work at a worksheet with each nuclide of an element in order to look for some patterns in the binding energy variation. I am quite sure that this work is going to be futile for the science of the future, because I do not trust the consistency of a lot data obtained indirectly from $E=mc^2$ formula.

Yet, it is necessary to do this in order to demonstrate that even fake data can demolish the absurd foundation of nuclear science.

A real approach is necessary to start from scratch everything in the nuclear field, but there is no time and no support for such endeavour yet.

At this moment I arrived to the element with Z=30 in this data analysis so the following discussion is based on the observed pattern for these nuclides. I am quite sure that observed pattern and the conclusions are going to remain valid for higher as Z=30 nuclides.

When a comparison between isotopes of the same element is made (Z= constant, N is different), the prediction of present nuclear science are crystal clear: *the stability of these isotopes has to be correlated with the binding energy per nucleon. Greater the energy is, more stable a nuclide has to be*!

An isotope with a small binding energy per nucleon has to be less stable in comparison with an isotope having a high energy per nucleon.

As far elements with higher atomic number presents quite all the time more isotopes, our exemplification starts with Zinc, Z=30, and its isotopes. Data about 29 isotopes of Zn were found from N=24 up to N=53 where N is the number of neutrons. The same mathematical procedure of estimating the binding energy per nucleon as in case of tritium is performed and the results are

presented in fig. 42. In the figure, the half time for the isotopes having the greatest energy per nucleon is also displayed.

In the following pictures some notations are used: s - seconds, m - minutes, h - hours, d - days, y - years, stable – indefinitely stable.

When analysing the fig. 42, for any common sense mind, there is no direct correlation between the energy per nucleon and the stability of the nuclide expressed as half lifetime.

It is not possible to assume that a small change in energy of let us say 0,1 MeV per nucleon drastically affects the stability of an isotope. Yet, this seems to happen in reality and therefore the energy per nucleon cannot be a direct factor which affect the nuclear stability. Small differences between energy per nucleon change the character of a nuclide from extremely stable to extremely unstable.



Zinc isotopes

Figure 42

The same identical pattern can be observed for all multi-isotopes elements with Z< 30 and here I am going to present some data for Ni with Z= 28 and Al with Z=13; fig. 43 and 44 presents those variations.



Figure 43



Figure 44

Of course, I challenge an army of theoreticians, backed up by the most powerful computers and now even by quantum computers, to find such correlation....

On the other hand, if the mass of each isotope, as measured by mass spectrometry, is represented graphically as a function of the neutrons number, all the time a linear variation is obtained – fig. 45.



Figure 45 Zn isotopes measured mass (mass spectrometry) variation with N

Now, if the mass defect (measured mass – theoretical mass) is represented graphically as a function of the neutrons number, a curvilinear variation is obtained – fig. 46.

Such incremental and monotonous variation of these units with the number of neutrons (the number of protons is constant), shows that all the data are cooked in this field and it make no sense at all to try finding a stability of a nuclide as function of these parameters.

Up to this moment, an analysis between the isotopes of a single element was made. It is important to see if there are some correlations between different elements too.

When passing from an element to other element there is a variation of Z but N can vary too.



Figure 46 Zn isotopes mass defect variation with N

For the first exemplification, the case of elements up to Z=30 and for each element the isotope with Z=N are considered, as in tab1.

	Н	Z=1, N=1
	Не	Z=2, N=2
	Li	Z=3, N=3
	Be	Z=4, N=4
	В	Z=5, N=5
	С	Z=6, N=6
	Ne	Z-10, N=10
	Cu	Z=29, N=29
	Zn	Z=30, N=30
Т	able 2	

As far Z=N, it does not matter if Z and N are odd or even number, their sum is going to be all the time an even number. By default these isotopes, with even number have to be more stable as those with an odd total number.

It is curios to observe that mass defect for various elements has a linear variation with the atomic number - fig. 47.



Figure 47

For the second comparative exemplification, the case of elements up to Z=30 and for each element the isotope with Z protons and N+1 neutrons are considered as in tab 2.

Н	Z=1, N=2
Не	Z=2, N=3
Li	Z=3, N=4
Be	Z=4, N=5
В	Z=5, N=6
С	Z=6, N=7
Ne	Z-10, N=11
Cu	Z=29, N=30
Zn	Z=30, N=31

Table 3

By default, it would be expected to have less stable isotopes and a deviation from linearity for most of them; unfortunately this expectation is not confirmed – fig. 48.





These monotone variations show that the so called mass defect has little to do with the nuclear stability and the entire field has to come back to the drawing board and re-start from scratch.

Now, it is only a question of personal and gang interests to keep alive the present imbecilities in nuclear field. Some people think that making a nuclear bomb means they master the nuclear field too. It was necessary some millennia from the first time bludgeon was used until some law of mechanics were advanced. In a similar manner with the present approach, other millennia are going to pass until some intellectual criminals are going to understand the finesse of nuclear field.

If a good argument was not able to convince some intellectual criminals to make a step back, by sure some public humiliation is going to be an excellent lesson!

Let us see who is going to be interested in teaching such imbecilities further...?

Who is going to be interested in learning these imbecilities either....!?

SEXTION VII BETA DECAY, QUANTUM MECHANICS AND E=mc² PREDICTIONS

Most of the ideas presented here have to be reconsidered and reformulated later, when the $E=mc^2$ formula is going to be discarded from science.

There was a presentation for the most infamous formula in modern science ($\mathbf{E}=\mathbf{mc}^2$) and the equivalence between mass and energy assumed by it and there is no need to repeat this information again.

As it was previously presented for chemical equations, this equivalence implies that all exothermic reactions should be accompanied by a decrease in mass, and all endothermic reactions should be accompanied by an increase in mass. For chemical reactions, these supposed variations are too small and no serious chemist ever makes reference to them.

Yet, the entire nuclear foundation was built based on this mass energy equivalence relation and it is obvious that a discussion about these variations have to be considered in case of nuclear processes.

This section tries to offer a new perspective for the beta decay reactions and it is interesting to analyse the "trigger" mechanism for the various kind of beta decays.

As it is well known, *in all beta decays the number of nucleons remains constant during this process.*

This is already a challenge for the present nuclear models, because the nuclear force is supposed to be quite independent of the "electric charge".

If the number of nucleons remains constant and the nuclear force is independent on the electric charge, then the "process" of beta decay should be triggered by one individual nucleon transformation.

Of course, once this nucleon change takes place, it is possible to assume that a reorganization of the rest of protons and the rest of neutrons takes place too.

Even this process of re-organization is not explained consistently in the present nuclear theory, because it rules out the quantum idea too; there is no time to divagate and this is going to be a topic for the future....

What I want to analyse here is this "trigger effect" and eventually to open a new topic of discussion related to the spontaneity of a nuclear reaction.

