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Considerations over the problem of the  
knowledge of the Universe

day/dialogue seventh

Kinetic Energy (and equivalent m-e  $M_{ESCE}$ ) , transformations internal  
to the mass, relaxation of the dissipation, duality of the m-e .

P started with a question which surprised me .

P : how you justify that an object, obviously elastic, ( let say that we are in  
absence of gravity ) when hits a rigid surface at  $v$  speed , changes its direction of  
speed , what is the dramatic change that takes place, inside the mass , in the  
instant of the impact that (if we exclude the losses due to internal frictions) can  
justify a change of direction of movement able to produce, in the extreme case ,  
an almost complete inversion of velocity, since its unidirectional spin character  
released and acting inside its mass at first results compressed in a fashion that  
produces labile adhesion and then inverts the direction of action causing  
movement in the opposite direction?

" I was expecting questions over the theme of the previous dialogue, over  
Chaos and Harmony , over the cycle of the mass-energy but the man changed  
theme " .

This is what came to my mind, but I had to review my judgment since the  
question was touching one of the characters of the spin which had been  
overlooked and now I had to give satisfying reasons and below I report what I  
remember of my answer:

I.: A transient status of the m-e inside a physical mass is m-e  $M_{ESCE}$  (in a status  
called inertial) measuring in Ton the amount of m-e whose unidirectional spin  
"fully released" communicates movement to the physical mass to which it belongs  
and since movement is measurable in units of energy, we can measure this  
physical phenomenon in units of energy or in the equivalent units of m-e through  
the factor of transformation which is  $c^2$ .

When an amount of m-e  $\Delta M_{ESCE}$  /sec consisting of basic particles SP endowed of unidirectional spin is continuously introduced inside a physical mass M, (the exchange happens through a contact Force generated by the physical mass M opposing variation of movement induced in it ), once the m-e  $\Delta M_{ESCE}$  has been introduced inside the physical mass M during a time interval and movement has developed, its value in units of mass equivalent can be overlooked but the spin introduced cannot be since the spin which is also a conservable character of the m-e  $M_{ESCE}$  gives velocity, therefore the velocity, achieved in virtue of the spin present, is maintained unless through internal transformation (gravitational in character) or external contact more m-e  $M_{ESCE}$  is introduced in the physical mass M, or through external action called friction (or through other physical phenomena) the m-e  $M_{ESCE}$  internal to the physical mass M is released through transformation-degradation as m-e  $M_{Heat}$  .

If we introduce in the physical mass M, m-e  $\Delta M_{ESCE}$ /sec the operation is perceived as an application of Dominant Force (introducing the m-e particles endowed of unidirectional spin) whereas extraction is also related to a Force, and can happen as cession of unidirectional spin to another physical mass or extraction through direct transformation caused by friction, and release as  $M_{Heat}$  and dissipation), immediately, as the Force opposing change shows its transient presence, velocity of the physical mass increases or decreases with the increase or decrease of presence of  $M_{ESCE}$  the process is explained with the introduction of a positive or negative Dominant Force which over a time interval corresponds to a positive or negative Total Force which was nested inside the physical mass M or was extracted from inside it:

$$\vec{F}_D = \frac{\Delta M_{ESCE}}{\text{sec}} \overset{\longrightarrow}{c^2} \text{ kw}$$

(as we can see  $F_D$  is expressed in Ton of m-e equivalent per second times  $c^2$ , a relation that Requires the application of the Law of equivalence as postulated by Einstein).

Apparently the  $\Delta M_{ESCE}$  is inertial, exists as a form of m-e endowed of spin bound to the physical mass, and through successive transformation-degradation is released by the atoms and becomes  $\Delta M_{Heat}$  inside the physical mass M but resides in the interstices external to the atoms and when reaching the surface of M comes in contact with the ESF, interacts with it and is absorbed by it reducing its density c times whilst moving at c speed inside the ESF (as postulated in a different context by Daniel Bernoulli for the equivalence of the hydraulic load to the velocity of flow).

Nevertheless, in our case, the inertial m-e  $\Delta M_{ESCE}$  is bound to the physical mass M and as consequence is not free to move on its own but interacts with the ESF that tends to absorb it, as result the ESF carries the  $\Delta M_{ESCE}$  all along with the physical mass M to which it belongs developing for it a value of velocity v far lower than the velocity c which would have developed if it was on his own but justified through conservation of the total spin character ( $v \ll c$ ).

I called Total Force  $F_T$  a constant amount of energy equivalent to inertial m-e (endowed of unidirectional spin)  $\Delta M_{ESCE}$  accumulated in the physical mass M by

external action or released inside it through internal gravitational transformation of m-e  $M_{RM}$  into m-e  $M_{ESCE}$ , subjected to absorption by the ESF, causing the physical mass to which it belongs to move at constant speed in the ESF, over a number of seconds  $n$  we have:

$$\vec{F}_T = c^2 \sum_{t=1}^n \frac{\overline{\Delta M(t)_{ESCE}}}{\text{sec}} \quad \text{kJ}$$

Thereafter when we try to find what happens to this inertial m-e  $\Delta M_{ESCE}$ , we observe that, with the increase of it inside the physical mass  $M$ , the Law given by Newton that binds the amounts of units of energy as Dominant Force supplied over an interval of time (Work) to the increase of Kinetic Energy of the physical mass, loses gradually its validity when  $v \rightarrow c$ .

What then happens is that to increasing values of m-e  $\Delta M_{ESCE}$  supplied to the physical mass  $M$  does not corresponds the expected linear increase of velocity that would result applying the Law of Newton, since with Newton there is no limitation and we would have infinite velocity for infinite supply of energy.

Note: as with the m-e  $\Delta M_{Heat}$  the release of the spin  $s=c$  is complete, the m-e  $M_{ESCE}$  still adheres to the m-e  $M_{RM}$  and this affects the whole physical mass, provisionally we assume that the spin of the SP particles of the m-e  $\Delta M_{ESCE}$  is  $s \approx < 1/2 c$  and the other half either still adheres to the mass-energy  $M_{RM}$  or exists inside the physical mass in a condition related to how the physical mass acquired movement.

From the law of equivalence of the energy we intend that to energy corresponds physical presence of m-e endowed of spin inside a physical mass, and this brings the conclusion leading to the formulation of the Law of increase of m-e inside a physical mass with the increase of the velocity, which then results to be a corollary of the Law of equivalence, and these results are fundamental in the development of the UDS.

