

GLOBAL PHYSICS

MOLWICK



Museum of the science of future

GLOBAL DYNAMICS

José Tiberius



Hobbies: chess, padel and philosophy among others

José Tiberius is the main author of Molwick publisher books.

With over 40 million visitors and two million books downloaded in PDF format, he is surely one of the most widely read authors in Spanish of scientific essays in the current millennium.

There are more than 10000 links to Jose's website, where his books on theoretical physics, theory of evolution, quantitative genetics, cognitive theory, and philosophy of science, metaphysics and children's stories are showcased in five languages. Many of these links –to all these different fields– come from universities, projects done by university students and blogs created by teaching professionals and Educational specialists.

Moreover, it is interesting to note that these links are usually together with links to Wikipedia or pages such as National Geographic.



The only antidote for the egocentrism
of pure reason is Love.

Molwickpedia: molwick.com
Title: Physics and Global Dynamics
eBook: 978-84-15328-36-0
Paperback: Dynamics and Law of Global Gravity
Vol. V - VI: 978-84-15328-91-9 // 978-84-15328-86-5*
(Book series) Global Physics
978-84-15328-78-0 // 978-84-15328-79-7*
© 2008 All rights are reserved
Editor: Molwick
4th edition: November 2017
Author: José Tiberius

Printing

MOLWICK

José Tiberius

Technical assistant: Susan Sedge
MSci in Physics from King's College London

<https://molwick.com/es/libros/>
<https://molwick.com/en/ebooks/>
<https://molwick.com/fr/livres/>
<https://molwick.com/it/libri/>
<https://molwick.com/de/bucher/>
<https://molwick.com/pt/livros/>
<https://molwick.com/ar/books/>



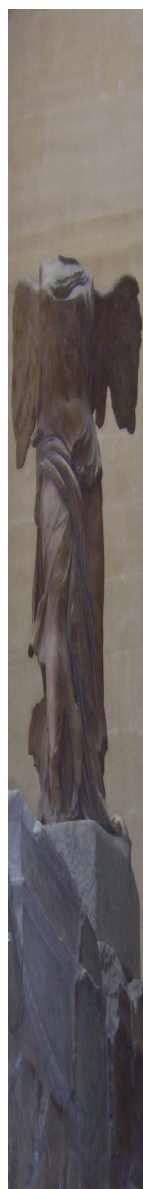
Molwick Publishing Catalogue - I

	<h1>MOLWICK</h1>	ISBN (eBook Paper* ePUB**)
	<i>Conditional Evolution of Life</i>	978-84-15328-75-9 978-84-15328-13-1* 978-84-15365-82-2**
	<i>Global Cognitive Theory (Book series)</i>	978-84-15328-73-5 978-84-15328-74-2* 978-84-15964-00-1**
	<i>Brain and Modern Computers</i>	978-84-15328-14-8
	<i>Intelligence, Intuition and Creativity</i>	978-84-15328-15-5
	<i>Memory, Language and other Brain Abilities</i>	978-84-15328-16-2
	<i>Willpower and Artificial Intelligence</i>	978-84-15328-17-9
	<i>The EDI Study - Evolution and Design of Intelligence</i>	978-84-15328-18-6
	<i>Original Fairy Tales for Children</i>	978-84-15328-00-1 978-84-15328-76-6* 978-84-15964-24-7**
	<i>Global Scientific Method</i>	978-84-15328-01-8 978-84-15328-77-3*
<ul style="list-style-type: none"> • See Web page, some books may not be edited in paperback, eBook or ePUB 		

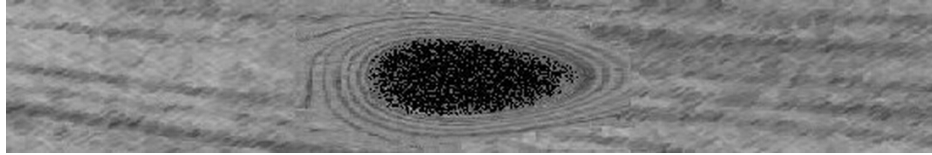
Molwick Publishing Catalogue - II

	<h1 style="text-align: center;">MOLWICK</h1>	ISBN (eBook Paper* ePUB**)
	<i>Physics and Metaphysics of Time</i>	978-84-15328-84-1 978-84-15328-80-3* 978-84-15964-02-5**
	<i>The Equation of Love</i>	978-84-15328-34-6
	<i>Theory of Relativity, Elements, and Criticism</i>	978-84-15328-81-0
	<i>Global Physics</i>	
	<i>Global Mechanics and Astrophysics</i>	978-84-15328-37-7 978-84-15328-83-4* 978-84-15964-03-2**
	<i>Global Mechanics</i>	978-84-15328-35-3
	<i>Global Astrophysics and Cosmology</i>	978-84-15328-85-8
	<i>Dynamics and Law of Global Gravity</i>	978-84-15328-91-9 978-84-15328-86-5* 978-84-15964-04-9**
	<i>Physics and Global Dynamics</i>	978-84-15328-36-0
	<i>Law of Global Gravity</i>	978-84-15328-87-2
	<i>Global Physics Experiments</i>	978-84-15328-88-9 978-84-15328-89-6*

• See Web page, some books may not be edited in paperback, eBook or ePUB



1. Mass, movement and force	15
2. Newton's laws and Physics	19
a. Newton's First Law or Law of Inertia	25
b. Newton's Second Law or Law of Force	29
c. Newton's Third Law or Law of Action and Reaction	37
3. Global Dynamics	41
a. Concept of space	43
b. Nature of time	47
c. Definition of motion or movement	51
o Types of movement	55
o The speed of light	69
o Physics and definition of velocity	77
d. Definition of force	85
e. Physics and concept of acceleration	91
f. Mechanics of movement	99
o Physics of movement without gravity	101
o Physics of movement with gravity	107
• Dynamics of the movement of light	109
• Motion of bodies in free fall	111
• Normal movement of bodies	117



MOLWICK

MOLWICKPEDIA

Museum of the science of future

Philosophy of evolution, history and life

New paradigms of Physics, Biology and Psychology



GLOBAL PHYSICS

VOL.

PHYSICS AND GLOBAL DYNAMICS



I. MASS, MOVEMENT AND FORCE

Within the *Global Physics*, *Global Mechanics* analyzes a first group of physics principles related with the structure of matter; and the books of *Physics and Global Dynamics* and *Law of Global Gravity* analyze a second group associated to space and time.

This division of physics principles affected by new theory of everything is a bit contrived; it helps to assist the presentation on a topic that is both extensive and challenging, and it corresponds to topics typically handled by *Quantum Mechanics*, *General Relativity*, and Newton's *Laws of Dynamics* or causes of motion.

NASA
Boeing 707 and Shuttle
(Public domain image)



Among most important aspects, we can highlight the following:

- The non-relativity of time and space within scientific and objective scope of reality
- The observers' non-dependence of physical reality

If measurements were different regarding the observers, the following step would be to make a logical correction to

obtain an objective measurement.

- The speed of light will be constant only within its natural system of reference or particular intensity of gravitational energy, immersed in the three-dimensional Euclidean space of Greek metrics.
- The speed of light is accumulative with speed of its natural system of reference, through which it moves. Light cannot exist without gravity or, better said, the tension of longitudinal curvature of the reticular structure of matter or global aether. In spite of the great speed of light, we must remember that the gravitational fields through which light moves change its base velocity.

Gravitational aether, of mass, and of **kinetic energy** is the global aether, and **luminiferous aether** is gravity field. Also, both aethers do not have same properties as the classical aether.

- Distinction between physical velocity and abstract or conventional velocity, such as velocity of two objects separating
- Quantification of global mass and kinetic energy is only real within the natural system of reference.
- Relationships of equivalence between global aether, the force of gravity, movement, energy, and mass. These relationships also imply equivalence between effects on the **resonance** of mass provoked by **acceleration** –or, better said, by velocity– and, in its case, tension of longitudinal curvature of the global aether, or gravitational energy.

All of this entails modifying *Newton's Laws of Dynamics* and concepts of mass, movement, and force. The essential features

are:

- Nature of different forces regarding the concept or definition of force used, bearing in mind the different **types of movement** and energy defined.
- *The principle of equality between inertial and gravitational mass* is no longer a principle due to the mechanisms of motion of the mass in the global aether, along with peculiarities of mass at rest and equivalent mass to kinetic energy.

These peculiarities explain the **anomalous precession of Mercury's orbit** in *Global Physics*.

- The total drag of light by gravity field explains the **Michelson-Morley experiment** as an alternative to Einstein's *Theory of Relativity*.

* * *

2. NEWTON'S LAWS AND PHYSICS

Newton's laws in 1687, first law or **Law of Inertia**, second law or **Law of Force** and Newton's third law or **Law of Action and Reaction**, are the laws upon which classical dynamics or study of movement base in relation to their causes.

Newton's Physics provided causes for being at rest. We do not know if Newton liked to ski and eliminate friction much, but what he needed were forces that counteract omnipresent forces of gravity to explain why an object remained at rest.

Wikipedia points out that while, according to ancient Physics of the Greeks, natural state of bodies was to be at rest; for *Modern Physics*, it is conserving state of movement if there are not causes for being at rest, such as friction.

If Newton's Laws developed dynamics of being at rest, *Theory of Relativity and Quantum Mechanics*, both of which were around the beginning of the last century, have developed kinematics of movement. That is, they are scientific theories that describe movement but not its causes, just its mathematical representation.

Einstein's *General Relativity* tries to add some causes, such as geometric effect of the **space-time** continuum, but it is still a mathematical explanation, always partial and with many odd singularities.