The concept of spontaneity has not a consistent explanation in present chemistry either, where let us say it should be simpler to be observed and analysed.

There is an old article which underline the imbecility of entropy concept in defining a temporal axis and a spontaneity of physical or chemical events in conformity with an increase in the amount of entropy.

https://www.pleistoros.com/en/books/thermodynamic/entropy-concept

One has to be careful and not confuse spontaneity with the thermal effect in a chemical or a nuclear reaction. In standard conditions, it is usually assumed that spontaneity is a characteristic of exothermic reactions but this is a completely false idea; endothermic processes in chemistry can be spontaneous either...

In standard conditions, a mixture of hydrogen and oxygen is indefinitely stable in time, i.e. the reaction is not spontaneous, although it releases a huge amount of energy. A simple spark, make the mixture to explode and the effects are less pleasant.

In comparison, the rusting of a iron piece in atmosphere is a spontaneous process, although it releases less energy, it have a very tiny speed of reaction, etc. etc.

For nuclear processes, the spontaneity has a completely different dimension in comparison with chemical processes and it is very important to study this trigger effect.

In chemistry, one is not so much interested in this trigger effect because the interest is to start the reaction and after that to ensure the conditions for this reaction to take place in order to have a high yield in the desired products.

To the disappointment of a lot of people working in the field, nuclear reactions are not quite similar with chemical processes or at least not all the time.

Let us consider a simple beta decay reaction and advance a bit in the kitchen of this process. The C-14 decay into N-14 is a good example as far there are some neutrons and protons layers and it is necessary to make reference to them.

Both C-14 and N-14 have the same number of nucleons, i.e. 14, and as far the nuclear force is not charge related, the binding energy per nucleon should not change much when these nuclides are compared.

There is only a neutron transformation into a proton and, as far the neutron is more massive as a proton, this conversion has to be an exothermic process.

Yet, at a second look, the N-14 nuclide should be less stable as C-14 because at the same number of total nucleons, there are more positive charges with a greater repulsion in N-14.

Ok, one has to take into consideration also how many nuclear shells are filled and how the beta decay affect them. I did not find enough information, but at a first approximation, having the second shell of neutrons filled and a second incomplete shell of protons, C-14 should be more stable as N-14, which is having both second nuclear shells incomplete.

Sorin Cezar Coşofreț

In the present nuclear models there is no coupling between on impaired neutron and one impaired proton, and this is another interesting topic for discussion....



Figure 48

There is going to be a further new topic of discussion the arrangement of nucleons in nuclei in comparison with electrons for atoms around nuclei and why the so called magic numbers are different for nucleons as for electrons.

For the moment, it is important to be highlighted that chemical processes affect only the electrons of the last shell in an atom. The inner shells for the most part of chemistry is a closed topic because they are not affected at all during common chemical processes. An electron in such an inner shell have the same "binding" energy to the nucleus, irrespective of what chemical process the outer electrons are involved in.

Let us consider the carbon burning process and what happen to the inner electrons.

When coal is burned, there is a change of configuration only for the outer electrons of carbon and the inner shell is not perturbed at all. The binding energy for the electrons in the first shell remains the same in coal or in CO2 substance.

In contrast with this situation, nuclear processes seems to not respect this rule and according to mainstream interpretation all nucleons in a new created nuclide changes their binding energy. This is strange from a certain point of view....

In our example, for C-14 decay into N-14, the nuclides are assumed to have the following amounts of energies:

C-14 has a total binding energy of 105,2896 MeV and an energy per nucleon of 7,5207 MeV; N-14 has a total binding energy of 104,6634 MeV and an energy per nucleon of 7,4759 MeV.

There is no consistent explanation for the fact that passing from C-14 to N-14, the first layer of protons and neutrons have to change their energy! Well, there is no consistent explanation for the fact that all nucleon in an atomic nucleus have the same energy per nucleon although the shell structure assumes the contrary! When everything is faked, it is completely impossible to go further, but one has to do the best with what there is...

Only the second shells of protons and neutrons have to be affected in the framework of shell model of nucleus.

I pointed out this inconsistency, but it is not the purpose of this sections to analyse the shell model of atomic nucleus; for the moment, I do not have the right information necessary to go further ...

The purpose of this section is to analyse the trigger mechanism for this beta decay from the perspective of quantum mechanics and energy-mass conversion formula.

The quantum mechanic idea is easy to be discarded based on what happen in the nuclide after the neutron is converted to proton and electron. It was already presented in a previous section that momentum law rules out the energy quantization, but there are other facts which comes against the quantum mechanic assumptions.

Once a neutron get converted in proton and an electron is emitted, the rearrangement of neutrons and protons shells is made with a redistribution of total energy and this cannot be a "quantum" process.

This rearrangement process for the last shells of neutrons and protons or for all the neutrons and protons shells has to be a continuous process. In our example, it is impossible to imagine how all protons and all neutrons jumps from 7,5207 MeV to 7,4759 MeV, in absence of some continuous kind of interactions and energy exchange.

I really do not understand how quantum theory was accepted to explain something in nuclear field, when there is no quantum jump at all in case of nucleons comportment!

The $\mathbf{E}=\mathbf{mc}^2$ formula is even more problematic for the trigger mechanism of beta decay as quantum idea.

In negative beta decay there is a neutron conversion into proton and electron and as far neutron is more massive as proton, this is assumed to be an exothermic process.

Yet, in positive beta decay and electron capture, the mass of proton and the eventually the mass of proton plus electron is smaller than the mass of neutron, so these processes are endothermic. Energy is necessary to be supplied from outside in order for this process to be initiated.

The following discussion expands about these ideas in case of beta decay, making abstraction of the presence of other nucleons in nuclei.

In real situations this disconnection is not possible, but there are very important things and consequences and these can be spotted easily by adopting such procedure.

For neutrons the situation is simpler because they decay even in free state. While neutrons are stable inside many nuclei, free neutrons decay with a lifetime of about 15 minutes. The neutron decays into a proton, an electron, and an antineutrino. The general equation is:



Figure 49

The energetic equivalent of a neutron mass is considered 939,57 MeV. For the proton this is 938,28 MeV and for electron this is 0,511 MeV. The mass of the electron anti-neutrino is nearly zero. (its not zero but very small, a few eV.)

The fact that an anti-neutrino is added at this decay, complicate a bit the interpretation of this process, but not in a significant manner.

The mass energetic of this process is as follows:

IN	OUT
939,57 MeV	938,28 MeV + 0,511 MeV

The difference between IN and OUT, i.e. 0,779 MeV, is assumed to be converted into kinetic energy, and the process is exothermic. The neutrino having so tiny mass was neglected in the mass balance, although it is possible that neutrino pick up quite the entire kinetic energy of the process.