Note: Newton's ULG in the other hand is still at the base of local absolute measurements of time.

For Newton, Work as action of a Starter Force over a distance had correspondence to kinetic energy (Total Force) but the kinetic energy that gradually appears on the physical mass  $M$  as result of insertion of substance had no correspondence to presence inside a physical mass  $M$  of the substance which was the cause of the movement.

This misunderstanding proceeded from the intuition that the physical mass had to be invariable and that the supply of an amount of work would develop a correspondent velocity through a process that could be pushed to infinite values.

Note: the ULG of Newton is applied to a gravitational system supposed to be in conditions of absolute quiet or in local conditions of quiet (as it happens in our Solar System in which we only have a local condition of absolute quiet for the whole system).

As it happens on Earth considered as a separate local absolute system with

center on Earth's center, for small values of velocity ( $v \ll c$ ), developed through gravity fall to the said Earth's center, Newton ULG is a good reference to the basic universal phenomena (and local absolutes which also depend from universal constants) and together with the Law of equivalence is fundamental in the explanations concerning the UDS .

To develop the Law of increase of the inertial mass became a necessity, when more came to be understood in regard of energy measurements and new devices were developed in which the measurements of different phenomena tied to energy started to give values discrepant with those given by Newton Law, to all this followed the realization that energy values could also be related to internal transformations of mass-energy from a status to another had to be followed by the conclusion that internally to the physical mass  $M$ ,  $m-e$  was releasing through stages of transformation-degradation the factor cause of movement (the conservable but degradable Spin).

Note: the Spin is definitely belonging to the mass-energy and is conservable and the mass-energy never loses it, this is proved by the fact that when the physical mass moves against gravity there is a transformation returning the  $m-e$   $M_{ESCE}$  to a degraded status gravitational of  $m-e$   $M_{ESCM}$  through inversion of direction of its Spin that returns it to the permanent adhesion character (though on a degraded status).

Many more intuitions had to follow the above ones since the physical mass  $M$  is made of an ordered agglomeration of mass-energies of different status, whose presence is justified by more than a chain of transformations-degradations starting from the one consisting of absorption of the ESF and depending from the external physical conditions to which the physical mass is subjected.

The absorption is the basic phenomenon causing the emergency of the gravitational field inside the space filled of ESF, a field active on the physical mass  $M$  and causing the internal transformations-degradations mentioned above (but not all of them, as the atomic bomb using the fission of heavy atoms is causing internal transformation and also the apparently simple phenomenon of friction is cause both of internal transformation-degradation and of transformations-degradations affecting the atomic surfaces).

This went together with the realization that absorption of the inertial  $m-e$   $\Delta M_{ESCE}$  contained inside the physical mass  $M$  by the ESF could not sustain the development of a velocity  $v$  close to the limit value  $c$  and that it would happen only if the physical mass  $M$  was supplied with huge amounts of  $m-e$   $M_{ESCE}/\text{sec}$  equivalent to supply of enormous increases of values of Dominant Force.

This  $m-e$   $M_{ESCE}$  would then accumulate inside the physical mass  $M$  as  $m-e$  on a transient status ( $M_{ESLA}$ ) of mixed character, inertial and gravitational (not well defined at present), in view of the fact that the ESF would oppose its fabric character to the development by the physical mass  $M$  of velocity  $c$ , subjecting the physical mass  $M$  bloated with  $m-e$   $M_{ESLA}$  to the mathematical idea of a limit  $v \rightarrow c$ .

Note: to contrive a propeller-booster pushing a physical mass at speed close to  $c$ , is unthinkable, but in the Physical labs of today the problem was cleverly approached and solved in terms of magneto-electrodynamics.

Clearly the presentation of the phenomenon in these terms exceeds the restricted limits of the UDS and I have to leave the matter to the discretion of the reader, warning him in regard of the extreme complexity of the subject and about the fact that although magnetic devices are pushing the charged particles to speed very close to  $c$  there is disagreement about what happens to the physical mass in those conditions due to the fact that Science at present denies the existence of the Ether/ESF.

Other phenomena came under observation confirming the scientific validity of these conclusions, and was also observed that withdrawing the supply of  $F_D$  to a physical mass  $M$  moving at very high speed, sudden internal transformation-degradation into  $m-e$   $\Delta M_{Heat}$  of  $m-e$  ( $\Delta M_{ESCE}$  and  $\Delta M_{ESLA}$ , accumulated inside the physical mass  $M$ ) followed by dissipation of  $M_{Heat}$  induced reduction of the physical mass value and negative acceleration, followed by dramatic reduction of the velocity  $v$  of the physical mass etc...

Over and above the realization that not only  $c$  is the maximum speed that a physical mass can reach as an insurmountable limit, but is also the maximum speed that the  $m-e$  coming out of a physical mass  $M$  as dissipation, achieves without effort, brought the conclusions that dissipation from a physical mass in quiet, when observed from a condition also of quiet comes out at the maximum value  $c$ , since  $c$  is an absolute limit of velocity in any system.

## How relativity must be interpreted

If now we want to represent the universal reality in conditions of simultaneity, we will have to investigate what are the physical conditions in which our observations take place and they can be many and complex.

Note: In all the cases below the observer always measures the Newton's time which is a local absolute referred to the ULG of Newton (see [Ruggeri10](#)).

- a) Both systems are gravitational and in movement, the observer resides inside one of the two but they do not exchange gravitation due to the excessive intermediate distance between them (SR).
- b) the observer on system Earth moves at orbital velocity around the Sun and therefore inside the gravitational field of the sun.  
 The system with center in the Sun is also moving in the sidereal space trapping the ESF in such a way that the Earth and all the other objects (local systems) in the solar system are subjected to the gravity of the Sun.  
 The phenomenon happens in conditions of local immobility of the ESF trapped by the Sun as a system and moving with it.  
 Note: in these conditions of relative immobility, as a matter of fact, the gravitational phenomenon of absorption of ESF by the Sun causing depression and flow of ESF towards the center of the Sun is always present.

The observer is using the return of Earth in orbital collimation with the

Sun and a far object (considered immobile) and this permits him to measure on Earth the local absolute time of the solar system, (Ruggeri10)

When the same orbital collimation is made with the condition that another planet is also taking part (like in the case of return in collimation including the planet Mercury) the observer finds that gravity has displaced the simultaneity of presence of Mercury of a geometric distance called precession.