As far as *Quantum Mechanics*, which is incompatible with the theory above, it does not even attempt to explain causes for motion. *Quantum Mechanics* is so abstract that some of its lines of argument end up stating that reality does not exist, and that mass or matter are emerging waves, or something of the sort.

So much kinematics, or science without support of physical causes, is closer to mathematical philosophy than mechanistic physical laws.

Nor has *Modern Physics* managed to explain causes of fictitious forces of gravity, in spite of Newton's express wishes; but it has allowed reaching a vibrating Physics by determining that natural state of things is to be vibrating.

String Theory attempts to explain this state of vibration from an entirely mathematical, relativistic, and quantum perspective, and with physical dimensions having magical powers.

Development of *Global Mechanics* provides us with the reticular structure of matter –gravitational, kinetic, or global aether– and the composition of elementary particles, mass, and normal matter. The global aether and **luminiferous aether** have given way not only establishing the **attractis causa** for gravitational force and electromagnetism, as well as unification of both forces, but also distinction between movement due to these real forces of the gravito-magnetic field –different meaning from *General Relativity*–, and movement due to displacement of both the global aether or luminiferous aether themselves.

In short, *Global Physics* tries to explain not only causes for being at rest but also causes of movement and the tendency to maintain that state. *Mach's principle* of 1893 would be a philosophical antecedent by stating, "The inertia of any system is the result of its interaction with the rest of the Universe."

From the abovementioned, we can gather that, to understand thoroughly changes to Newton's laws proposed by *Global Physics*, it is convenient to read the book *Global Mechanics*. In other words, the goal is to understand **physics principles**, and the properties global aether has regarding motion and acceleration, which support *Global Equivalence Principle*, or the

gravity-energy-mass equivalence.

GEMA'S PIANO



Perhaps the example of the piano of my friend Gema can help explaining, in broad strokes, relationship of new theory with *Classical Physics of Newton's Laws* and *Modern Physics*:

- *Intuitive example of Gema's piano*

First, we would have *Newton's Laws* describing movement on the flat part of the surface of the piano. The big advance in *Classical Physics* in relation to the Greeks is proposing that a piano on an icy surface will make it so that the bodies remain in their state of rest or motion due to lack of friction.

Later, we would have *Relativistic Mechanics*, which denies the existence of the poor frozen piano, and where differences between Newtonian anticipated movement, and observed

movement adjust in making abstract piano surface stretch or shrink in another dimension; which, by the way, it would be quite weird. Time, besides being the additional dimension mentioned, also does something similar but in this case, with itself.

Quantum Mechanics offers a rather different perspective that analyzes motion of an atom of an abstract piano by imposing a limit of knowledge, given that there is uncertainty regarding what is a piano, and why it moves.

A modern unifying focus would be that of *String Theory*, which would add music to the scene by allowing the small strings of the piano to vibrate in nine or more dimensions with their corresponding stretching, dances, or magical powers.

Other quantum theories suggest there are many parallel worlds, or trips back in time, in their eagerness to unify physics forces. It is a strange way to unify them by creating additional worlds.

Global Physics tries to understand motion on top of a piano of ice in a pool of water. It involves the ripples in the trajectory of the objects, due to the vibration of the piano by the pool being on the rooftop of a very tall metallic building, and full dynamics of the floating piano and the objects on top of it.

Lastly, it aspires to understand the variations in all previous movements caused by changes in temperature and saline concentration, including changes in the physical state of normal matter.

New physics paradigm includes, on one hand, returning to Euclidean space and to absolute time. On the other hand, it

defines **types of movement** according to whether they refer to dynamics of the reticular structure of matter itself, or motion upon this structure; due to global aether being the material support for **kinetic energy** and mass, with their respective peculiarities.

Likewise, *Global Mechanics* provides us with clues for new types of energy regarding their material support, or rather, reticular support.

Relationship of new theory with *Classical Physics* of *Newton's Laws* and *Modern Physics* could condense into the following points:

- New global model is an in-depth model of Newton's Laws in terms of greater scope of application and its elucidations, corrections, or developments of corresponding laws and **physics principles**.
- As regards Einstein's *Theory of Relativity*, it only supports concept of **relativistic mass** or mass-energy equivalence, yet with necessary conceptual precisions. In particular, it considers relativity of time and space wrong. Necessary adjustments center on energy and speed.
- *Global Physics* agrees with *Quantum Mechanics* in a large part of the description of physics reality, but not with some concepts related to it. Nonetheless, it is worth pointing out that this discipline is mostly descriptive and with functional or mathematical principles, which are no longer necessary once the new model replaces them with characteristics or properties of the global aether; therefore, some of them becoming laws.

Given the significance of the historical evolution of this topic, we are going to present each one of *Newton's three Laws of*

Dynamics in following sections. It will allow us to express how convenient is to update *Laws of Dynamics* to the current development of *Physics*, especially new paradigm that *Global Physics* proposes.

2.a) Newton's First Law, or Law of Inertia

According Wikipedia, *Newton's First Law* affirms that in absence of external forces, all the bodies remain in their state of rest, or uniform linear movement unless a force acts upon them.

Newton's First Law, or *Law of Inertia*, introduces or establishes many concepts at once, which we suppose form part of **Newton's Laws** context. Among them, we can point out space, time, movement, and force, keeping in mind the **spatial geometry**, that is, motion and direction of forces.

Newton includes concepts of Euclidian space and absolute time in the initial or axiomatic fixation of concepts in his dynamics model; which fully coincide with the *Global Physics*. It is not the only coincidence since new theory upholds the argument of Newton's Laws as far as being a mechanics theory, and it does not acknowledge any magical effects on physical reality from other dimensions or other worlds.

However, it seems that the context of *Newton's Laws dynamics model* is empty space, where not even gravitational forces, fictitious forces, or forces that appear in non-inertial systems exist. In spite of the level of such radical abstraction, in many ways *Newton's First Law* almost accurately establishes the inertial characteristic of movement of the bodies through the reticular structure of matter or global aether. As previously mentioned, existence of the global or kinetic ether is consistent with the **Principle of Mach**.

Main problem with *Newton's First Law*, or *Law of Inertia*, from the point of view of *Global Physics*, becomes evident through motion or variation of spatial position of global aether, and its

effect on movement of electromagnetic energy and energy of the bodies.

The response from *Quantum Mechanics* to this problem is to assign probabilities to spatial position of the particles, given it is incapable of calculating spatial variation of the global aether, because it does not exist in its model.

Obviously, *Newton's First Law*, or *Law of Inertia*, as well as rest of *Newton's Laws* of dynamics suffer from their limited applicability to other **types of movement**. We can try to adapt concepts to the new reticular context, but we do not think it is always adequate. Sometimes it is better to create new concepts and terms, to avoid same word having various meanings.

Another disadvantage of *Newton's First Law*, or *Law of Inertia*, is concept or definition of force, since forces and gravity or fictitious forces do not always behave like what we would call normal forces. We will see this problem later when we discuss *Newton's Second Law*.

Einstein's *Theory of Relativity* attempts to resolve two previous problems by making speed of light artificially constant. Therefore, due to movement of global aether and tension of longitudinal curvature of global aether –which make up the radial symmetry of gravity–, variations on mass and light are resolved mathematically by playing down time and space.

The fact is that *Theory of Relativity* creates more problems than it solves. Besides the countless singularities and the lack of basic physics concepts, it denies the real existence and effects of the global aether, and the new **luminiferous aether**, thereby seriously hindering the advance of science during an entire century.

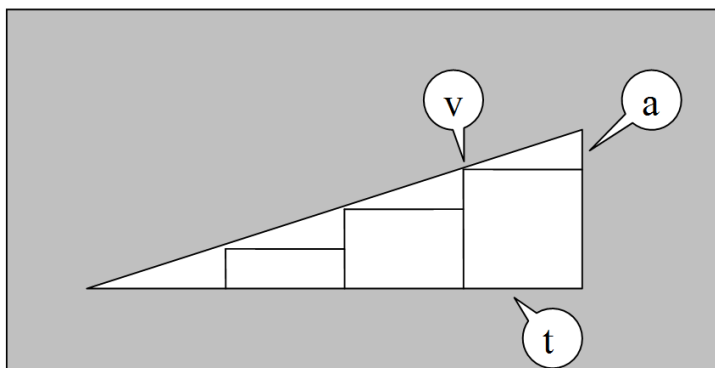
2.b) Newton's Second Law or Law of Force

Newton's Second Law, also known as *Fundamental Law of Dynamics*, establishes a proportional relationship between force and variation of linear momentum of a body. In other words, force is directly proportional to mass and **acceleration** of a body.

When Newton unified force of earth's gravity –included in his second law or *Law of Force*– with force of gravity of the planetary orbits in his *Law of Universal Gravitation*, the *principle of equality between inertial and gravitational mass* made sense, since it was evident in all the scientific experiments and natural phenomena.

Force / mass = acceleration

$$F = m a$$



Furthermore, Newton's *Classical Physics* proposes that a constant force could accelerate a mass to infinity.

Einstein's *Special Theory of Relativity* modified Newton's *Second Law* by

including the phenomenon of increasing the mass of a body with velocity and, later by *General Relativity* by introducing the disturbances in **space-time**. A constant force is no longer able to accelerate a mass to infinity; however, it maintains a proportional relationship between mass and force to produce acceleration for a particular instant.

The first experiment –by Bücherer in 1908– that confirmed **relativistic mass** was of the relationship of the charge of the electron and its mass (**e/m**). It was smaller for fast electrons than for the slow ones. Eventually, countless experiments confirm the results and previous physics formulas.