Free neutron decay is quite a simple process to be studied these days, but for the moment I could not find some reliable information about the "proton spectra of energy" after being generated in this decay. The same analysis regarding the momentum conservation and energy redistribution presented in a previous section has to be made for this case too.

There is a very important conclusion which should be verified "in the measurements": *a negative beta decay is problematic in case the electron or neutrino carry on more than 0,779 MeV*!

In an hypothetical case an neutrino or an electron with an energy greater as this threshold is generated, then this energy has to come from somewhere, i.e. from the other nucleons. I do not think that someone can find another source of energy to deliver such surplus of energy.

This ,,up-take" of energy by electron or by neutrino from the other nucleons is a thorny situation for quantum theory, and in fact it rules out the QM; it is impossible to explain how the electron up-take this energy surplus from more nucleons in a single step, etc.

On the other hand, the E=mc2 formula allows this conversion too, but in this case, again the situation is strange and inexplicable. Can someone imagine how the insignificant neutrino or electron are able to convince the powerful nucleons to convert a part of their mass in energy and transfer it to them?

The conclusion to be taken home is simple and it is resumed in the following postulate.

Postulate: The nuclear processes in themselves restrict the maximum energy a hypothetical neutrino can have.

This postulate is going to be used in the future if Ice cube scientists are daring to further pop up with their stunning imbecilities, i.e. neutrinos of GeV energies and even more ...

As example, in the happiest case, the hypothetical neutrinos (90%) coming from Sun have to present a maximum energy of 1,442 MeV as far this is the supposed heat released by protons collision:

 $p + p \rightarrow \frac{2}{1}D + e^{+} + v_{e} + 1,442 \text{ MeV}$

The other supplementary reactions supposed to take place in the Sun up to He-4, are not beta decay and they cannot produce neutrinos.

Even a child can observe that in case of Sun, hypothetical neutrinos cannot be generated by the following reactions:

 $^{2}_{1}D$ + $^{1}_{1}H \rightarrow ^{3}_{2}He$ + γ + 5,49 MeV

 $^{3}_{2}$ He + $^{3}_{2}$ He $\rightarrow ^{4}_{2}$ He + 2 $^{1}_{1}$ H + 12,859 MeV

Sorin Cezar Coşofreț

When some imbeciles pop up and present that Sun can generate neutrino of up to 20 MeV, do ask them what drugs are they in!

Now it is a simple option of choice to "choose" the right threshold energy for this hypothetical neutrino coming from Sun; for the new proposed theory this is an irrelevant fact as far the neutrino particle is only a ghostly particle.

Here it is necessary to make a comparison with cosmic radiation. It is true that in cosmic radiation particles of extreme high energies are found, up to 10^{20} eV, but this huge energies does not come from the "nuclear processes" in itself. When these cosmic particles are born, their energy is as usual in the order of few MeV and in the most happy case a decade of MeV.

These cosmic particles gain those huge energies later, by some acceleration processes.

A similar process cannot work for neutrinos, because there is no way to increase the energy of an neutrino later; neutrino is "condemned" to have all the time the energy which gained during the generation process or to diminish this energy somehow.

The general conclusion from this postulate is clear crystal even for pupils: *any endeavour* to look for some neutrinos of energies higher than energy allowed by the nuclear process which generate this neutrino, is pure imbecility.

The postulate and its exemplification was a digression from the topic of this section so let us come back to the energetic of these nuclear processes.

So far, so good, there are some tricky effects in this neutron decay but anyway the process is energetic, and at least the $E=mc^2$ formula predicts this exothermic effect.

The beta decay does not limit only to neutron decay; there is an inverse beta decay which is again a simple process, but it has some variations.

In a quite symmetrical process, a proton decays into a neutron, a positron, and a neutrino. This process is called positive beta decay and it takes place according to the equation:



Figure 50

The process is observed only inside nucleus! Have you heard about such thing?

Why on Earth this process is taking place only inside atomic nucleus? The process should take place and anytime when the energy necessary for the process is delivered !

Well, this simple problem was too complicated to pop up in a theoretician mind, but let us analyse this process and expand a little bit...

The energy equivalence of mass for the neutron and proton are the same as previously, i.e. 939,57 MeV and 938,28 MeV. The mass of positron is equal with the mass of electron and the same value needs to be taken into account, i.e. 0,511 MeV. The mass of the positron neutrino is nearly zero (a few eV.), so it is neglected in the estimation.

The fact that a neutrino is added at this decay, complicate again a bit the interpretation of this process, but not in a significant manner.

The energetic of this process is as follows:

IN	OUT
938,28 MeV	939,57 MeV+ 0,511 MeV

The difference between IN and OUT, is a negative number, i.e. -1,801 MeV and this means the process is highly endothermic.

The process cannot take place if there is no consistent delivery of energy from outside.

Well, "outside" can be the rest of nucleons in the parent nucleus but outside can mean an energy delivered form outside nucleus.

The delivery of energy from the other nucleons is again in itself a non quantum process. Not only this process is against quantum expectations, but it is necessary to have a pre-stage for this energy accumulation and transfer from all the other nucleons to one proton which further decay.

It is impossible to imagine how the other nucleons in an atomic nucleus perform this task of transferring some energy in order to charge a proton to undergo a positive beta decay....

Even in the most absurd case this amount of 1,801 MeV energy is delivered, the newborn neutrino is going to be very different from the "expectation". It is going to have not only an negligible mass but also a negligible energy, a few eV. It is an entire new story to foresee what happen if another amount of energy, much more than 1,801 MeV, is delivered to the proton and how the neutrino can be "powered" by this input of energy before being ejected from nucleus. I could continue humiliating the present gang of theoreticians by making an estimation of the temperature necessary to start this process and so on, but I am short of time and there are other more important things to be debated.

Sorin Cezar Coşofreț

There is a third possibility for this beta decay and this supposes an electron from atom's inner shell is captured by the nucleus; further on, one proton combines with this electron, forming a neutron and a neutrino.

There are no metaphors to describe the imbecilities preached here and you will see why! The process is presented bellow:



Figure 51

The energetic equivalent for mass of the neutron, proton and electron are the same as previously, i.e. 939,57 MeV, 938,28 MeV and 0,511 MeV. The mass of the neutrino is nearly zero (a few eV.), so it is neglected in the estimation.

As far the neutrino is the only "light" particle emitted in this process, most of the energy has to be carried by it, if there is any!

The energetic of this process is as follows:

IN	OUT
938,28 MeV + 0,511 MeV	939,57 MeV

The difference between IN and OUT, is again a negative number, i.e. -0,779 MeV and this means the process is endothermic.