Note: other considerations apply in regard of the time phenomenon inside the object observed (Mercury) and they are confirmed by the GPS.

- c) the observer from the surface of the gravitational main (Earth) system checks an high precision atomic clock against his own identical clock after the other system (an airplane carrying the clock) circumnavigated the Earth at high speed at the equatorial plan.

The circumnavigation can take place, first in the sense of rotation of Earth and then in the opposite direction (Hafele-Keating experiment). The airplane moves inside the air which represents a medium capable to trap the ESF carrying it along in its rotation around the axis.

Note: Newton's time on Earth, temporal precession and the time phenomenon of retardation tied up to presence of different values of velocities in respect of the atomic clock on Earth surface (measuring Newton's time at that level) constitute the formulation justifying the K-H experiment .

Note: this experiment is a cornerstone in the demonstration of the existence of the ESF.

- d) the observer on Earth exploits the ability to read a clock subjected to relativistic phenomena (GPS) at a distance in which the other system (artificial satellite) moves inside the space subjected to Earth gravity under the assumption that the ESF is trapped by the field of inertial mass corresponding to movement of the Earth at orbital speed  $v_0$  around the Sun, but does not rotates around Earth's axis as in the case c above of the H-K experiment.

Note: the formulations used for the GPS and for H-K experiment verify the assumption that the ESF trapped by the Earth is in relative quiet respect to Earth as a whole in the case of the GPS and rotates with the Earth in the H-K experiment.

- e) the Michelson-Morley experiment did not produce the results expected since the theory was insufficient, but one must accept that to the movement corresponds presence of a field of m-e  $\Delta M_{ESCE}$  endowed of unidirectional spin, capturing the Ether/ESF in such a way that Earth becomes a system in a local status of quiet and that the whole system (Earth) is like a bubble of large but limited size.

Since the ESF external to that bubble belongs to the solar system it will in its condition of quiet, sustain by absorption the orbital movement of the

Earth system or bubble around the sun.

We then are in a condition in which is the Ether/ESF that drags Earth system at constant orbital velocity from a position of immobility inside the solar system

This is nevertheless a phenomenon disturbed by the rotation of the Earth around its axis since internally to the said bubble of ESF surrounding the Earth the rotation drags the ESF against the surrounding stationary ESF and has effect on the wavelength of the incoming light signals from the sun (see [Ruggeri12](#)).

In the everyday circumstances Newton's Law of equivalence Work- kinetic energy is used, but now as  $v \rightarrow c$ , that Law is reformulated through the Law of increase of the inertial mass with the increase of speed which is a corollary of the Law of equivalence of Einstein.

The Dominant Force supplied  $F_D$  corresponds to introduction of inertial mass  $\Delta M_{ESCE}/\text{sec}$  compressed inside the system in asymptotically reduced amounts of m-e  $M_{ESCE}/\text{sec}$  and asymptotically increasing amounts of m-e  $M_{ESLA}/\text{sec}$ .

The above case a is the one in which the observer interprets from inside is gravitational systems signal received from another gravitational system which does not exchanges gravitational interactions with his system.

It comes from the perusal of the graphic DELINEATIO MIRABILIS ([Ruggeri7](#)) that between these systems, considered concentrated in physical points, (since the velocity  $c$  is a physical universal limit) the exchange of signals happens at local absolute  $c-v$  speed and if we assume that the systems are far enough that there is not gravitational interactions,  $c-v$  can be considered an universal absolute of transmission in the interspace between the systems that since it is not disturbed can be considered in absolute quiet.

Note: this topic will be expanded in the following dialogues.

To have a better insight of the phenomenon we now must consider that the unidirectional Spin belonging to the inertial mass-energy  $\Delta M_{ESCE}$ , is the cause of velocity of the physical mass and how is possible to measure velocity through evaluation at the spectroscopie of the characters of the light reaching the observer, and evaluate their relativistic effects through the Doppler Effect will also be shown in the following chapters.

The DE will permit the calculation of the physical value of kinetic Energy and of the temporal phenomena of retardation in respect of an observer in absolute quiet and I venture to say that also will permit to calculate the relative temporal phenomena in conditions that both systems are in movement.

All this seems rather quaint but we must consider that explanations of physical phenomena are based on the existence of a unique substance and measurements of energy which are based mainly on measurements of movements must be associated to constant presence of the spin and transformations-degradations releasing portions  $\Delta M/\text{sec}$  of m-e belonging to the said substance . In this manner energy (and the phenomenon of "Force causing

movement” associated with release of mass-energy endowed of Spin) acquires a physical meaning, whereas previously when energy was measured on its own it was represented by a value based on measurement of a movement over a time interval (velocity) whose origin in the case of gravitational phenomena could not be explained.

Then the meaning of the formula of increase of the inertial mass is based on the increased presence inside it of an equivalent amount of inertial m-e whose unidirectional spin acting on the physical mass to which it comes to belongs justifies the Force and the movement that the Force imposes on that physical mass, but now the physical mass has increased its inertial content without increasing the capacity of gravitational transformation and this has the capacity to retard the way physical phenomena are developing (retards the rates of degradation-transformation)

In conclusion that Law enriches the meaning of the existing knowledge based on Newton’s Laws and on his ULG (the Law that can fix values of time as universal absolute or as local absolute since is always related to an absolute value of absorption related to the amount of gravitational m-e contained inside a physical mass M).

The formula of increase is also extended, through further considerations suggesting the active role of the gravitational field of depression and flow of the ESF in the transformations-degradations of gravitational m-e  $M_{RM}$  inside a physical mass into  $M_{ESCE}$  and how this transformation-degradation means release of the gravitational Force and the known consequences of this release.

Within the limits in which Newton’s Laws can be considered valid we recognize the effects of Work when measuring the kinetic energy of a physical mass, since one of the characters of Work is that it can represent what gets transformed-degraded into kinetic energy and only recently was realized that this happens in the context of conservation of the mass-energy.

In brief, energy whatever its manifestation was considered something without substance, and until Einstein enunciated the Law of equivalence, presence of Work had no physical relation to substance.

This situation started to change, when Pr. Julius Meyer in the early years of the 19<sup>th</sup> century established the equivalence between Work and Heat since he started a chain of events which put into question the validity of Newton’s Law which eventually was substituted (by Pr. Albert Einstein) with the Law of increase of inertial mass.