Mass and energy become, therefore, two forms of the same thing. The principles of conserving mass and energy of *Classical Mechanics* go on to form the more general *principle of conservation of relativistic energy-mass*.

However, Einstein's *Theory of Relativity* still does not tell us what presents itself as mass or as energy. Therefore, the idea of countless experiments confirming this theory is a little farfetched. One thing is to achieve mathematically some results, and another one is to clarify the underlying physical reality.

On the contrary, *Global Mechanics* explains force of gravity as an effect of tension of longitudinal curvature of the reticular structure of matter or global aether; do not confuse it with classical aether, or the new **luminiferous aether**. It also explains what electromagnetic energy consists of, and how mass forms; that is, it has unified gravity, energy, and mass.

Of course, as we will later see, the same experimental results coincide with new alternative theory, and with Einstein's *Relativistic Mechanics*. Furthermore, *Global Physics* can explain other aspects derived from the non-existent of the typical relativistic singularities and compatibility between theory of the atom of *Global Mechanics*, *Global Dynamics* of normal human scale and *Global Astrophysics*.

As commented earlier, *principle of equality of inertial and gravitational mass* allows the planets' gravitational force to be consistent with *Fundamental Law of Dynamics*. Einstein's

Relativistic Physics supports this principle but it needs to modify space and time to cohere with small-observed differences in **Mercury's orbit** and planets' orbits in general. Nevertheless, Paul Gerber explained those differences in 1898 within a classical perspective.

In *Global Physics*, this principle is no longer necessary, since with definition and characterization of mass, movement of mass follows same rules in the global aether, regardless of origin of forces. However, there are peculiarities, besides variation of the mass with velocity; *Law of Global Gravity* introduces variation of gravitational force per unit of mass with velocity for same spatial localization.

In new model of *Global Dynamics*, *Newton's Second Law*, *Law of Force*, or *Fundamental Law of Dynamics* continues to be valid as far as relation between force, mass and **acceleration**, although it is not constant.

When velocity starts to become relevant as regards speed of light, the increase in mass is due to the conversion mechanism between applied force, whether it comes out from gravitational energy or not, and stored **kinetic energy** in form of mass. However, the increase in mass will balance with an increase in gravitational attraction, such as in classical case of the planets' orbits, which is why this effect could not create the anomalous precession in Mercury's perihelion.

Regardless of the increase of mass with speed, gravitational force would increase also due to double gravitational pull of kinetic mass –equivalent mass to kinetic energy.

In other words, there are two components of the *attractis causa*; the first one is due to longitudinal curvature of the global aether, and the second one, which is due to velocity of the bodies with mass with respect to the global aether. Only the

second is responsible for variation of gravitational force per unit of mass that causes anomalous perihelion precession of planets' orbits, as far as that foreseen by Isaac Newton's *Law of Universal Gravitation*.

According to *Global Mechanics*, this conceptual difference is due to the mechanisms of global aether as direct supporting medium of mass and **kinetic energy**, or as indirect support of electromagnetic energy.

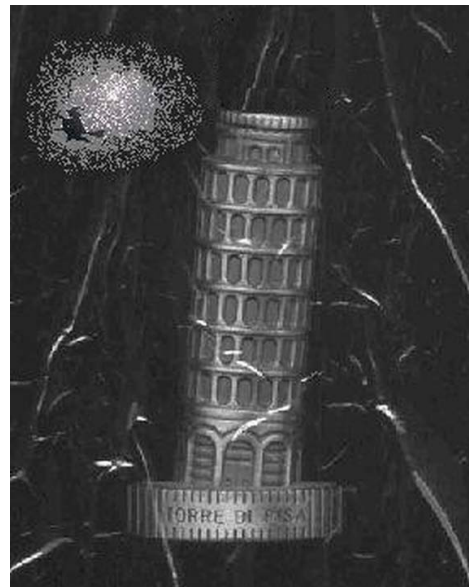
Discussion regarding concept of **atractis causa** takes place in the sections on *Newton's Law of Universal Gravitation* and the *Law of Global Gravity* in the book about the latter.

In short, *Global Dynamics* maintains that mass in movement behaves the same with or without forces of gravity as far as proportionality of force, mass, and acceleration. Thereby, it is necessary to carry out the following clarifications:

- *Principle of equality of inertial and gravitational mass* of Newton, and maintained by Einstein, is no longer a principle given the new characteristics of motion of mass.
- An increase in velocity produces an increase in mass. Although there are conceptual differences in regards to the reference system of movement, this effect in *Relativistic Mechanics* is similar to that in *Global Dynamics*. Note that the increase in **relativistic mass** due to velocity neither affects

Pisa tower

Force, mass and acceleration



the proportionality of force and global mass, nor the gravitational force per unit of mass.

- *Law of Global Gravity* explains the **anomalous precession** of the planets' orbits by including an additional force in the global aether-mass interaction derived from velocity. In *Relativistic Mechanics*, this precession is justified by space-time alterations.

From another point of view, *Newton's Second Law* has other problems due to the characteristic of global aether as a direct material support for mass and gravitational field, and the latter being medium support of electromagnetic energy or **luminiferous aether**.

According to *Global Dynamics*, these problems are subsequent from:

- Variation in the spatial position of global aether
- Variation in longitudinal tension of the global aether for the same spatial point

We could try to resolve problems in Newton's *Fundamental Dynamics*, or *Law of Force*, with a more general definition of force that would include the respective displacements, but we would have to be cautious since, besides disguising different concepts, strict proportionality with mass would not exist. We could consider displacements derived from two previous points as movement of mass on global aether, by supposing a variation in relative velocity, in the sense of Galileo, between global aether and mass.

It is important to remember that while *Global Physics* clarifies *Newton's Second Law*, it does so within a context in which motion of the bodies does not take place in an abstract

vacuum, but rather in the three-dimensional reticular structure of matter, with its characteristic radial symmetry of gravity in Euclidean space.

Lastly, in relation to *Newton's Second Law*, *Quantum Mechanics* proposes a macroscopic approximation of reality due to its uncertainty principle. However, within the subatomic level, *Quantum Mechanics* does not know very well what an electron is either, and it keeps reaching for explanations for the *tunnel effect* or the *double-slit experiment* with photons, where it even resorts to travelling back in time as a possible solution.

Global Mechanics explains, among many other things, the *tunnel effect* and the *double-slit experiment*, and it maintains that orbital movement of the electrons come from motion along points of relaxation in the gravito-magnetic tension of the global aether. Detailed justification of these statements arises from the new structure of the atom proposed in the book *Global Mechanics*.

2.c) Newton's Third Law or Law of Action and Reaction

According to Wikipedia, *Newton's Third Law* explains that, for each force that acts upon a body, there is equal force but in opposite sense upon the body that produced the force.

If *Newton's Second Law* is the *Fundamental Law of Dynamics* because it establishes concept of force as magnitude that associates mass with movement, the *Law of Action and Reaction* has more technical or instrumental nature.

In fact, *Newton's Third Law*, or principle of action and reaction, reminds of Luca Pacioli's double-entry accounting system outlined in his book, *Tractatus particularis de computis et scripturis* (1494), and he is the grandfather of modern accounting.

Both techniques use pairs of equal amounts to facilitate numerical calculation, which is not particularly complex, but rather extensive.

Moreover, the double-entry accounting system and *Newton's Third Law* have the same deficiencies in that they subordinate concept clarity to practical advantages.

Newton's Apple



To briefly mention a few, double-entry system ends up placing concepts, in the assets' side of the balance sheet of companies, that are very different, such as buildings, computer programs, patents, or cash. Another odd technique is to end up entering building of both a factory and a sports center as investments in accounting books.

A figurative example of *Newton's Third Law* would be to say that if a person gives an apple to another one, the latter returns a negative apple and the total sum remains unchanged and, in the end, the number of apples each person has inevitably corresponds to observable reality.

Therefore, we cannot argue that *Law of Action and Reaction* is not true or useful. Nonetheless, we still have never seen nor have been able to imagine a negative apple. Negative objects do not exist in the world. Likewise, we can say negative forces do not exist, except those that have conventional or purely mathematical nature.

This instrumental characteristic of forces of action and reaction in *Newton's Third Law* presents two problems that might end being important:

- By becoming so transfixed on such elementary concepts, the human brain can eventually end up thinking about the physical existence of pairs of forces of action and reaction that this law refers to. Moreover, by extension it is possible to end up thinking about the existence of negative energies and even negative masses. Especially, after scientists talking about reverse time all the time.

Not to mention if the orthodox doctrine also defines negatively **potential energy** and it calls certain types of mass antimatter.

In models with numerous forces at play, forces that are real, or imply physical mechanisms, and those that are conventional are not always very well distinguished.

We cannot forget that magnitudes such as velocity, force, or energy are merely properties of the reticular structure of matter –gravitational, kinetic, or global aether– in its different phases or physical states. That is, real forces mean a transfer of energy or modification of the elastic properties of global aether.

Another big problem with *Newton's Third Law*, or *Law of Action and Reaction*, is the need to create fictitious forces regardless of the purely mathematical forces previously mentioned.

Newton was aware of these problems but he recognized that science was not advanced enough to delve into physics concepts that, according to him, were still a mystery. For instance, Newton pointed out that he did not like the distant forces from his *Law of Universal Gravitation*. This idea is a clear precedent for the **principle of Mach**.

In any case, we feel obliged to explicit we are grateful to Newton for his *Law of Action and Reaction* and his position on finding explanations of physical nature. Also, for using common sense in a world where almost no one knows nor gives answers; and the rest, either they stretch out time, creates new and vibrant dimensions, they feed off negative apples or come and go to other worlds or parallel universes.