The process cannot take place if there is no consistent delivery of energy from ,,outside". Even in case this amount of 0,779 MeV energy is delivered, the newborn neutrino is going to be very different from the ,,expectation" too. It is going to have not only an negligible mass but also a negligible energy, a few eV.

It is an entire new story to foresee what happen if an energy greater as 0,779 MeV is delivered to the process.

This electron capture process is very interesting from theoretical point of view, at least for the new theory.

There are a handful of special nuclides which can decay by following all these three variations of beta decay and K-40 is one of these.

We have already discussed about potassium and its radioactivity previously, so it is handy to use this element for exemplification.

Potassium-40 is a radioactive isotope of potassium which has a long half-life of $1,251 \times 10^9$ years. It makes up 0,012% of the total amount of potassium found in nature.

Potassium-40 is a rare example of an isotope that undergoes all types of beta decay.

In about 89,28% of events, it decays to calcium-40 with emission of a beta particle (β –, an electron) with a maximum energy of 1,31 MeV and an antineutrino.

In about 10,72% of events, potassium-40 decays to argon-40 by electron capture, *with the emission of a neutrino and then a 1,460 MeV gamma ray*. The radioactive decay of this particular isotope explains the large abundance of argon (nearly 1%) in the Earth's atmosphere, as well as prevalence of 40Ar over other isotopes.

Rarely (0,001% of events), potassium-40 will decay to argon-40 by emitting a positron (β +) and a neutrino. *I did not find the amount of energy released in this process, but it has to be exothermic too as far it arrive to Ar-40.*

It is further a task for a pupil to observe that up presented theoretical predictions are pure imbecilities and there is no single case where the theory and especially the most venerated formula in modern science comes at least close to the experimental reality.

In case of electron emission, the amount of energy released cannot be explained by the E=mc2 formula without taking in consideration the up-take of energy from other nucleons.

In the case of positron emission and electron capture, both these processes should be endothermic according to the theory and they cannot trigger the nuclear reaction in itself. Based on the E=mc2 formula no atomic nucleus in mild conditions could initiate a positive beta decay or an electron capture.

Furthermore, the case of electron capture should be one of the most debated topic in the fake neutrino science. As far from this case there should be only two particles resulting from this process (neutrino and the nucleus), the conservation of momentum foresees that most of the energy has to be transferred to neutrino and a small part to the nucleus.

This process should have been considered the simplest way to put in evidence the neutrino and the energy it can carry. Unfortunately, the theoretical framework was written by some people who by sure were in a high state of mind, *because a "common sense" mind cannot miss a gamma photon in the process*. And there is still another oddity of the situation: *this gamma photon has a narrow energy and it is quite similar to alpha emission.* .

Sorin Cezar Coşofreț

This is a quote from an internet material, and the information is known for decades. <u>https://www.radioactivity.eu.com/site/pages/Potassium_40.htm</u>



Figure 52

Potassium 40 has the unusual property of decaying into two different nuclei: in 89% of cases beta-negative decay will lead to calcium 40, while 11% of the time argon 40 will be formed by electron capture followed by gamma emission at an energy of 1,46 MeV.

This 1,46 MeV gamma ray is important, as it allows us to identify when potassium 40 decays. The beta electrons leading to calcium, however, are not accompanied by gamma rays, have no characteristic energies and rarely make it out of the rocks or bodies that contain potassium 40.

Who are these imbeciles talking nonsense that all beta decays present a continuous spectra?

Who are these Ph. D. in nuclear physics who are not able to write at least a nuclear process correctly?

The correct formulation of the electron capture is:



Figure 53

As far the generated γ photon has a defined and unique energy it is not possible to assume that a second hypothetical particle (neutrino) is generated here.

There are many important conceptual ideas to be discussed and debated here, but the main purpose of this section was to demonstrate that both the quantum idea and $E=mc^2$ have to be ruled out from science.

Any book about nuclear science published so far "predicts" the energy released in a nuclear process based on $E=mc^2$ formula.

For the exothermic processes, the nuclear physicists have fooled the others and they fooled themselves by justifying that some amount of matter is converted into energy; it is more complicated to use the same approach for endothermic nuclear processes though!

In fact, the case of endothermic nuclear processes is never mentioned in reference texts because it is over the hand to use this formula in such predictions. In order to explain a endothermic nuclear reaction it is necessary to add some mass to the initial conditions and further to convert it to energy.

The problem is this mass has to come from a nuclear particle and this is not so simple....

In the new theory, the energetic of all nuclear processes has to be started from scratch. A similar approach as the Hess law for chemical processes is necessary to be used in case of nuclear processes too.

In chemistry, Hess's Law states that regardless of the multiple stages or steps of a reaction, the total enthalpy change for the reaction is the sum of all changes.

The future is great but it has to wait a bit until some imbeciles dies or are removed from key positions.....

SECTION VIII NUCLEAR PHYSICS – ÎNCOTRO?

By surveying the delivery of the part IV of the newsletter, to my great surprise, I observed that people from CERN were opening the newsletter.

It is important to be highlighted that CERN is one of the leading institution which have been barning my advertisements and I am quite sure they were involved in other unseen sabotages activities too.

Well, my first thought has been that after a possible management change, the new leaders understood that they are going into the wrong direction and they want to improve the situation.

As consequence, I thought it would be nice to write them a letter and ask them to perform a real scientific experiment.

I did not have the time to make an review for their scientific activity in the past, but, the general idea is quite simple: for the last decade they are champions at faking data or doing futile junk experiments from public money.

Here is my letter to the CERN officials:

Sorin Cosofret <sorincosofret@yahoo.com>

To: Council-President@cern.ch, fabiola.gianotti@cern.ch, eckhard.elsen@cern.ch, Manfred.Krammer@cern.ch, Paul.Collier@cern.ch, Roberto.Losito@cern.ch, Frederick.Bordry@cern.ch Fri, Dec 18 at 10:06 AM

Dear President of CERN Council,

Dear Leaders of CERN,

First of all, I am glad to see that lately. some CERN researchers are receiving the advertisements I am making for a new foundation of exact sciences. I do not know the criteria for those ",lucky" ones, but it is a step further....

For the history of events it is important to be reminded that CERN has blocked these advertisements from the beginning (it was 2014 as I remember) up to 2020.

I dare to disturb you from a completely different reason.

It would be interesting to use your facility for a truly breakthrough experiment in nuclear physics.

The experiment I have in mind is quite simple and it intends to prove a postulate I formulated long time ago, but published much later - about two years ago.

Sorin Cezar Coşofreț

The postulate assumes that no deuterium can be obtained by the collision of protons of appropriate energy.

You have already done this kind of experiment but not in this purpose and not exactly with the range of energies suitable for such possible reaction.

Ok, the experiment has other important consequences too: if such reaction is not possible, then the ghostly neutrinos in the Sun cannot be generated, so an entire chapter in nuclear physics is going to be proven wrong; is it worth to expand about the consequences ?