The meaning of the formula of increase of the inertial mass proposed by Einstein is on its definition, it says that the physical mass increases when is added inertial m-e which is the cause of increase of velocity, what needs to be added is the concept that unidirectional Spin belongs to the inertial m-e and the establishment of a field of inertial m-e  $M_{ESCE}$  (by definition endowed of unidirectional spin) belonging to the physical mass M and interaction of this field with the ESF justifies the development of velocity, in the manner just described by that formula.

Note: as will be mentioned later in this chapter a gravitational transformation or

addition of  $m\text{-}e \Delta M_{\text{ESCE}}$  to a physical mass (through Work) not necessarily corresponds to introduction of a correspondent amount of velocity (Newton's Law) not only because the  $m\text{-}e M_{\text{ESCE}}$  introduced is inertial but also because depending from the type of transformation, part of the  $m\text{-}e M_{\text{ESCE}}$  introduced is degraded into  $m\text{-}e M_{\text{ESLA}}$  inside the physical mass  $M$  (as a transient form of gravitational  $m\text{-}e$ ) and as such ceases to produce inside it phenomena that the external observer perceives as time retardation, over and above that, (within a system), the internal processes of transformation-degradation of gravitational origin called "unbundling" to which it undergoes cause in respect of an observer in local absolute conditions of quiet a time phenomenon that accelerates degradation and therefore causes time advance along the radial direction towards the center of the physical gravitational mass  $M$ .

If then like in the case of the gravitation (as already mentioned) there is no increase of substance inside the physical mass  $M$ , but the transformation is all internal, we cannot mention that there was increase of the inertial  $m\text{-}e$  but we can mention that there was decrease of  $m\text{-}e M_{\text{RM}}$ , unbalancing presence of inertial mass in favor of the  $M_{\text{ESCE}}$  which being only inertial is the component which retards the temporal processes.

The appearance of movement of the physical mass under the action of gravity is due to neutron ( $M_{\text{RM}}$ ) transformation inside it, it is a true atomic transformation and as such cannot be disregarded as cannot be disregarded that the  $m\text{-}e M_{\text{ESCE}}$  resulting from that transformation is endowed of Spin all directed in the direction of the gravitational flow of ESF that generated it etc..

Note : in both cases , ( absence of gravity and presence of gravity ) if  $v \ll c$  , the calculations of the transformations that use the formula in which appears the inertial  $m\text{-}e$  give results very close to those obtained using the formula of Newton since inside the physical mass  $M$  the extra increase of inertial  $m\text{-}e$  obtained by introduction of  $m\text{-}e M_{\text{ESCE}}$  or the reduction of  $M_{\text{RM}}$  transformed-degraded into inertial  $m\text{-}e$  , are small enough to be considered infinitesimal and the total value of the physical mass  $M$  can be considered invariable.

### More on $M_{\text{ESLA}}$

Let now deal in non relativistic fashion the case, in which the rigid physical mass endowed of  $m\text{-}e M_{\text{ESCE}}$  (and therefore in unidirectional movement) hits an elastic surface of a large physical mass in a condition of absence of gravity.

Assuming that the impact happens in elastic conditions we have to suppose that the  $m\text{-}e M_{\text{ESCE}}$  possessed by the physical mass  $M$  is, on impact, through the contact point where a contact Force is developed, poured from the contact surface inside the large physical mass, where is absorbed and immediately compressed as elastic mass-energy  $M_{\text{ESLA}}$  (Energized Space having characters of mass but Labile Adhesion )

We accept in this case that the  $m\text{-}e M_{\text{ESCE}}$  and the  $m\text{-}e M_{\text{ESLA}}$  are two interchangeable equivalent states of the  $m\text{-}e$  and when the  $m\text{-}e M_{\text{ESCE}}$  is stored as  $m\text{-}e M_{\text{ESLA}}$  inside the large physical mass impacted due to maximum compression

of spin is produced a situation in which it can be gradually reinstated (poured back as Work) in the physical mass  $M$  which will absorb it and will retransform into  $m$ -e  $M_{ESCE}$  but with inverted direction of spin.

The  $m$ -e  $M_{ESCE}$ , when the hit takes place thanks to the elastic properties of the surface of impact is not absorbed permanently through transformation into permanent bonds between atoms and molecule (as this would represent presence of  $M_{ESCM}$ ) and very little of it is dissipated as result of internal frictions, but due to the elastic capacity that the physical mass impacted possesses is absorbed and returned to the physical mass  $M$  as  $m$ -e  $M_{ESCE}$  after undergoing an inversion of direction of spin.

Thereafter when the impact phenomenon is exhausted and the  $m$ -e  $M_{ESCE}$  has been transformed into  $m$ -e  $M_{ESLA}$  (excluding losses) we have that in this particular status the physical mass  $M$  has reached, on impact, the velocity  $v = 0$  and the physical mass impacted has reached the maximum status of elastic internal compression of spin and is ready to return the  $m$ -e absorbed to the physical mass  $M$  but with a spin directed in the opposite direction.

The phenomenon of rebound in absence of gravity can be described by the following expression:

For  $v = \text{const}$  to  $v$  (relative velocity) = 0 and  $F_T$  as energy that has been absorbed linearly as Elastic equivalent  $M_{ESLA}$  (during a time interval  $\Delta t$ ):

$$1) \quad F_T = \frac{1}{2} F_{\text{MAX-Contact}} \Delta s$$

The 1) takes into account that the  $F_{\text{MAX-Contact}}$  is the maximum value reached when all the  $m$ -e  $\Delta M_{ESCE}$  possessed by the mass  $M$  has been transformed into  $m$ -e  $\Delta M_{ESLA}$  (the whole spin belonging to the  $m$ -e  $M_{ESCE}$  is now compressed by the  $F_{\text{MAXcontact}}$  and the  $m$ -e  $\Delta M_{ESCE}$  has become  $m$ -e  $\Delta M_{ESLA}$ ).

There after a second interval of time  $\Delta t$  has elapsed, the mass moves in the opposite direction having reacquired the value  $F_T$  the speed  $v$  (or most of them both) and is not longer in contact with the surface of impact.

At that point, due to the fact that when the contact is lost the cession of  $m$ -e to the physical mass  $M$  stops (and with it, transformation also comes to an end) the physical mass is again moving in the opposite direction:  
(for  $v \ll c$ ),

$$F_T = \frac{1}{2} M v^2$$

From the 1) and  $v \ll c$  we have :

$$\frac{F_{\text{MAX-Contact}} \Delta s}{2} = \frac{M v^2}{2} = \Delta M_{ESCE} c^2$$

The Law of fast growth of the contact Force in the impact during the compression and of fast disappearance of it during expansion is the same but the

phenomena are in opposition, whereas the deformation  $\Delta s$  and the time  $\Delta t$  during which the phenomenon happens depends from the m-e possessed by the physical mass  $M$  in movement and from the elastic characters of the physical mass in quiet over which the impact takes place.