From another perspective, *Newton's Third Law* represents something similar to the *Principle of Global Conservation*, that energy does create or vanish, but rather changes from one form to another.

From a scientific point of view, there cannot be an exchange

between what is real or physical and what is imaginary or abstract, despite how much one can end up confusing concepts. Likewise, the real world does not end when a person dies. Nor a person's spiritual world ends, but that is more of love philosophy than Physics science.

* * *

3. DYNAMICS - PHYSICS OF SPACE AND TIME

Development of *Global Mechanics* has explained the gravity-energy-mass equivalence when unifying force of gravity with electromagnetic energy, and the elucidation of how mass creates within the reticular structure of matter or global aether.

Likewise, *Global Mechanics* gives clues to development of *Global Dynamics* that studies causes of movement.

After *Newton's Laws*, two problems emerged regarding dynamics in space and time, effect of gravitational lens of light and **anomalous precession of the perihelion of Mercury**. Einstein's *relativistic mechanics* resolved both glitches, although incorrectly in our opinion. Besides, *General Relativity* is also incompatible with both *Quantum Mechanics* and *Global Mechanics*. Nevertheless, Paul Gerber explained the precession of the perihelion of Mercury in 1898 with same formula.

Furthermore, *Relativistic Mechanics* alters basic concepts of dynamics by playing down the very same space and time, especially when reversing concept of velocity.

Quantum Mechanics, in turn, discovers new conflicting ideas within *Newton's Laws of Dynamics*, the world of the atom and elementary particles.

Global Dynamics not only resolves the problem of **curvature of light** and anomalous precession or small deviation in the orbits of the planets but also it distinguishes between different **types of movement** apropos their causes or nature of forces that bring them about.

Study of causes of motion in *Global Physics* has implied the

advent of a new perspective in classification of different types of forces and energy.

Therefore, *Newton's Laws of Dynamics* need a small quantitative adaptation and a large conceptual change, especially in its scope of application.

Before explaining the mechanisms and forces of movement of light, and the **bodies in free fall** –their motion upon global aether or through it–, we will analyze the elements of dynamics, such as space, time, movement or velocity, **acceleration**, and force.

3.a) Concept of space

Both time and space are conventional concepts or mental elaborations to understand this world and try to represent the dynamics of the reality. Concept of space is necessary for a definition of movement.

Currently, **meter definition** within *Relativistic Physics* depends on the speed of light, which, in turn, displacement depends on **relative time**. It cannot be simpler!

In spite of spatial notion being simple, the human brain has problems managing three spatial dimensions in many branches of knowledge. Therefore, we have to be especially careful with scientific definition of space, not to make it more complex than necessary.

As always, the brunt of science regarding space and time consists of establishing some conventional patterns that can apply in all situations, can allow for comparisons, and are as simple as possible.

The result will allow a powerful understanding of the reality, which will enable greater scientific and technological development of society.

The book *Global Mechanics* explains known processes of **expansion** and **contraction** of space without abandoning the nature of Euclidean space, or three-dimensional space.

Furthermore, *Global Dynamics* allows us to understand an important characteristic of the concept of relativistic space.

We hope the following example will help understanding

different nature of space in *Global Dynamics* and *Theory of Relativity*. It is not an exact example but it comes close and, at times, it can help apprehending relativistic texts.

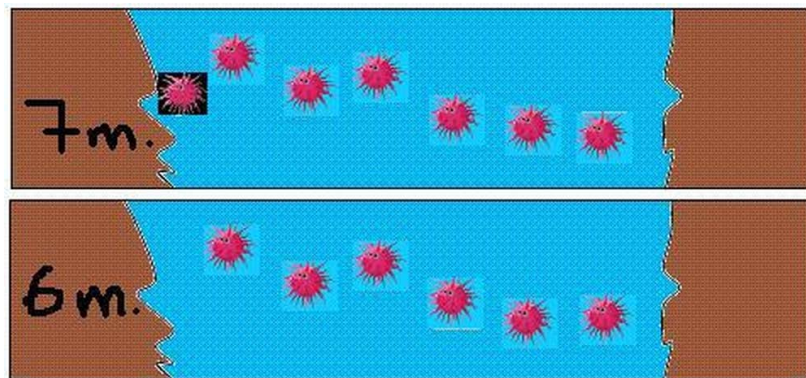
◦ *Example of crossing a river*

Imagine we have to cross a small river and there is no bridge. We will have to find a place with stones, so we can cross by jumping stone to stone, to the other side without getting wet.

Relativistic dynamics

would state that the river is seven meters wide where we can cross if we jump onto seven

Concept of relativistic space



stones. That is, if a month later someone puts another stone to make it easier to jump across, relativistic mechanics would state that the width of the river is eight meters. Also, if a stone disappears dragged away by the water, or by a stone thief, then it would be six meters.

This chaos is due to *Theory of Relativity* not allowing stones in the riverbed. In other words, it ignores the global aether as medium support for gravity field and mass.

We should not confuse gravitational field –**luminiferous aether**– with global aether.

Likewise, we should no mix the gravitational field drag effect on electromagnetic energy that explains the *Michelson-Morley*

experiment with **Merlin effect**. The second component of *attractis causa* in the gravitational interaction –Merlin effect– clarifies the phenomena of the *curvature of light* in gravitational lens and *anomalous precession* of the orbit of Mercury and of the planets in general, as we will see when discussing **movement of free falling bodies**.

In *Global Dynamics*, there are other divergences between relativistic space and Euclidean space due to mathematical effects of relativity of time and its different causes, but this is not the time to analyze them. In any case, if global aether confirms, Einstein's *Theory of Relativity* immediately vanishes.

3.b) Nature of time

Basic elements of *Global Physics* are space, time, and global aether, since everything else derives from them.

Time has various meanings as we have commented in section *Theory of time* in the Metaphysics book, *Equation of Love*. As far as dynamics and scientific method, relevant concept should be absolute and objective time because it fulfills scientific objectivity, and is much simpler.

Although we perceive reality in many forms and, mathematically, some models offer very precise calculations, it does not seem that the *Imperial System of Measurements* is as simple as the *International System of Units* (SI), ignoring relativistic units from the latter.

There are things that, for their significance, should be proven, or be able to be directly proven if they want to belong to science and not just to philosophy. We think that no one or anything has travelled in time, except travel in absolute time, which we are all familiar. Likewise, no one has seen space-bending, and later straightening; or movement through other physical dimensions that only exist in abstract terms (*Contradictus in terminus*).

Likewise, in the book, *Theory of Relativity, Elements, and Criticism*, we have dedicated a section to the concept of **space-time**.

For a truly functional and efficient concept of movement, the unit of time should be independent from energy. Currently, the *second* is certainly relative, given that it depends on the vibrations of the Cesium atom, the period of which derives

from certain energy levels that depend, in turn, on many factors. Second definition takes into account some of them, but others not; so it keeps dependent on them, like velocity and gravity.

We only need to change time definition, or better said **definition of second** established in 1967 by the *International System of Units*, so it does not depend anymore on environmental changes.

Besides easing reasoning, the new definition of time would allow us to discuss dynamics in Euclidian space and absolute time by specifying both simultaneities of events and cause-effect sequence.

It is worth remembering that relativistic time denies simultaneity and that certain branches of *Quantum Mechanics* openly defend the inexistence of the cause-effect sequence, which is certainly indispensable, even in philosophy. No doubt, the opposite is mad science.

The physical *experiment of the Invisible Clock*, proposed by *Global Physics*, directly deals with controversial measurements of time and the god **Chronos**. The idea of this name is to highlight the fact that clocks alter with velocity and gravity. A perfect clock would be an invisible one, in the sense of being independent from any condition; that is, it may not be enough to be invisible, but the idea it conveys is still valid.

Regarding the problem of simultaneity in *Special Relativity*, we propose the scientific *experiment of the Abrujuela's Train*, keeping in mind speed of light and rotational movement of the Earth.

In short, we believe absolute time, for scientific purposes, to be a monotonous, uniform, constant and growing function.

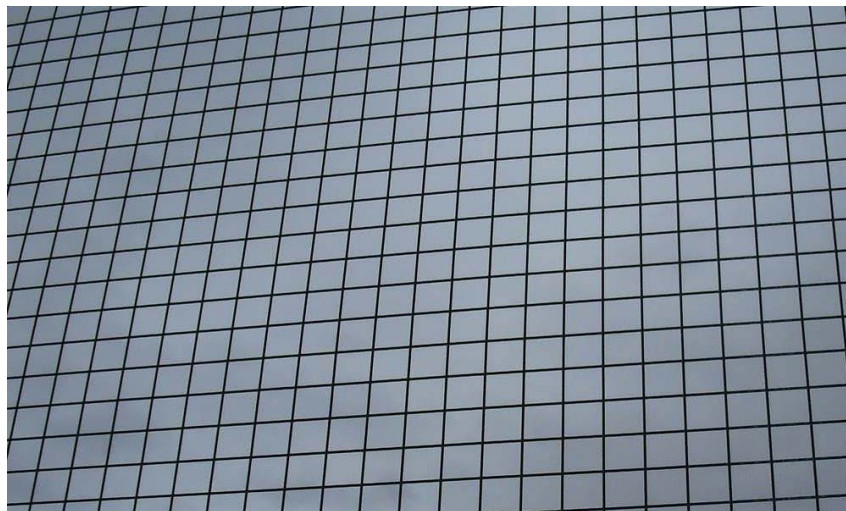
3.c) Concept and definition of motion or movement

In the previous section, we saw concept of space and nature of time according to *Global Physics*, and its differences with *Modern Physics*.