I am currently writing an article about neutrinos and the article is going to be published even in absence of the experimental part.

The modern science has become a place where some people think that having exquisite and costly instruments means that results are coming on the conveyor belt; this would be possible in certain conditions, if the frame was correctly established and the machines are only improving the finesse of the scientific research.

For me at least, the so called modern science has more in common with the comportment of a spoiled billionaire child about whom I read in the newspapers long time ago. As far his father bought him a real arsenal of various army equipment and ammunition, he considered necessary to use these things in accordance with his childish mind. As consequence, he was demonstrating the value of his equipment and his abilities by shooting with the cannon the gees or he was dynamiting the rabbits burrow, etc.

My answer to this ,,strange anomaly" of the modern science can be found be reading my articles and see something between the lines.....

I attach to you my latest newsletter, which is a real breakthrough in the market....

Sincerely

Sorin Coșofreț

It seems that my hope was in vain this time again....

The CERN management team was not so pleasantly surprised with my letter and they reinforced the policy of banning my advertisements again.

A simple delivery statistics show what happen before and after this email addressed to CERN management team was sent:

• 23 scientists out of 80 from CERN opened the advertisement before the letter to the management team was sent; a 28,75% of email opened is quite good for a first delivery;

• after that, from the rest of 314 scientists, only other 4 other people opened the email. No

filter is perfect so this is the usual percentage (approx. 1%) of email opened at institutions which ban my advertisements.

By sure the CERN officials have the feeling that they are occupying a very special place in science and, for the moment, there is no real competition to affect their position. No one can build such machines over the night in order to do what CERN could do....

How foolish and how short-sighted these people really are!

This section is dedicated to this important topic: *what directions are to be followed in high energy nuclear research and how important is this field for the next half century?*

First of all, my offer of reconciliation has just expired and there is no intent to perform that experiment at CERN at all!

For the science of the future, they are unreasonable, expensive and champions of fake science and these comes with a high price tag to be paid.

On the other hand, I already know the results of the experiment and as consequence the formulation of the new foundation for nuclear field can go further in absence of this experimental confirmation.

Yet, people and especially those who allocate money for research, have to get familiarised with the idea that high energy nuclear physics is going to be an irrelevant direction of research for at least half century.

It is assumed that high energy particle physics has brought substantial contributions to the Big Bang theory. As far in the new proposed theory Big Bang and neutrino are crass imbecilities, the entire literature about these topics published so far has no scientific value at all.

There is already enough information published on my website to prove these facts so there is no need to have such large personal and such amount of money directed to research in high energy domain physics.

For the next half century, working at CERN would be like taking a holiday from usual research and go there to do skying and from curiosity try to break some nucleons. Why only footballers can afford some nice locations for training and scientists not? Are by any chance footballers more important for society as scientists?

From the perspective of new theory, the research presently performed at CERN is going to be only a candidate research for the people who want to spend money for nothing and want to exercise their intellectual snobbery.

First of all, there is no practical use for this research at all! No one ever observed that during the nucleons breaking energy is released, so the process is not worth investigating as a

source of energy. Secondly, to know the "real" structure of nucleons is futile when there is no consistent theory about how these nucleons assemble inside nuclei.

From the information found on CERN webpage and for 2017: more than 17500 people around the world worked together under CERN umbrella to push the limits of knowledge, i.e. to fake the data. CERN's staff members, numbering around 2500, is supposed to take part in the design, construction and operation of the research infrastructure. They also contribute to the preparation and operation of the experiments, as well as to the analysis of the data gathered for a vast community of users, comprising over 12200 scientists of 110 nationalities.

It would be wise for young researchers to ask themselves a simple question before pursuing a career in high energy physics: *What is the use of breaking apart some nucleons when the framework for the entire nuclear physics is falling apart?*

Furthermore, breaking apart nucleons is not like breaking apart atomic nuclei and use this process for various applications. Assuming that another breakthrough theory of nucleons is going to be advanced by a handful of scientists, the rest of 17000 people have nothing to do in the nuclear field. If a country like US or some international organizations like CERN can afford to pay such fake scientists to do fake research, it would be better to pay them to be in extended holiday for some decades. The society as a whole would be better if these scientists are paid to do nothing instead of cluttering the journals with junk science fiction literature.

From pure scientific reasons, it is going to be important to explore the "constitutive" parts of the nucleons too, but a more intelligent approach has to be followed.

Generating decades of Tbytes of data as CERN usually do, which then are difficult to be analysed even by 17000 people, cannot be categorised as "fundamental research" but only as junk science.

It is up to the young scientists to re-route to other fields of research and some interesting fields of research are going to be exemplified bellow.

Going further, from the perspective of new proposed theory the quark model of nucleons is a fake and the information about this topic has to be scrutinized with a critical eye again.

In fact, for a common sense mind, there is no much difference between the imbecile idea of quarks changing colour and neutrinos changing flavour. There is going to be another newsletter which analyses this aspect, but here only some insights are provided.

In case of a electron beta decay, it is necessary to convert a udd quark structure (a neutron) to an uud quark structure (a proton) and supplementary an electron and a antineutrino are emitted.

The process is supposed to take place as follows: since the down quark has a charge of -1/3 and and the up quark has a charge of 2/3, it follows that this process is mediated by a virtual W-

particle, which carries away a negative charge - thus charge is conserved. The new up quark rebounds away from the W- which further forms an electron and an antineutrino.



Figure 54

A quite similar process takes place when an proton transforms into a neutron as in fig. 55.



These general scheme seems nice and simple, but it has one important drawback which was already highlighted: when energy is "transferred" to a proton, a beta plus decay have to take place in case of "free" protons similar to the free neutrons.

If this thing does not happen, then one has to advance different mechanisms for beta plus and for beta minus decays and for protons transformation in neutrons.

According to mainstream nuclear science, the up quark weighs approximately 2 MeV, and the down quark weighs approximately 4,8 MeV. To convert back an up quark to a down quark should be the simplest task in the entire physics....

An article about the inconsistency of quark structure of nucleons and how this structure rules out the E=mc2 formula is going to be a further topic of discussion. One has to keep in mind the idea that such topic has no priority for the near future. It is important to solve some more stringent aspects first like quantum mechanic, nuclear physics, electromagnetism, optics, thermodynamic, chemistry and after that return to sub-nuclear field.

Although it has a lot of critics lately, the Freud theory should be considered the perfect exemplification for the nuclear field science. The appeal to basic primary instincts started gradually with colours and flavours, but lately one can see the passage to more explicit sexual content: see the case of sterile neutrino.

Leaving the joke aside, for future scientists, the paramount idea to be analysed and reconsidered is the fact that nuclear processes are completely different from chemical processes.