Note: in this case we assumed that the physical mass  $M$  is perfectly rigid and the surface of impact is elastic.

We assumed that, (considering that the large physical mass impacted is elastic ) all the m-e  $M_{ESCE}$  is transformed during the impact, and accumulated in the elastic physical mass impacted as m-e  $M_{ESLA}$  subjected to directional compression of the spin belonging to it caused by the increasing value of the opposed contact Force,  $F_{Contact}$  which is spread over the surface of contact subjecting the elastic mass to local deformations, an ideal solid of compression is then established whose maximum volume is reached when all the inertial m-e has been transformed into m-e  $M_{ESLA}$  and a maximum compression of spin related to it is present inside the elastic mass, thereafter the phenomenon is inverted and the m-e  $M_{ESLA}$  is restituted/retransformed into m-e  $M_{ESCE}$ , inside the physical mass  $M$  which had it, but with an inverted direction of spin, so that movement reappears in the direction opposite to the impact.

We must therefore admit that there is a transient status of the m-e called  $M_{ESLA}$ , and definitely there are other types of m-e  $M_{ESLA}$  in principle, whose characters and whose spin can be present on conditions different from those examined up to now, and act inside the physical mass as there must be other forms of presence of m-e acting inside the ESF and forming what we can call "fields of physical presence and physical behavior of the m-e over the ESF" in a similar way the m-e  $M_{ESCE}$  creates a field around the physical mass  $M$ .

Note: the m-e  $M_{ESLA}$  mentioned above which accumulates in the physical mass when speeds  $v \cong c$  are reached, is m-e whose spin is compressed between the opposed fabric of the ESF developed at the speed close to  $c$  (which behaves as an insurmountable elastic surface) and the Dominant Force pouring m-e  $\Delta M_{ESCE}/\text{sec}$  inside the physical mass  $M$  where is compressed as a form of m-e  $M_{ESLA}$ .

Note: transient existence of the status of the mass-energy  $M_{ESLA}$  was introduced in the fifth dialogue when dealing with the precession and again in the sixth dialogue when dealing with the formation of the stars and now is reintroduced as transient presence inside a physical mass  $M$  hitting a larger one in elastic conditions, and as transient presence in a physical mass  $M$  nearing the speed  $c$  under the effect of a Dominant Force (note the analogy which presents in both cases a compression against impenetrable surfaces).

According to conditions of movement,  $M_{ESLA}$  can exist in different dynamic and even static configurations other than those mentioned here.

At the end of this long explanation I became aware that this argument had to do with the one of the previous dialogues since it represented a small step forward towards the explanation of the cycle of the Energy insofar it had allowed again the introduction of a new type of existence of the m-e belonging to a physical mass, grouped under the name of m-e  $M_{ESLA}$  in a transient status and based on the

various condition in which the spin of the m-e  $M_{ESCE}$  could end up compressed inside a physical mass giving back to it (according to the particular physical phenomenon under investigation) in a transient fashion, part or all of the gravitational character it lost when underwent transformation from  $M_{RM}$  or similar status....

Note: the formula of increase of the inertial mass just reflects the situations discussed , but I reiterate what said at the beginning of this dialogue, that for  $v \rightarrow c$ , presently, although techniques of acceleration are known, little else is known, except the fact that an huge amount of different justifications can be presented, since the phenomena evolving in these conditions belongs to the quantum discipline and though extremely complex in themselves, their complexity is made even more difficult to explain by the fact that these speeds, (as said) are presently reached through magneto-dynamic techniques applied to electrically charged particles (clusters) of m-e.

Note: the only comment I can make with regard to this type of m-e  $M_{ESLA}$  present at high speed, is that since its spin is compressed by the incoming m-e  $M_{ESCE}$  inside the physical mass  $M$  and is compressing the ESF, most of it just resides with little bonds inside the physical mass to which it belongs and when the application of the Dominant Force ceases is the acceleration of the physical mass  $M$  that ceases as well, by necessity the cause of high speed ceases to exist and  $M_{ESLA}$  and  $M_{ESCE}$  compressed inside the physical mass  $M$  are coming out as m-e  $M_{Heat}$  until a balance between the physical mass  $M$  and the absorption by the ESF of the  $M_{ESCE}$  still present in it permits the reestablishment of a constant velocity  $v < c$ .

Note: I assume that the excess of  $M_{ESLA}$  has a transient gravitational character (since its spin is compressed).

## Why the UDS?

Since long I had been aware that the multitude of explanations , logically correct only for the originator, were, like in the theory of the Big-Bang , props which had to be put into position in order to sustain an edifice that threatened to fall and whose cumbersomeness could have rendered the structure even more unstable.

I realize that the conditions of existence of the m-e can be many and maybe infinite, but I am skirting the possibility to be involved outside the UDS and I only want to stick to the conditions and the limitations related to the presence of the physical mass  $M$ , these limitations are overcome at times through the possibility to make direct measurements directly over the said physical mass as an entity and over the observable phenomena related to light and dissipation in general (using spectroscopes and interferometers) and the use of extremely sensitive clocks.

The principal states of the m-e all measurable in units of mass, the ESF, the inertial-gravitational neutronic  $M_0$  (made up of neutron m-e  $M_{RM}$  and the neutronic m-e  $M_{ESCM}$ ), the inertial m-e  $M_{ESCE}$  , the equivocal gravitational status of the  $M_{ESLA}$ , and the status measurable as m-e  $M_{Heat}$  coming out as dissipation from the

physical mass  $M$ , could be represented through formulations related to transformations–degradations of the internal components (m-e) of the physical mass  $M$ , provided the conditions of presence of the Spin character belonging to the substance resident inside it in the status of m-e and the type of degradation to which it is subjected, are declared.

In any case, transformations-degradations over a time interval  $\Delta t$  are always represented by a  $\Delta M/\text{sec}$  but the rate at which the time interval elapses retards when the  $\Delta M/\text{sec}$  is inertial m-e accumulating inside the physical mass  $M$ , but this is not all since gravity can produce geometric temporal phenomena that representing advances of values of degradations at the observer on the surface of the gravitational physical mass  $M_{LGM}$  can result in reduction of a similar geometric temporal phenomenon at a greater distance from the gravitational center.