We have also seen how concept of movement needed a third element, which is exactly what changes position in space over the course of time. This additional element is the reticular structure of matter or global aether. Also, global aether fills up the entire universe, and it is elastic, unbreakable, and is the supporting medium for gravity –**gravitational aether**–, mass, and kinetic energy –**kinetic aether**.

Global aether

Supports gravity, kinetic energy, and mass



In short, definition of movement is the displacement of global aether or any of its internal parts in Euclidian space over course of absolute time.

We would like to underline significance of concept of the internal parts or properties mentioned in previous definition.

The initial development of *Global Mechanics* did not seem to need any internal elements of global aether but, slowly, parts or sub-elements of global aether started to appear, to allow its intrinsic elastic properties.

The goal is to maintain the **logic** of scientific reasoning; therefore, any property of global aether, whether it is internal or of a phase, should derive from some real, material, or physical characteristic. Otherwise, we would be talking about fictitious or non-existent properties. In other words, sub-reticular mechanics has not appeared yet, but it surely exists, since it will mean a deeper analysis than *Global Mechanics*, as the latter is to *Newton's mechanics*.

Let us see the difference approach to concept of movement between *Global Dynamics* and *Newton's Laws*. We can highlight the following characteristics:

- The new definition of movement refers to global aether while *Newton's Laws* refer to movement of normal matter.
- *Global Dynamics* has same concept of movement to various situations and, as a result, it follows diverse rules. *Newton's Laws* do not provide for motion of global aether, assumes motion takes place upon a completely empty space; consequently, they are partially correct in a space full of global aether.
- Broader range of motion concept in *Global Dynamics* eliminates the need for fictitious forces.

Newton's *Fundamental Law of Dynamics* established force as a proportion between mass and variation in the rhythm of movement; in short, a liaison between mass and energy applied. Regarding Einstein's *Theory of Relativity*, it recognizes this relationship to be constant, but it makes relative its units

of space and time, and it introduces a quantitative function modifying mass at rest.

Global Dynamics sustains and generalizes relationship between mass and energy; it adjusts its quantification based on conditions. It also recognizes different forms of manifestation of this relationship, which outline diverse **types of movement**.

Definition of motion within Euclidean space and absolute time makes possible a concept of velocity with independent units from energy and gravity.

The reality does not depend on the observer, and magnitudes of velocity, force, **acceleration**, or energy are no more than properties of global aether, in its different phases.

3.c.1. Types of movement

Large part of argumentation that outlines new types of movement appears in the books *Global Mechanics* and *Global Astrophysics and Cosmology*.

Before explaining types of movement, we need to clarify the existence of two different types of medium support. On one hand, the reticular structure of matter or global aether, which is the supporting medium of gravity, mass and **kinetic energy**.

On the other hand, the medium support of light that is gravity field or tension of longitudinal curvature of the filaments of global aether.

To ease reasoning, we could call the first one kinetic, gravitational or global aether. Also, the second one would be **luminiferous aether**, which is the gravity field.

As we have just said, the global aether supports gravity field, and the latter is luminiferous aether.

In other words, not only there are two types of aether, but also they are connected, none of them has the characteristics of classical aether because they are not uniform, and they can produce total or partial frame-drag.

Types of movement presented here have the perspective of their medium support. That is, they are independent from existing types of movement with other perspectives regarding relationship of space with time, such as linear uniform motion, circular motion, accelerated movement, etc.

Nonetheless, it will influence on types of motion regarding inertial and non-inertial systems from *Relativistic Mechanics*, or

on purely mathematical types of movement in *Quantum Mechanics*.

Certainly, following classification of types of movement is quite far-fetched in some of its proposals. The reason is new model of *Global Physics* sometimes is radically different from current one. Nevertheless, we hope it comes conceptually closer to the physical reality than *Modern Physics* model, regarding space and time.

Given that movement of global aether relates those of light and mass, there can be some overlapping descriptions of different types of movement, displacement or motion.

Keeping in mind previous considerations, following types of movement appear:

TYPES OF MOVEMENT
<i>Motion of global aether</i>
<ul style="list-style-type: none"> • Reticular expansion and contraction <ul style="list-style-type: none"> ◦ Little Bang ◦ Motion of stars regardless gravity force ◦ Creation and dissolution of electrons ◦ Creation of mass (compaction) ◦ Creation of mass (confinement)
<ul style="list-style-type: none"> • Longitudinal vibration of global aether (Cause of internal resonance of the particles with mass)
<ul style="list-style-type: none"> • Movement of gravito-magnetic field

(Cause of electron's orbits)

- Variation in longitudinal tension of the global aether

Propagation of light

- Total drag by **luminiferous aether**

- Movement of mechanical wave upon the non-dispersive medium

- **Curvature of light**
(Merlin Effect)

The motion of mass

- **Dance of the wavons.**
Vibration of the atomic nucleus

- Greek movement or normal motion

- Anomalous precession of orbits of the planets

- Partial drag of mass by the global aether

- **Motion of global aether**

These types of movement, or displacement, in *Global Physics* have little to do with *Newton's Laws* or with Einstein's *Theory of Relativity*, and much less with *Quantum Mechanics*.

Refer to example *Crossing the river by jumping onto stones* to see intuitively how it differs from *Theory of Relativity*.

- **Reticular expansion and contraction**

- **Rapid movement in Inflation Theory of the universe (Little Bang)**

The decompression of immense black holes squeezed mass could result in an increase of volume and global aether motion in such a way that the speed of its movement could be much faster than light.

At this stage, propagation of light would be at speeds much faster than $*c*$, because light would be moving upon the longitudinal tension of the global aether. In other words, its physical motion is additive to its medium support speed.

- **Motion of stars regardless gravity force**

This type corresponds to **expansion** and **contraction of the universe**.

Outside of the stage of inflation, global aether is always in movement due to star emission of electromagnetic energy generating expansion of the universe, and to accumulation of compressed

matter in the black holes producing contraction of the universe.

- **Creation and dissolution of the electrons**

As explained in *Global Mechanics*, same phenomena of expansion and contraction of the global aether occurs within creation or destruction of the elementary particles with mass.

- **Creation of mass (compaction)**

This would be same case as before for **neutrons and protons**.

- **Creation of mass (confinement)**

A different case is stretching of the filament of a reticule in the process of forming **protons and neutrons**, which ends up giving them stability.

- **Longitudinal vibration of the global aether**

Vibration would transmit longitudinal tension of the reticular structure of matter. Do not confuse with tension of longitudinal curvature of the filaments that generates the gravitational field.

This vibration connects to internal resonance of the elementary particles with mass.

- **Movement of gravito-magnetic field in atomic scale**

We should also point out that according to *Global Mechanics*, due to the presence of the mass, the global aether partially configures **electromagnetic field** or, to be more accurate, gravito-magnetic field and the existence of photons is not necessary.

This type of movement includes the dance of wavons and vibration of the nucleus of the atom.

The phase of matter formed by zones of compressed global aether or particles with mass, but instable, defines wavine, like electron mass.

Nevertheless, propagation of electromagnetic energy, as transversal wave of mechanical nature upon longitudinal tension of global aether, produces an additional type of movement in global aether by altering its spatial distribution.

- **Variation in tension of longitudinal curvature of the global aether**

The true medium support of electromagnetic energy is not the global aether, but rather tension of the longitudinal curvature of this structure –**gravity field, or luminiferous aether.**

Change in tension of longitudinal curvature of the filaments of global aether upholds an alternate explanation of **Michelson-Morley experiment.** This explanation is unquestionable, since gravitational field accompanies movement of the planets, and would drag electromagnetic energy.

Nonetheless, the reticular structure of matter is not a fluid; according to Wikipedia, *"The first step in abandoning the concept of elastic ether was taken by MacCullagh who postulated a medium with properties different from those of ordinary bodies. The laws of propagation of waves in this type of aether are similar to the electromagnetic equations of Maxwell."*

Besides, variation in tension of longitudinal curvature of the global aether due to rotation of the planet, and

different motion of the particles with mass, could be main reasons for the existence of the Earth's magnetic field.

- **Propagation of electromagnetic energy**

As we mentioned earlier, taking into account electromagnetic energy is a physical disturbance in the **luminiferous aether** –longitudinal tension of the filaments of the global aether–, its propagation always implies a displacement of global aether; no matter how small is the variation of its situation in space.

- **Total drag by luminiferous aether**

This movement derives from displacement of the luminiferous aether or gravity field. Keep in mind that, besides the very same motion of global aether, there could be a variation in its longitudinal tension and variation in tension of the longitudinal curvature.

Propagation of electromagnetic energy at a speed faster than c is maintained beyond stage of inflation of the universe. As long as the luminiferous aether is moving, it will occur an effect of total drag of electromagnetic energy; that is, its speed is additive to its medium support.

- **Movement of mechanical wave upon the non-dispersive medium**

Electromagnetic energy propagates as a transversal wave over longitudinal waves of longitudinal tension of the global aether, including tension of its longitudinal curvature, as a medium support or **luminiferous aether**.

Regardless of movement of luminiferous aether, intensity of gravity field affects speed of light. The

bigger the tension is the greater speed of light. The book *Global Mechanics* discuss topic of whether speed of light is constant or not.

It would also happen with longitudinal tension of global aether. Bear in mind how in the phenomena of *Astrophysics*, large variations in the longitudinal tension can occur without barely any variation in longitudinal curvature of the filaments of global aether.