The exemplifications made previously for beta decays are only small fishes in the pound.

Here is one of the most striking case which demonstrate in a simple but elegant manner the different character of nuclear and chemical processes.

Two molecules like hydrogen and chlorine reacts in certain conditions to produce hydrochloric acid. It is not the case to insist on this bi-molecular reaction, because this is studied in high school chemistry.

Two deuterium nuclei reaction (D+D) should be a "nuclear equivalent for a chemical bimolecular reaction". Yet, by forging two deuterium nuclei, at any temperature possible, they never form a helium-4 as expected. From "chemical" and even from present day nuclear science point of view, this is outrageous!

Helium-4 has the so called magic structure, is the most stable nuclide around and the two deuterium fits perfectly in the pattern of forming a He-4 and release more than 15 MeV of energy. So, even by creating the most favourable conditions for this reaction to happen and the expected product of reaction helium-4 is the most stable nuclide in the range, the reality is completely different and the reaction takes a completely different path.

The deuterium nuclides interaction can either form a tritium nuclide and a proton or a He-3 nuclide and a neutron according to the reactions:

 $D + D \rightarrow T + p + 4,04$ MeV, $D + D \rightarrow He-3 + n + 3,27$ MeV,

From any point of view someone analysis this overall reactions, the results are completely absurd. A real science has to come back to the drawing board, understand the classical conservation laws and the peculiarity of nucleons re-combinations and advance a sound foundation for nuclear processes.

When these things are done, by sure the practical approach for a peaceful use of fusion energy is going to follow.

The nuclear fusion is supposed to have a similar comportment with chemical processes, and all the efforts have been concentrated to make this solution work in an undetermined future. One can read or find any month a report or an article where some bombastic references to unimaginable temperatures or pressures have been achieved, yet the main goal of fusion research is as far as it was quite a century ago.

Anyway, with the present approach, I suppose that by the time the nuclear fusion is going to be implemented in practice, the lithium necessary for tritium breeding is going to become a scarce resource and the entire struggle is going to worth nothing.

The main idea of producing electricity for the future is to use the reaction between deuterium and tritium nuclides which liberates about 17 MeV. Yet, tritium is a very problematic nuclide and it has to be generated in situ by the reaction between neutron and a Li-7.

 $D + T \rightarrow He-4 + n + 17 MeV$

n+ Li-7 \rightarrow He-4 +T +n -2,45MeV

Of course someone could consider the possibility to use the lithium material for a decade or so in batteries and after that to recover it for a second use in nuclear fusion.

The process could work, but not for sure! For the moment it is not possible to recover the lithium used in batteries to be re-used in the batteries so this is a problem to be solved.

The lithium carbonate price for batteries already skyrocketed to 17000 \$ in 2018 and in 2019 returned to a more affordable value of 12000 \$ per metric tone.

What will happen if in the 2040 the nuclear fusion between deuterium and tritium is going to be fixed and the lithium necessary for this electricity production has to be recovered from electric batteries at an astronomical price?

I do not want to be misunderstood: it is obvious that electric cars are going to be an important segment of the market and probably most if not entire fleet of small personal auto will become electric in the future.

There is an important question which should get an answer in order to have some clear policies for the future: *Is it sound to use this scarce lithium resources for some collateral activities when other substitutes are available?*

For example on internet, I have watched an electric storage facility based on lithium battery which caught fire. It is not only the damage in itself, but for such static activity a lot of other substitutes methods can be found.

To block the equivalent of 150 MW lithium batteries in an electric storage facility like the Hornsdale Power reserve in Australia, is not only counterproductive, but also an example of misuse of the technology.

In my opinion, the use of lithium batteries should be restricted to mobile devices like electronics and cars.

I have a great admiration for what Elon Musk and Space X is doing in the space exploration. NASA, ESA and other space agencies are small children with puerile toys in front of their innovative approach. It is important to be mentioned the fact his other company pushed the electric car production and they came with some innovative solutions too. I have nothing against the fact his business expanded to the solar panel production and installation, etc.

Yet, having in mind that lithium is a scarce and precious resource for the future, its use should be regulated. For the fact Tesla owns a lithium battery factory and wants to make profits by selling as mach as possible irrespective of application, there is an immediate win but also a long term loss and I think a regulatory agency should forbid him to install lithium packs in houses or for other static uses like storage facilities.

What is the problem if a house buys 10 or 20 car batteries for storage, instead of lithium batteries?

Static applications should be forbidden to use lithium batteries as far other more convenient possibilities are available for both small or large scale.

Lithium is not only a scarce resource, but it has to be mined with a lot of energy consumption and comes with other negative consequences for the environment. It should be common sense that its use have to be restricted to some critical applications like mobile devices and cars.

What is the problem if that facility in Australian desert used another kinds of batteries or a physical method for storing electricity? As far these batteries are staying in a fixed position for years and only occupy a bigger volume, there is no other inconvenient.

There are so many possibilities to build batteries from elements which are abundant on Earth in order to satisfy these static applications!

Some steps have already been made....

I have read a materiel about some innovative molten salt batteries and for static applications these are a marvel!

For my curiosity I searched the information available about the redox flow batteries. To my complete astonishment, the field is quite the same as 20 or 30 years ago and only some facilities based on toxic Vanadium are commercially available! Why no one was interested in developing such a flow redox battery which has countless advantages for large capacity storage?

Why don't convert an army of nuclear physicists to such a lucrative and needed activity instead of fantasizing about quarks and strings?

From the perspective of a battery maker, it makes no difference if its production goes into a 150 MW storage, in car batteries or in home storage. From the perspective of electricity producers, it make sense to have 150 MW storage in a smaller numbers of cells which are not flammable (molten salts batteries) or to have only a few tanks of solution in case of redox flow batteries.

Sorin Cezar Coşofreț

I have headaches only thinking how many cells are in 150 MW storage facility if one take into the consideration that a 85 kWh battery pack contains 7104 lithium-ion battery cells.

From my point of view, the large storage of electricity in order to cover peaks of electricity demand or store the peaks of renewable electricity production has to be made by using a physical energy carrier. Anyone has to understand that simpler is better.

After a decade, it will be necessary for a new reserve of batteries and this means a new investment equal or greater as the present one. Yet, by investing in a physical methodology for electricity storage, there is only one initial investment and not a periodic one each decade.

There is going to be a need for even larger capacities on the order of GW storage and in these case any type of battery should be prohibited. Why to manufacture and then recycle millions of tons of chemicals when other simpler technologies are available!?

The hydro industry has already advanced such idea with water pumping. The hydro methodology cannot be extended to any location on Earth due to a lot of constraints.

In a previous newsletter I advanced another idea by using compressed and even liquefied air and a pressure transfer gradient and this methodology can be used everywhere, even in Antarctica.....