Below are introduced the various manners in which time and m-e result interdependent:

a) kinetic relativistic : related to two systems one of which is in absolute condition of quiet and the other moves at relative speed  $v$  to which corresponds presence of an amount of inertial m-e  $\Delta M_{ESCE}$

$$\frac{M_0}{M_0 + \Delta M_{ESCE}} = \frac{t_R}{t} = \frac{c'}{c}$$

$t_R$  is the time at the clock identical to the one of the observer inside the system observed (to date the GPS made possible to have a reliable confirm of the value of  $t_R$ ).

Note: the above limitation permits an observer external to another gravitational system to determine that if the system observed is in movement and he is in absolute (or near absolute quiet) and at a distance in which there is no gravitational interaction between the two systems, the time phenomenon is calculated in delay and with it all the physical phenomena in that system are calculated in delay.

b) kinetic: Approximated extension of Newton's formulation of the value of kinetic energy or Total Force, using the Law of equivalence related to a  $\Delta M_{ESCE}$  endowed of unidirectional spin acting on a physical mass  $M = M_0 + \Delta M_{ESCE}$  and moving it in the ESF:

$$\text{for } v \ll c \quad \Delta M_{ESCE} = \left( \frac{v^2}{2c^2} \right) M \quad \text{Ton}$$

c) Gravitational : (absorption) Inside the system of the observer the absorption of the ESF gives the value:

$$\frac{\Delta M_{RM}}{\text{sec}} = \left( \frac{k}{c^2} \right) M_0 = \frac{\text{Ton}}{\text{sec}}$$

d) Gravitational: (dissipation) related to a transformation internal to the gravitational physical mass, dependent from the gravitational phenomenon acting internally to it and forcing it to expel m-e as  $M_{\text{Heat}}$  which eventually dissipates (see [Ruggeri8](#)) :

$$\frac{\Delta M_{\text{Heat}}}{\text{sec}} = \left( \frac{k_{\text{el}}}{c^2} \right) M_0 \frac{\text{Ton}}{\text{sec}}$$

e) Gravitational: (unbundling) as for example the formulations developed for the precession and for the gravitational transformation affecting a physical mass  $M_0$  at rest above a large gravitational physical mass  $M_{\text{LGM}}$  ; (expressed here as an internal transformation of m-e  $M_{\text{RM}}$  into m-e  $M_{\text{ESCM}}$  :

$$\frac{\Delta M_{\text{ESCM}}}{\text{sec}} = \frac{F_{\text{STARTER}}}{c^2} \frac{v_0^2}{c^2} = \frac{M_0}{c^2} a(r) \frac{v_0^2}{c^2} \frac{\text{Ton}}{\text{sec}}$$

The above formulations are only few of a plethora of others reflecting different conditions of existence inside a physical mass of transformations-degradations having the potential to be referred to the relativistic time phenomenon

But then we must take care to define how the  $\Delta M_{\text{ESCE}}$  comes to be and to do so each formula is in need interpretation.

This in itself is already a fact that has the capacity to complicate every problem, requiring observation and evaluation for each possible case and needs the development of consistent possible explanations.

I communicated this concept to P, which was in agreement.

### The background of the sensible Universe

It was the day of the questions and P presented another one, concerning one of his doubts regarding the background radiation, it was directly connected to the last dialogue and to the possible catastrophic events external to our sensible U and to the possibility to determine although indirectly if they had happened and when .

P. : You told me that the light has a transient character and the dissipation to

which is subjected produces a dispersion of it which by necessity must be associated to relaxation of the wavelengths, (Olbert paradox), and you carried on saying that thanks to relaxation we live inside an U whose border is determined by our capacity to perceive, if then a devastating explosion, of gravitational origin, comparable in size to a Big-Bang (of physical and not imaginary characters) happened in the past, outside our average borders of perception, the emission of dissipation caused by explosion of an extremely large gravitational mass, could have happened at frequencies of inconceivably high value and in that case although the signals could be coming outside the average distances that give us the perception of the two borders ( one of the borders being determined by the limit of reception of the spectrum of the light and the other by the limit of reception in absolute ), we still should be able, in some cases, to perceive, as background radiation, signals originated from the mass which exploded far away (outside) the borders mentioned since these signals emitted at the time of the explosion due to their exceptional nature are bound to reach us at very long wave lengths.

I mean that in similar cases our borders of perception would be extended due to presence of exceptional events and in some cases the proof that they occurred should be available through the observation of the background radiation, in actual fact they could be the main source of the background radiation.

On observing this set of signals external to our physical U, we should be made aware that, due to dispersion causing relaxation, the signals that we receive at very low frequency which were generated by the said huge explosion should have a characteristic mark resembling those coming out of a Supernova.

Now, since the present perceptions exclude dispersion, these occurrences could have been overlooked by the Astronomers which reading these signals could have ascribed them to points of origin much closer to us.

I shared these conclusions with P and at this point I had the impression that I was doing a good job, certainly I had to appreciate that he was an exceptional interlocutor, ideal.. I would dare to say , in any case I felt that these introductive dialogues were necessary and the preparatory work, with him was not lost...

After he made that comment I praised him in regard of the fast manner in which he had grasped that part of the problem of representation, and then I said that I had nothing to add, at least for the time being but I had in mind to show in the future how right he was in regard of the Supernova, when the more advanced graphic (the DELINEATIO MIRABILIS presented by me in [Ruggeri7](#)) and intended as replacement of Lorentz's graphics would be discussed.

Thereafter he carried on the following way:

### The obscure meaning of Speeding Particles endowed of spin

P.: many are mentioning particles of m-e and You, as well, present base particles inside the atoms as m-e  $M_{RM}$  in the status of neutrons and protons made

up of even smaller but indefinable SP particles endowed of that special conservable but degradable character called Spin..

The subject becomes even more confused when you mention energy as measure of movement caused by a Force or as sum of Dominant Forces applied over a time interval, measurable in the physical units of kJ and introduce the notion of transformation-degradation from m-e  $M_{RM}$  into other various consecutive states (starting from m-e  $M_{ESCE}$  then, you proceed saying that there is another status of the m-e called  $M_{ESLA}$  which complicates not a little all the explanations) and bind the up to now physically unexplainable energy to physical units of mass-energy in Ton saying that presence of energy is related to presence of m-e and the measure of these physical phenomena of transformation-degradation inside a physical mass must be related through a factor  $c^2$  to movements affecting a physical mass which are and still remain for us measure of energy.