- **Curvature of light and Merlin Effect**

Another characteristic or property of propagation of electromagnetic energy in space comes from the radial symmetry of gravity. There are two components of the *atractis causa*.

Gravitational lensing

Einstein's Ring (NASA)
(Public domain image)



The *Merlin effect* mechanism of transferring energy – Mercury Lightning or second component of *atractis*

causa— relates to speed of light, and it is similar to the first component or force of gravity in Newton's *Law of Gravity*.

In case of an object, energy transfer is proportional to its mass, its velocity, and speed of vibration of the longitudinal waves of the gravitational field. In case of electromagnetic energy, it will be double than mass at rest, because speed of light is equal to speed of longitudinal waves of the gravitational field. A thorough explanation is in the book *Law of Global Gravity*.

Implications of this effect are significant in *Global Physics*, because they explain **curvature of light** due to the stars and galaxies, or gravitational lens effect.

It is an alternative explanation to *Theory of Relativity*. Displacement in space is not the same as space expanding or shrinking, especially for the sanity of the neurons!

- **The motion of mass**
 - **The dance of the wavons**

Global Mechanics has defined **wavons** as a new type of particles. **Physical mass** of wavons is the result of relaxation of the different transversal tension in two points of the reticular structure of matter — electromagnetic tension—, through movement and half-curves. Well-known cases are the electrons neutralizing charge of the atom.

This type of movement refers to motion of **wavons** in space within their orbits since, to change orbits, their half-loops come undone and convert into

electromagnetic energy. Afterwards, they create half-fold, curls or loops again that form the wavons in a spatial point that belongs to another orbit.

The **wavons** displace throughout their orbits, as half-slipknots through global aether, due to wobbling of the nucleus of the atom, to relax transversal tension that has not eased with their creation.

Electrons orbits

(heyelologic microscope)



◦ **Greek movement or normal motion**

Of all types of movement, this is the normal one, since it refers to motion of the objects in space that we all know.

The mechanism that allows for movement of mass is **kinetic energy** and is what *Newton's Laws* mainly refer to and, from a recent point of view, concept of kinetic mass or the mass acquired with **acceleration**, and affecting spatial configuration of the total mass.

The movement of mass is odd since, according to *Global Mechanics*, mass is no more than a loop of global aether. In order to move, there should be a mechanism allowing it to move all along global aether **–kinetic aether–**, with the complication of being a three-

dimensional loop it. In other words, movement of mass is like a slipknot.

Let us cite the *Theory of Knots* of Lord Kelvin as a predecessor of this theory.

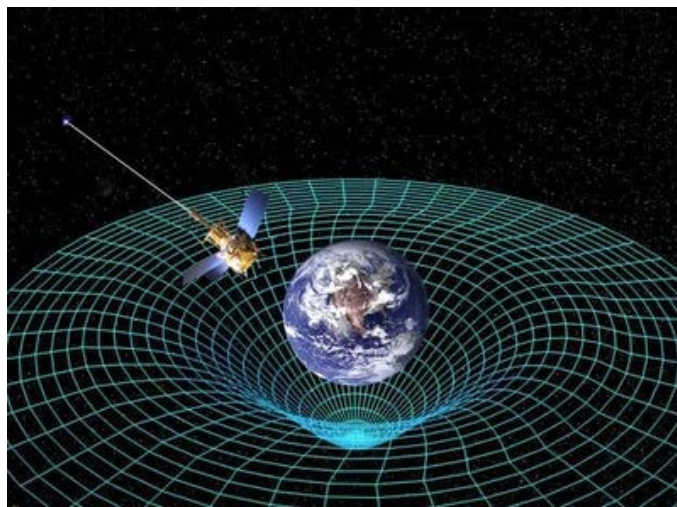
Mass moves through kinetic aether almost like a ball moves between sheets, where the ball shares the same threads as the sheets.

- **Newtonian gravity and anomalous precession of Mercury –Merlin Effect**

As previous case of gravitational lens in movement of light, first component of the **atractis causa** will produce normal gravity of Newton's law.

NASA Gravity Probe-B

(Public domain image)



NEWS ABOUT PHYSICS

Precession and drag effect by Einstein

"NASA's Gravity Probe-B has confirmed with high precision two key predictions derived from Einstein's *General Theory of Relativity*: the warping of space and time around a gravitational body and the so-called frame-dragging by which the Earth while rotating twists space and time."

El País 05-05-2011

Law of Global Gravity adds a second physical cause of force of gravity, the *Merlin effect*, due to velocity upon the global aether, or natural system of reference regarding kinetic energy of mass –*kinetic aether*.

The Merlin effect also produces the anomalous precession of planet orbits.

We do believe NASA confuses Lense-Thirring effect with relativistic geodetic effect of gyroscopes in their orbit around the Sun –effect Merlin– in its interpretation of Gravity Probe-B observations. See molwick.com webpage on *Lense-Thirring effect and Gravity Probe-B* for more information.

- **Drag of mass by kinetic aether or inverse movement**

This type of movement could be confused with previous one, but from a physical point of view, they are very different.

It is not a movement of mass upon global aether, which is its material support, but rather movement of the global aether. This movement would cause partial drag of physical mass.

An illustrative example of this type of movement would be the change in space of an ice skater if the skating rink moves.

Best way to understand this movement is to think of inverse movement. If an object moves upon global aether –kinetic aether– at a certain velocity due to its spatial configuration modulated by acquired **kinetic energy**, a displacement of **kinetic aether** will have an effect on movement of the object based on said spatial configuration.

3.c.2. Physics of the speed of light

Outlining concept of speed of light in Physics –whether it is constant or not– its privileged system of reference, and its relation to mass, energy, and gravity, is a complex task, although not so much after the development of *Global Mechanics*.

We have the impression that current physics model is a puzzle, partially and inaccurately solved, where shape and size of all the pieces do not properly fit, something similar to squaring a circle. Therefore, to solve the puzzle, first thing to do is to go back to real appearance of the pieces and start from the beginning.

Let us make some considerations on speed of light from different perspectives, provided by basic equations or relationships that intervene:

- **Liaison between space and time**

Global Physics considers space and time as abstract and absolute concepts.

Putting aside the irony of measuring axiomatic values, and forgetting about current paradigm of *Modern Physics*, let us say that speed of light in *Global Dynamics* is like any other velocity, travelling through Euclidean space with an absolute unit of time, plus certain peculiarities.

A physics experiment with speed of light to prove that simultaneity exists, contrary to what was suggested by Einstein's *Special Relativity*, is:

- The *Abrujuelas's Train* on existence of simultaneity

Likewise, with the point of view of usefulness in philosophy of science, we cannot deny advantages of Euclidean space and absolute time.

- **Speed of light independent of speed of its source**

Based on numerous optical experiments and empirical observations, we can gather that speed of propagation of light is independent of speed of its source.

The experiment that clearly shows the independence of speed of light in relation to its source is:

- *Sagnac Effect*, because it refuted the ballistic theory of light.

Locally, speed of light is constant and independent from speed of its source; understanding by local speed the following characteristics:

- There is no qualitative or quantitative alteration of its medium support or **luminiferous aether**.
- Displacement measured within its medium support, that is, within its luminiferous aether as reference system, in the sense of principle of relativity of Galileo.

There is no problem with this statement, given that we all agree. It is not necessary to apply the Lorentz transformations once we are in an entirely classical situation.

Speed of light is constant and independent from its source within its natural system of reference. If we measure speed of light on the Earth, we will get one value, but if we measure it from outside the Earth, for example from the Sun, value has to change unless we do some sort of magic trick, or we change concept of speed, of course.

- **Conditional independence of the source of speed of light (luminiferous aether)**

This characteristic of conditional independence of the source refers to what do we understand by the source of light, an everyday object, a planet and its gravitational field, or a spaceship? The mistake, normally made by humans in Earth, is to generalize the case of a common object within Earth's gravity field. It is understandable!

An example of this argument would be to think about the source of a bullet fired in a train. Whether we consider two different guns or the train itself, and whether we measure the bullet speed from inside or outside the train.

In the book *Experimentos de Física Global*, we propose various scientific experiments regarding different types of source of light, on the Earth and outside the Earth.

It would not make any sense to us if in the planets Pluto and Earth, light moves at speed $*c*$, it had also the same speed measured from the Sun.

Evidently, speeds of Earth and Pluto are different from the Sun, or system of reference used in previous example. In science, we should be skeptical as far as crackpot calculations because, although they may give results at the beginning, they could be counterproductive in the end.

One thing is to transform velocity when there is a change of reference system, and another is to transform it without having changed reference system, since, in the example provided, the Sun is the reference system for both planets.

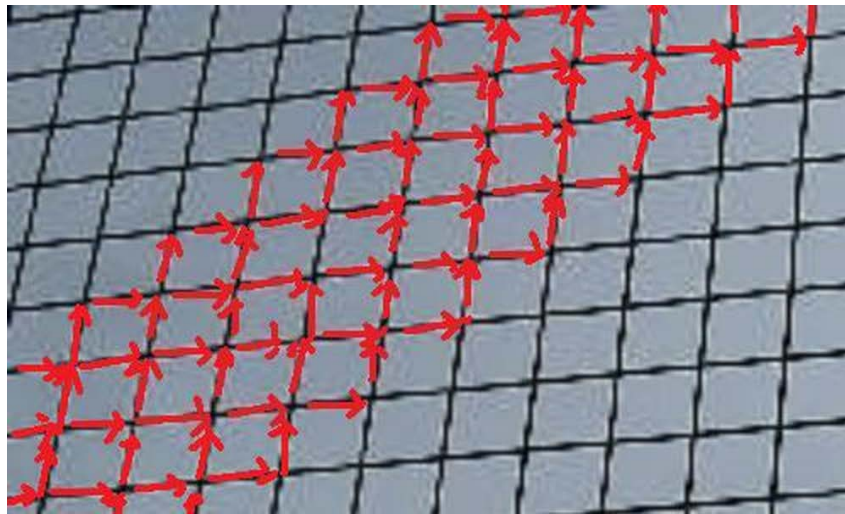
Model of *Global Mechanics* states that light is a transversal wave of mechanical nature along tension of longitudinal curvature of the filaments of the global aether. To be

exact, natural or privileged system of reference of speed of light is the gravitational field. This field is its medium support. Therefore, there is a frame-drag phenomenon.