By using the pressure transfer gradient methodology, one can supplementary perform the air purification and CO2 sequestration as a collateral activity with no direct cost.

This methodology of large electricity storage is going to be further improved in a future newsletter.

The pressure gradient technology is for free so why don't you use it?

We need first to think at a clean and sustainable environment and after that at profits.

The nuclear physicists can still choose another more lucrative field of research like nanotechnologies if electrochemistry is not appealing. There are going to be many interesting applications emerging from this field and I suppose super-capacitors is one of them.

In principle, there is no law of physics which restricts the amount of electricity stored by a super capacitor. Of course one has to see my affirmation at its true value, because no one could ever imagine that 1 GW energy can be stored into a handheld capacitor. The fanatics of mass energy conversion are excepted from discussion by default.

What I want to say is quite a common sense idea: when someone compares a capacitor with a battery, there should be no restrictions to have quite close amount of energy density in both devices.

Yet, in these days, there is a huge difference storage capacity between them - fig. 56.

The most performing capacitor can be compared with a Li-ion battery for only 30 seconds, after that, it dies.

Someone is going to say that in one case there is a physical storage and in another case there is a chemical storage and of course they are much different. There is some true in this objection and this idea is going to be an entire topic for the future....

But, from the perspective of present day science, there should be not much difference! In both cases electrons moves with a snail speed of few mm/s and the number of charges have to be more important

In this case (remaining in the frame of present day science) the question is very simple: How can one store more charges on a capacitor plate ?....

Is there an impediment to store one electron for each atom on a capacitor plate?

If there is an "positive" charge on the other plate compensating the electron charge, there is no problem at all





The answer of storing high amount of energy in a capacitor is going to be provided by nanotechnologies....

Be prepared to find another striking and new effect in this field...

Imagine that by a certain procedure, it would be possible to constrain some electrons and even some atoms to adopt a forced conformation and configuration (do look at the covalent bonds mechanism presented on pleistoros.com). The return to the ground base is going to take place with an electric signal generation, if this is possible.

The entire electrostatic is condensed in the sentence above, but what nanotechnology can do further is even beyond my imagination.

From practical point of view, it is foreseeable for a super capacitor to arrive at the same energy density and discharge time like a present Li-ion battery, i.e. about 200 W/kg.

The batteries at that moment are going to jump an order of magnitude higher and arrive to 2000 W/kg.

Well, do not expect that a super capacitor is ever going to beat a battery!

Yet, by arriving at up presented performances, a super capacitor is going to be preferred in a lot of applications including a lot of mobile devices. Imagine that in your mobile phone, you have instead of your Li-ion battery a capacitor with the same characteristics only some interesting differences:

- more than 100 000 charge discharge cycles in comparison with a mere 1000 cycles for a battery;
- the charging time for capacitor is a few minutes;
- no explosion ever.

In fact, for the future a mingling device between a capacitor and a battery is possible too.

For those who want to start working in the field, there is a very important advice which has to be followed: *everything has been written in electrochemistry is wrong*.

I would like to remind a home experiment which demolishes the entire branch of electrochemistry and chemistry: a battery where both electrodes undergo an oxidation process!

https://www.pleistoros.com/en/books/physical-chemistry/special-battery

In these conditions, an electric current is observed between electrodes too!

The electrochemistry field of research has another big advantage for the newcomers: *there is no fundamental theory formulated in this field, there is going to be no such theory ever, and any battery you want to build needs a starting from zero approach....*

Good luck!

SECTION IX OLD GAME, SAME SCENE, NEW ACTORS AND FIGUREHEADS

In a previous section, I made a short presentation for the Papin case in order to see what lesson of history has to be learned.

Of course, I am going to continue the investigations and write a book about the Papin's life. I hope that some French organizations or individuals are going to support this initiative.

By sure the life of a genial man deserves a book; by comparison, some people considered necessary to write a book which analyses only the origin of the expression used by Newton ,, by standing on the shoulders of giants".

I hope that some German and UK organizations are going to support a much larger project to write a more objective version of the XVIIth century events based on the documents available.

And now it is important to make a comparison between what happened three centuries ago and what happens now....

At that time there was only Royal Society which sabotaged Papin, for some small reasons which by sure are going to surface soon

In our days, and for a quarter of century, a crowd of imbeciles, occupying key positions in society, have been preventing an intellectual revolution, i.e. a change of the entire foundation of exact sciences.

This crowd is composed mainly by the present intellectual elites but legislatives and executives are part of the plot too.

The European Commission is a representative example which needs a special attention. They are meant to ensure progress and stability for the European Union and steward the interests of European citizens, but in reality they are doing the opposite. In the past, I filled in a complaint against European Commission without any positive result, there is still a petition to the European parliament, but as in the Savery times, it is so simple to pass by these things and cover everything in a bureaucratic procedures.

Of course, from their point of view, no one sabotaged me! They were doing their jobs only and they were only doing with a bit of excess of zeal their jobs! Can someone accuse such people that being well paid, they were doing the jobs even more thoroughly as it should have been done?

The academies and other representative institutions (universities, research centres) all over the world are part of the plot or in any case they tacitly tolerated it. I remember sending a paper for publishing to the Australian Academy of Science around 2007-2008 and they refused publishing it on the reason they do not understand the English in the article. I kept the original version of the article on the website (about covalent bond - the atomic book) and although there are some grammatical errors, the idea can be spotted easily. Anyway, after correcting the article by a professional English speaker and resubmitting the corrected article, they did not ever answer to my email.

Any such representative institution, in a direct or in an indirect way, has took part in the plot, by not doing what they were meant to do!

Sorin Cezar Coşofreț

The Romanian Academy, which should promote the national values, including this theory, did the worse job in its history. There are available about 40000 Euro each year for an academician to be spend on indemnity and other expenses, but one Euro for this theory could not be found! Well, don't imagine that an academician lives only from the money coming from Academy!

Of course, all the present Romanian academicians have been schooled in the wealthy western society and they are in contact with the intellectual elites; in fact, they have been paid directly or indirectly by these elites to keep their mouth shut and do nothing for promoting this theory. For a few thousands euro, they can be bought anytime at ,,their real market value". They have forgotten that they should represent the cultural elite of a nation and in the same time to be a model for the young generations.

It is important to be highlighted what is at stake for the entire society in this modern plot...

Well, it is impossible to quantify at this moment what this new theory in economic terms really means! I am going to exemplify what does it mean only for a part of the energetic sector. Again, I do not make the estimation for the entire energetic sector, but only to highlight the consequences for the simple application discussed today, i.e. a simple change of a fluid in a power plant without any other investment. We have shown that by doing such small change, an amount of 3000 TWh (from coal and nuclear) could have been produced "from thin air" at the level of production estimated for 2016.