Transformations internal to the physical mass of the mass-energy which affect the Spin character belonging to it consist of degradation of it through irreversible change of the Spin character which in the process is released as a transient Force having the capacity to produce movement, we also say now that Force brings about elastic cycles of relativistic unstoppable nature inside a large physical gravitational mass  $M_{LGM}$ , mentioning that through transformations-degradations, of gravitational nature it releases m-e as  $M_{Heat}$  which comes out of it as dissipation defined by the propagation of the light and other radiations extended to a spectrum much larger than that of the light.

These "other" radiations occupy a large spectrum and constitute a phenomenon in which the m-e endowed of Spin free from bonds to the physical mass  $M_{LGM}$  comes out of it reaching a final status of degradation whilst interacting with the ESF to the maximum degree (reducing its density  $c$  times and moving at  $c$  speed as dissipation).

When  $M_{Heat}$  comes out of a physical mass  $M_{LGM}$ , is absorbed by the ESF, and the phenomenon is uniform radial dissipation in all directions, the Spin of the m-e in dissipation is scattered in uniform distributed fashion in all the radial directions leading away at the maximum speed  $c$  the m-e  $M_{Heat}$  coming out of the physical mass  $M_{LGM}$  depressed (diluted)  $c$  times, and this reduction  $c$  of density and acquisition of the velocity of dissipation  $c$ , must be also seen as a transformation of major importance.

You, then, introduced the dissipation inside the ESF as presence of another condition of existence of the mass-energy, but here in this condition you mention Speeding Particles (SP) moving at  $c$  speed and at the same time you mention also absorption of m-e  $M_{Heat}$  (which must be made up of these SP) by the ESF, what, then, to your judgment these particles are ? and if you think that they exist how they do exist ?

In practice it happens that when we need to represent a physical phenomenon we have no choice but to mention a discrete object (be it a physical mass  $M$  a very small particle of m-e or cluster of SP or a quantum or still undefined states of m-e since in this treatment little mention is made about presence of SP in the electric and magnetic fields, and about the status of the m-e gluing the atomic surfaces made of ESF to each other etc...) and the mathematical tools permit

only up to a certain extent to refer separately to these objects since in many cases is preferable to consider them to be part of a continuum and to adopt the concept of density.

The nature needs action and to do so has admirably provided to solve its problems through the conservable but degradable spin character and the possibility that in this line of action the direction in which the action takes place can determine adhesion at first and afterwards can determine dissipation and has permitted the physical presence of the atomic entities through the dual character of the basic undefined particles which through formation of the electron m-e permits exclusion of the ESF from the volume occupied by the atom etc...

I : clearly, in regard of these mysterious particles, I do not have an answer since the definition of particles was a problem from the start , the duality over the constitution of the matter is not solved, personally I must limit myself to the semantic affirmation that they do exist but are of indefinable nature, I mean that from the substance at the base of the universal reality, that I have renamed Ether/ESF, or shortly ESF, is descending the presence of the physical objects (through absorption and transformation-degradation into neutron m-e and through an enormous number of Laws that we have just started to unravel).

The ESF can present itself as a continuum filling the Euclidean space, to the maximum allowable extent provided by nature to it in its status, absorbed by the physical gravitational mass and still retaining the capacity to absorb like a sponge of universal presence the dilution and dissipation of the  $M_{\text{Heat}}$  coming in direct contact with it at the surface of the physical mass that produces it, therefore , within the respect of these Laws, since there is a capacity of aggregation and of dissipation, we have that, when aggregation prevails, although the basic particles are indefinable, we think that the mass is made of particles in aggregation absorbed from an ESF behaving as a fluid and when afterwards dissipation prevails we still can think that we are facing a fluid (the ESF) that is possessed of the characters of a continuum absorbing these particles in dissipation.

In the specific case of the dissipation, the release of the spin character is permitting absorption by the ESF of the basic SP particles, a physical feat that they perform carrying with them the memory of their last instants as compressed m-e  $M_{\text{Heat}}$  (through the wave phenomenon), since the dissipation is thinning in the unit of time along a stretch  $c$  of Euclidean space, the phenomenon referred as presence of  $M_{\text{Heat}}$  inside a physical mass compressed  $c$  times, we see that what in origin was the physical result of a cyclical unstoppable phenomenon of relativistic nature, contained inside the volume occupied by the physical mass and shared with it, now is stretched into  $c$  volumes and therefore we can present a m-e  $M_{\text{Heat}}$  coming out as dissipation as a series of compressions and expansions endowed of a fixed frequency , all this thanks to the presence of an indefinable character called Spin (generating movement) forcing the way through the ESF at  $c$  speed.

When inside a physical mass  $M$  due to the cyclical nature of the temporal phenomenon that the gravity can unleash there is an attempt to retrieve the character of adhesion, " I refer to the phenomenon of unbundling " , these particles

acquire again the capacity to adhere, this helps to define the nuclei of the atoms (since the adhesion this time is degraded and does not go to build the neutron  $m$ - $e$   $M_{RM}$  but is distributed haphazardly constituting the neutronic glue that binds together the neutrons and is called  $m$ - $e$   $M_{ESCM}$ ).

The change of status of existence from  $m$ - $e$   $M_{ESCE}$  to  $m$ - $e$   $M_{ESCM}$  tied up to the frequency of the cyclical gravitational “relativistic” phenomenon of unbundling, does not always stop to  $M_{ESCM}$  but is associated to the successive stage of transformation-degradation of  $m$ - $e$   $M_{ESCM}$  into  $m$ - $e$   $M_{Heat}$  and the memory of the vibration is carried on impressed in the  $m$ - $e$   $M_{Heat}$  and when  $M_{Heat}$  is diluted in the ESF, this memory is impressed on a stationary fashion (the stationary presence of a wave) on space, whilst the SP particles are absorbed by the ESF at velocity  $c$ , (reflected by the maximum constant value of spin of which they are also endowed) and in final analysis the ESF carries them no matter how they exist.