Likewise, speed of light is additive in regards to its aether. We can say gravity field is **luminiferous aether**, which is different from global aether.

Luminiferous aether

Photon propagation



Among experiments in the mentioned book that endorse this property of electromagnetic waves we find the following:

- **Michelson-Morley experiment**
- The new experiment *Distant Michelson-Morley* (LISA)
- **Constant or variable speed of light.**

Another element to keep in mind is distinct *speed of propagation of light* with its medium and its conditions; for example, in the air, it also depends on density, pressure and temperature, and it is not the same in water as it is in ice. If gravity is its medium support, these variations in speed should be due to internal gravity of the medium and,

as a result, variations in intensity of gravitational field should affect speed of light –it would be something like tension and spatial configuration of global aether.

Regardless of mentioned conditions, due to observations of speed of light, we know it is constant in every medium. That is, it changes with the medium. Therefore, *Global Dynamics* states that speed of light changes with reticular density and longitudinal tension of the global aether.

Sections *Properties of light waves or photons* of the book *Global Mechanics*, and *Maxwell's Equations* of the book *Theory of Relativity, Elements, and Critics* discuss constancy or inconstancy of speed of light under the perspective of a mechanical wave in a non-dispersive medium.

Indeed, measurements of speed of light exist and it seems that it is constant in vacuum, although sometimes it may need a little adaptation; even some people say someone has measured it and that it is exactly 299,792,458 m/s.

After understanding definition of current meter, there is no doubt about exactness of these measurements. Notice that meter is $1/299,792,458$ of space travelled by light in a second, relatively speaking, of course.

When observations do not match that value, we can always make the speed of light constant by an asymptotic transformation of units of space, time, or of both; since constancy of the speed of light in the vacuum is an axiom imposed a priori in Einstein's relativistic model. However, we suppose that if it were constant, it would not need any adjustment. This transformation implies changing almost all units of International System of Units (SI)

The immediate result of the mentioned axiom is that by changing the system of reference, the calculation for the

speed of light should change; then, in order for it to remain a constant in *Relativistic Mechanics*, the generally accepted conventional model, it should be transformed. This transformation casually implies changing almost all the units of the *International System of Units* (SI)

Classical and relativistic explanations about phenomenon of the stellar aberration of light are illustrative examples regarding reference systems, velocity measurements, and asymptotic transformations.

- **Limit of speed of light and maximum velocity**

Maximum velocity in a medium does not impede existence of greater speed in another medium, for example, water. Likewise, speed of light or maximum speed in our space would change with its reticular density and longitudinal tension of the global aether, configuring luminiferous aether.

Furthermore, speed of light will not have a limit because there could occur frame-drag displacements if its luminiferous aether moves, like in processes of reticular **expansion** or **contraction**.

- **Speed of light as a critical point of changing phases**

Speed of light is the maximum speed of a material object moving through the reticular structure of matter or global aether due to the very concept of *Greek movement* of the mass or normal motion of objects. It is due to the mechanism of **kinetic energy** and synchronization between mass **resonance** and vibration of global aether; as we will see later in section *Physics of movement with gravity*.

An important aspect of speed of light is to be a physical limit between different phases, like as temperature

represents a limit between the physical stages of water and ice.

The most well-known limit is Einstein's equation – originally from Olinto de Pretto– for the transformation between energy and mass:

$$\mathbf{E} = \mathbf{m} \mathbf{c}^2$$

However, *Global Mechanics* shows how we should understand this quantitative equivalence. On one hand, it tells us what electromagnetic energy is, and which is its **luminiferous aether**. On the other hand, it explains us the transformation into elastic energy of reversible deformation, and into tension of longitudinal curvature when changing phase.

Gravitational Law of Equivalence

$$\mathbf{g} = [\mathbf{c}^2 * \mathbf{h} * \mathbf{R} / \mathbf{G}] * \mathbf{n}$$

Therefore, *Global Physics* assumes change of phase has dynamic characteristics within its gravitational context.

This gravitational context is included by its basic equation, deduced from *Gravity Riddle* or *GigaChron Experiment*:

$$[\mathbf{g} = \mathbf{E} \mathbf{c} / \mathbf{G}] * \mathbf{n}$$

3.c.3. Definition of velocity of mass

A definition of velocity can be the rhythm of movement. Let us recall that physics model of *Global Dynamics* operates on Euclidean space and absolute or objective time.

Logically, each type of movement has its formula for calculating temporal rhythm of its spatial displacement, with specific parameters and equations.

When talking about different **types of movement**, we have discussed Inflation Theory, **expansion**, and **contraction of the universe**. Furthermore, the possibility of producing velocities much faster than light, since these physical phenomena do not represent motion upon the reticular structure of matter or global aether; but rather motion of global aether itself. This characterization of velocity clearly contradicts *Theory of Relativity*.

Besides, we have previously spoken about the speed of light and its particularities.

The third category of **types of movement** refers to the motion of the mass. In this category, we include the complex **dance of the wavons**, well-known movements such as Greek movement, or normal motion, and displacement of mass due to the second component of attractis causa of the force of gravity –**Merlin Effect**– and lastly, the partial drag of mass by global aether –inverse movement.

Merlin effect explains both **orbit of Mercury** and **curvature of light**, with a new and simple formula for acceleration of the gravity in section *Physics of movement with gravity* of this book. Also, calculus of planet orbits of the Solar System is in section

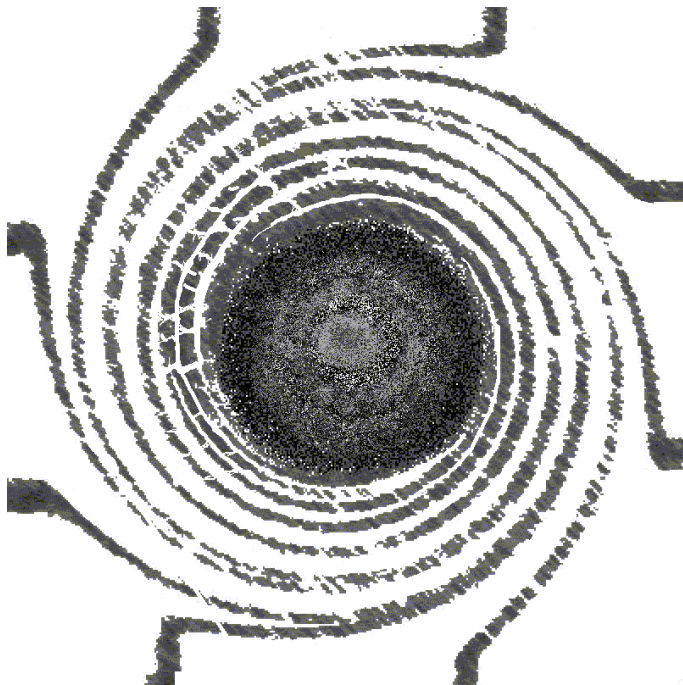
Physics Experiments of the book *Law of Global Gravity*.

We have also talked about the existence of two types of aether. On the one hand, the global aether of gravity field, mass, and kinetic energy; and, on the other hand, **luminiferous aether** that is gravity field.

In fact, all these considerations are in direct contradiction of *Modern Physics*, especially of *Theory of Relativity*.

Global aether

Concept of physical mass



Now we are going to explain the mechanism for Greek movement, or normal displacement of material objects according to *Newton's Laws of Dynamics*, but within the new paradigm of *Global Physics*. We are studying the concept of physical velocity, movement, or motion of mass through the global aether or **kinetic aether**, with theoretical total

symmetry or without the existence of gravitational field.

Global Mechanics defines **physical mass** as compressed three-dimensional loops or curls of kinetic aether. By establishing this equivalence, it explains the unification of electromagnetic energy and mass. There is nothing new, since *Theory of Relativity* already established that energy and mass were equivalent, although it did not indicate what material element was supporting both elastic properties.

Also, regarding velocity, *Global Mechanics* proposes that movement of mass happens as if it were a slipknot along kinetic aether.

◦ *Experiment with hair at home*

The idea is to prove that a slipknot, with little resistance or friction, is not as difficult as it seems at first glance.

First, we get a long hair with a little yank from the head. Then, we hold the hair with two fingers, separating the two ends.

With a pen, we make a loop in the middle of the hair in such a way that the pen is between the two ends of the hair.

Now, we can prove how another person can displace the pen left to right and vice versa with very little friction. If we could add a very fast vibration to the hair, surely displacement of the pen will be even smoother, and with less friction. We can try this with something that vibrates, like modern toothbrushes or automatic shavers, and hold them in the hands while holding the ends of the hair.

It is rather difficult to imagine a mechanism capable of producing a displacement of a three-dimensional loop throughout the filaments of global aether. We have to assume the filaments of kinetic aether have that property thanks to the **resonance** or vibrating mass, which needs to be in constant synchronization with **kinetic aether**.