Ok, "from thin air" it does not mean I got it from my pocket, it is only the result of a technological improvement.

At a cost of production of about 0,1 Euro per KWh, that amount would have represented 300 billions Euro for 2016, i.e. more than entire GDP of my country.

What do you think now? Would someone want to kill for this fortune? If you say no, then your are completely torn from the reality! 99% of the human population in these civilised times would do it with the first occasion if they are sure not being caught!

Attention, this is not a new technology in itself...it is only a small detail which was left aside by an imbecile science...

What can a real new technology of electricity production bring, is going to be seen in the future....

Anyway, there is going to come a time when any company in the electricity field is going to be asked why did they, directly or indirectly, opposed to a switch in the technology!

The direct consequence of not implementing these technologies is seen in climate change and industrial pollution. Of course many people, especially politicians, make a lot of noise about these topics but all the strange measures they want to implement have to be supported by citizens.

The new theory comes with solutions to at least alleviate this burden on the citizens shoulders; but, do you think that this is important for a bunch of corrupt or lazy bureaucrats?

Even a laymen could understand that society as a whole is already losing because these technologies are not implemented.

I am not going to lose because the royalties for the electricity production are going to be recovered for me starting with 2010. Supplementary the new technologies are going to remain as intellectual property and never as brevets. Someone in the field of intellectual property knows what the difference is....

If a country wants to have progress and real scientific research, then it is high time to think in the future.

Let us see what the consequence of this organised plot for the educational system are!

At least 20 generations of pupils, scholars, students and teachers were indoctrinated with a wrong scientific background and for most of them it is going to be impossible to switch to the new one. There are other generations coming from behind and although theoretically it is possible to "re-educate" these lost generations, in practice this is not going to happen.

Although there is no doubt that this new theory of science is going to become the foundation for the future progress of humanity, this theory is only in its initial stage....

In the view of opposed resistance from the imbecility of elitist intellectuals, I was forced to dedicate my scarce time to bring up new experiments and facts which could demolish or rule out the present accepted dogma, so the "proper" development of the theory is lagging behind. If for example, the theory is going to be accepted tomorrow, there is a huge vacuum in many branches of science which cannot be filled over the night.

As already presented with another occasion a period of at least five years is normally necessary for having new manuals, new teachers and so on. If the society as a whole afforded to be careless about such transition, this period is going to be extended accorded to the rules defined in a previous newsletter.

How many lost generations can a society still afford? And who is going to be charged guilty for this disaster?

Another major loss for the society as a whole is related to research expenses.

The amount of money spent on futile research in this lost quarter of century is difficult to be imagined. At national level, for a developed country, there is about 5% of GDP dedicated to research. This is money from budget dedicated to fundamental research by the grant system. If one considers the private and industrial research, the expenses are bigger. In a quarter of a century, each developed country has thrown away at least the equivalent of a GDP....

Of course some are going to argue that part of these research are applicative research which remains valid even the foundation changes. This is true, but now there is necessary other input of money to clean up the mess and decide what is going to remain and what is going to be discarded.

If this step were to be done a quarter of century earlier, tons of junk literature would have not been written and the transition would have been simpler...

Does someone think that such process can be performed over the night and with a team of few people?

Where are these people coming if the entire community is indoctrinated with imbecilities?

So, even for research there is going to be a discontinuity period according to the rules defined in a previous newsletter.

In a future newsletter, there is going to be a broader presentation about the purpose of this theory and what are the targets....

First of all, each living person should ask himself what price would (s)he pay that his/her offspring have access to this theory.

A real price, from my point of view, would be as follows: one generation of his/her offspring work for me, in the same conditions I have been working for decades and paid as I was paid. When his/her offspring have generated at least 1% of what I generated, then they are free to have access to this theory for them and for their descendants.

If they are not able to generate in one generation that 1% of what I have generated, the contract extends in the same conditions for the next generation and so one.

What do you think about this bargain? Would you be interested in it?

The difference between a great man and a common one can be seen in these conditions.

What is going to happen when a great man acquires the power? Would he change something for the future or will he use the power only to get revenge for what happened to him previously.

The Newton – Hooke case can be framed as a classical example for what happen when a tyrant got the power in his hands....

We imagine that such repetition of things is not possible in democracy but this is false. In a democracy these things happen all the time, but they are hidden.

Beside professional harassment, for a quarter of century I was hunted by "imaginary ghosts" because when the entire system is against you, the danger comes from everywhere.

A simple walk in a beautiful but uncrowded place, in a second can become a place where your life is endangered. A simple theft can appear as an accident, but these are only appearances because few (if any) such occasional acts are done for documents. Or maybe in the latest times many thieves want to improve their scientific knowledge...

Probably the most tranquil period I remember was when I worked as a chemist for a half year to a cannabis cultivar in Switzerland. Unfortunately, this tranquillity suddenly disappeared when in a Sunday morning some gunshots outside disturbed my intellectual preoccupations. By sure I did not want to be a collateral victim in another war so this was also a reason I quit soon that job. Of course I was not keen to be part of such insignificant conflict either....

In a dictatorship, a dissident knows where the danger is coming from. In a democracy the danger comes from everywhere.

Of course there is police but they are only to serve the system and to register the facts; they are not to prevent such situations.

Such direct or indirect pressure would drive any normal person crazy and would make it slip into paranoia and mental derangements. Boltzmann arrived to suicide for much less pressure and of course there was no one to see why such a person arrived to such desperate act. Now, a new generation of brian washed minds are praising Boltzmann achievements in thermodynamics.
Unfortunately for this bunch of criminals, I have trained myself to endure this pressure and overcome any situation.

Of course in such situations a strong believe in a ,,upper" protection is crucial; I always had an internal feeling that there is a greater purpose behind all these events and maybe someone incarnate in this life in order to change these things and show another path to be followed in the future.

What would you think if your offspring would live in these conditions for decades?

Aren't you happy that the modern democracy we have build has tried to eliminate the greatest mind of humanity ever?...

.....and no one is guilty!

Is someone in a hurry to unveil another commemorative plaque for me and I did not know ?

This is not a new thing in history. The first democracy in Athens, succeeded in killing one of the most outstanding personality of that time and of course no one was charged guilty.

In the meantime they have learned to keep secret these things though!

The purpose of this theory is to change a lot of things in the world, starting with environmental aspects, education, research and development, sound and sustainable economic rules and up to some social aspects. Do not worry, it is not the purpose of this theory to change a political system!

As Romanian, it is going to be a priority to buy my country back for Romanians and to make it entire.....

Now, my country is chopped and has become only a colony for the mercantilism of a mad society.

I hope that God is going to help me to transform my nation in an example to be followed by others, in their way toward progress and spirituality.