In the case of the dissipation, the duality particle-continuum is present but when we mention units of physical gravitational  $m$ - $e$ , we intend to refer to units of  $m$ - $e$  whose understanding we can handle with better success only through the concept of particle endowed of Spin inwardly directed and in the case we measure a total amount of energy possessed by a physical mass in directional movement ( that can be expresses as Total Force ) if the phenomenon is gravitational, we refer to gravitational release of spin by a limited equivalent amount of  $m$ - $e$   $M_{RM}$  inside the physical mass which belongs intimately to it , that, when is absorbed by the ESF can only develop a limited amount of speed of the physical mass, which we measure through the character defining the velocity  $v \ll c$  of the physical mass under observation.

Note: the introduction of the  $m$ - $e$  under the generic name of  $M_{ESLA}$  which in most cases is to be considered a transient status of existence similar to gravitational, like the  $m$ - $e$   $M_{RM}$  and  $M_{ESCM}$  will have to be better investigated and the many physical conditions in which the  $M_{ESLA}$  is present will have to be defined, but for now will be sufficient to say that  $m$ - $e$   $M_{ESLA}$  is representing a percentage of the gravitational  $m$ - $e$   $M_{RM}$  transformed-degraded whose spin has been released but has undergone labile compression or other condition in which cannot act unidirectional and therefore since it does not causes velocity and is close to the gravitational status is not contributing to the time phenomenon of retardation.

In actual fact if the unidirectional spin of the  $m$ - $e$   $M_{ESCE}$  belonging to the physical mass  $M$  is compressed into  $m$ - $e$   $M_{ESLA}$  the velocity decreases and the time phenomenon advances.

P.: what then could be the constitution of the ESF? Is it  $m$ - $e$  in the same sense of the  $M_{RM}$ ?

I : also in this case I do not have an answer, nevertheless I risked to say that we should be more in presence of a substance with the character of a fluid rather than in presence of groupings of basic particles or intermediate situations, it has to be homogeneous and uniform and when is in pristine undisturbed conditions of quiet (I mean, when there are no gravitational physical masses or other types of  $m$ - $e$  around and dissipation coming from distant objects do not excessively

disturb it) is a status of existence of the mass-energy that fills the Euclidean Space to the fullest extent possible for it as single entity in the way it does exist (since Nature possesses "Horror Vacui").

To the ESF can be superimposed presence of other states (or conditions) of the mass-energy, such as dissipation, storage of m-e on a permanent or transient condition (to be described as electric and magnetic fields of mass-energy in the ESF) and in special circumstances such as explosions (fast transformations-degradations of gravitational concentrations of neutronic mass) these superimpositions can have large value and are extremely difficult to describe since they could be responsible of displacement of the ESF from the Euclidean space (as indeed happens inside the inner volume of the atoms), and as the phenomenon appears to us the dissipation is present in large values inside the ESF, especially in the aftermath of an explosion.

The characters of the ESF do not stop here since when the phenomena of electric and magnetic nature are investigated results in many cases that if we consider the atoms as ultimate particles the fabric of the ESF that constitutes their surface can be surrounded by states of the m-e producing stationary fields of existence (atomic surfaces made up of a thin shell of fabric of the ESF) and then, one can only figure the complexity that can arise from exchanges of m-e which are associated with the establishment of molecular bonds in presence of m-e in the status of electrons etc...

Nevertheless if we ignore these phenomena leaving them to other disciplines, in the ESF there enough to be investigated, in the physical terms concerning the UDS, since inside it masses are subjected to gravity and to all the phenomena of transformation-degradation that it contributes to generate.

Note: it is the interpretation that Nature possesses "Horror Vacui to the maximum extent that permits me to postulate the presence of the ESF and deduct that it can be subjected to perturbation induced by a gravitational mass (no matter how small) with the establishment of a gravitational field, that must be at the base of all the associated phenomena degrading the spin character and generating Forces (including the consideration that dissipation can be described as a Dominant Force).

The depression and consequent flow of ESF generated in the Euclidean space by gravity of a large physical mass  $M_{LGM}$  is enough to cause all the phenomena of transformation-degradation and release of unidirectional spin, inside a physical gravitational mass  $M$  influenced by the said flow, to which correspond the Force at observational level be it static or dynamic, and the movements of the said physical gravitational mass  $M$ , be that Starter Force is applied to it and its effect is measured over distances run or over cyclical vibrations connected to its presence, or its effect generates a transformation-degradation corresponding to Dominant Force applied over a time interval, all of them are phenomena that presently constitute my objects of speculation.

As it is through speculation, that I managed at first to attribute the pervading character of fabric or tissue to the ESF.

We can say that this entity (the ESF) is represented by an active substance not evident to our senses which to be revealed requires the use of the reason and that though we attribute to it characters similar to a fluid we are forced to discover them.

The word “active” referred to this substance is already defining it, since it means that sustains and fosters all the physical processes, observing which; we are subjected to more than one dilemma.

Per se, if it could be exempted from transformation-degradation, gravitational depression and dissipation it could be made of undefined substance filling the Euclidean space and existing in a invariable status, (not subjected to physical transformations-degradations and therefore outside the time phenomenon, and in that status we could even put in question its existence), it is only when it releases through transformation-degradation, the spin character belonging to it that the ESF develops the duality “particle-continuum”.

On top of it, my assumption that the ESF is an uniform homogeneous fluid having the capacity to behave as a tissue or fabric, to my opinion, explains many aspects of its behavior, since is a character that does not preclude the uniformity nor excludes that can be made of indefinable basic particles bonded to each other which could end up developing density of presence in the point where they are disturbed most from their status of quiet.

The presence of particles and clusters of them comes into play also when this substance gets involved in the chain of internal transformations-degradations developed by the physical reality of the physical mass M.

I would say that the very moment this substance is absorbed by the neutron m-e and adds to it is subjected to a sort of curding into the undefined SP particles mentioned here.

In affirming this I feel comfortable since the value of depression caused by absorption of a substance that inside the physical gravitational mass precipitates into neutron mass-energy, and which is having the characters of a fluid of density  $\rho = 1$  is equal to the flow (a fact in accordance with Daniel Bernoulli Law) denoting that if we assume the ESF to be a fluid, the very moment it is subjected to absorption an amount  $\Delta M_{ESF}/\text{sec}$  acquires the character of particle necessary to explain that what comes out of the ESF whilst absorbed by the gravitational component of the physical mass is attached as a particle to a chunk of neutron m-e until the maximum amount of these particles constitutes the maximum allowed cluster in nature, the neutron m-e.

How difficult was this seventh dialogue, and I was uneasily facing the prospect that there were still many hard questions, not easy to answer.....