This sliding of mass is one of the essential elements of its physical velocity.

Since *Modern Physics* does not know what mass is, and it does not know which mechanisms move the mass, it assigns the

capacity of producing a displacement of mass to **kinetic energy**. As a result, kinetic energy ends up being an abstract essence of velocity concept.

Before going on describing additional elements in the definition of mass velocity, we would like to recall briefly the example of cotton used in the page on *Kinetic Energy* in the book *Law of Global Gravitation*.

- *Example of cotton and kinetic energy*

The cotton would be the global aether, the thread would be its filaments, and the mass is a ball of cotton.

Electromagnetic energy would be small twists in the cotton that make the ball bigger and deformed according to the direction of absorption of those small pieces of cotton.

Just as the example with cotton, the reticular mechanism of **kinetic energy** is consistent with the formula for kinetic energy, the formula for velocity, and the equation for **acceleration** of bodies with mass. Also, it is perfectly compatible with the increase in mass with velocity and formula of *Law of Global Gravitation*, which incorporates previously mentioned *Merlin effect*.

What is noticeable is that concept of kinetic energy detaches from the concept of electromagnetic energy, once it integrates with mass. Energy easily transforms into another and vice versa, but there are different processes in different phases of global aether.

Among elements of the reticular mechanism of kinetic energy that lead us to concept and definition of the velocity of the mass, we can highlight the following:

■ **Global aether**

The reticular structure of matter or global aether is the material support for gravitational energy, kinetic energy, and mass; nonetheless, in this case, we are not considering radial symmetry or, better said spherical symmetry provoked by gravity field.

The kinetic aether is in constant longitudinal vibration with the same speed of propagation as the speed of light. Both speeds depend on elastic properties of the **kinetic aether**, and we assume they could change, according to Maxwell's equations, as far its density and longitudinal tension change. In *Global Mechanics* book, there are more details regarding this aspect.

■ **Mass**

As we have commented, it forms by loops of the three-dimensional net of the filaments of kinetic aether. Therefore, it is also in constant vibration or resonance and synchronized with global aether.

In the recurring example of the cotton, the mass would be the ball of cotton, like a slipknot, and, without a doubt, we could talk about a *Knot Theory*, although it is not exactly the same as the theory of Lord Kelvin.

■ **Mass of kinetic energy**

The absorption of electromagnetic energy by mass implies incorporating part of the filaments of kinetic aether to the loops of mass.

This incorporation will produce a slight deformation of the total mass because of elasticity of loops of the filaments and their internal balance. That is, the material existence of

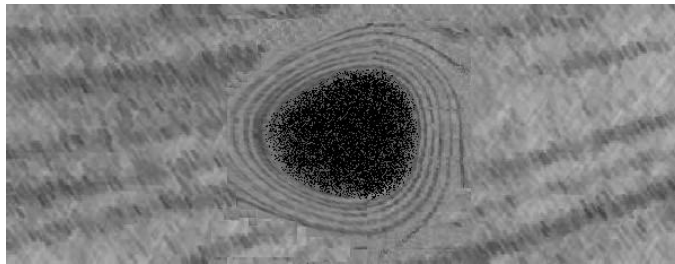
kinetic energy would be the increase in total mass –the equivalent kinetic mass– that provokes a change in total mass spatial configuration.

■ **What is velocity and how it works**

The spatial configuration of deformation of total mass is the mechanism for velocity. Only a symmetrical configuration in all directions produces a null movement in regards to natural or privileged system reference or **kinetic aether**.

Kinetic aether and mass

Reticular mechanics of kinetic energy



This mechanism is due to continuous vibration and synchronization of mass with global aether and play of elastic forces, which occur by the curvature of global aether filaments due to the existence of mass. If resultant force is not null, the slide of mass will begin.

More details about this mechanism are in section *Physics of movement with gravity*.

3.d) Concept and definition of force

From comments on *Newton's Laws of Dynamics*, we can see that new paradigm of *Global Physics* delves into concepts of force and **acceleration**. These concepts connect two **types of movement** previously described.

$$\text{Force / mass} = \text{acceleration}$$
$$\text{N / kg} = \text{m / s}^2$$

It is no longer possible to establish a definition of force as rigid as *the second Law of Force* or Newton's *Fundamental Law of Dynamics*. First, because concept and **types of movement** do not always refer to mass; second, because there are different types of energy, or properties of the reticular structure of matter or global aether.

Conceptually, effects of new types of forces are not minor, since they are present in all physics processes. Although, quantitatively, they can seem insignificant due to the traditional idea of small deviation of light in passing close to the stars, or a small variation in the **orbit of Mercury**.

In economics, physics, or any other science, a partial analysis can always be useful, but we must be aware of limitations of such analyses to do not abandon the model.

In physical processes of motion, not only is kinetic energy present because a force caused by electromagnetic energy or potential gravitational energy, but there are also new types of force and energy due to movement of global aether. Such as those phenomena called expansion and contraction of space in the area of *Astrophysics* and movements of atoms and electrons.

The concept of force, or resultant of forces, relates to mass and **acceleration** by Newton's *Fundamental Law of Dynamics*; however, we prefer to associate it with energy. This way, force refers to energy applied to a point or possibility of its application in any point of space of force fields.

Mathematically, force is partial derivative of energy in regards to space, since if we make integral of force throughout a specific space, we will get energy. Here, we should keep in mind comments in the book *Law of Global Gravity* about **definition of energy**, and the problem with its units and dimensions.

Within this perspective, a broader concept of force appears, with new types of forces along new types of energy act. The types of energy are, in turn, associated with **types of movement** in the previous section.

For example, forces that could produce **expansion** and **contraction of the universe**, due to accumulated elastic energy in the mass with the mechanism of its creation or compression of global aether and reverse.

Another force, derived from potential

gravitational energy, is responsible for the **curvature of light** and **precession of the perihelion of Mercury**. Besides

Retouched Carina Nebula Jet NASA

(Public domain image)



Newton's gravitational force, the new gravitational force depends on electromagnetic and kinetic energies.

The fact force of gravity has a component related to velocity does not alter the concept of force as energy application. Moreover, it does not alter space or time as proposed by *Theory of Relativity*.

Consequently, either we create new concepts, or we modify the concept of force, making it partially independent from mass and bringing it closer to movement and energy.

Speaking of new concepts of force, *General Relativity* does something similar with the **space-time** continuum and gravity as a geometric effect. Besides being incorrect, a major inconvenience in the relativistic attempt is that more than helping with new concepts, it distorts basic concepts of physical reality and **logic** reasoning.

Below certain levels of knowledge, *Quantum Mechanics* ignores force and other physics magnitudes using *Uncertainty Principle*. That is, *Quantum Mechanics* starts describing physics at certain levels of aggregation and making observations of the reality that are merely statistical with highly doubtful conceptual justifications.

Wikipedia proposes a definition of force as any interaction between two bodies or more. It is a good definition of force for its generality, but there is a problem with the definition of the body since the very same Wikipedia later points out that gravitational force affects all bodies. Surely, it is a definition of force according to *Newton's First Law* or *Law of Inertia*.

Wikipedia also mentions the four fundamental forces:

- Gravitational force
- Electromagnetic force

- Weak nuclear force
- Strong nuclear force

It seems Wikipedia article still has not included unification of electromagnetic force and **weak nuclear force** in electroweak force.

As we know, *Global Mechanics* has unified gravitational force with electromagnetic interaction and states that strong and weak nuclear forces are properties of the gravito-magnetic field. In other words, there is only one fundamental force, which is the force of reticular elasticity.

Apart from obtaining unification of four fundamental forces, reticular force explains **new types of forces** defined by *Global Mechanics*; such as those producing **expansion** and **contraction of the universe**, or cited additional gravitational force or **Merlin Effect** –for explaining **orbit of Mercury** and **curvature of light**.

A more appropriate and more general definition of force than that offered by Wikipedia is, in our opinion, *manifestation at a point in the space of any energy*. Of course, if we want to talk about force fields, we can expand this concept with the possibility of manifestation of energy in points of the field.

Note the relevance of the words *at a point* in the new definition of force.

An advantage of this definition of force is a simplification of the concept by connecting it to the definition of energy and its types. Likewise, *Global Dynamics* relaxes the definition of the force of its relationship with mass or the bodies to which Wikipedia refers, by definition of mass and other phases of the global aether in *Global Mechanics*.

3.e) Gravitational aether, kinetic aether and acceleration

Definition of acceleration is very simple since it is the change in velocity per unit of time. In *Global Dynamics*, with Euclidean space and absolute time, the concept is easy, although new **types of movement** appear as we have seen in the corresponding section.

The global aether supports gravitational field, **kinetic energy**, and the mass; hence, we can use these names interchangeably. The different names help the brain keeping in mind the many properties of **global ether**.

There is a problem with the concept of acceleration due to *Theory of Relativity* and its *Equivalence Principle* in regards to time, and the very same relativity of space.

Spiral galaxy NGC 1309 (NASA)

(Public domain image)



The *Equivalence Principle* of *General Relativity* affirms it is not possible to distinguish between effects of gravitational acceleration and physical acceleration due to other causes. The book *Theory of Relativity, Elements, and Criticism* has a section on this principle, where it comments some errors of the lift thought example –not experiment.

In particular, the book says

“However, this example of the lift would work neither for the light nor a person and a gyroscope in the lift, because none of them would suffer the same force of gravity.”

Despite the previous example, it is true these concepts have many elements in common, and it is essential to understand the mechanisms and causes of acceleration to establish when and why they behave the same way, or they differ. Therefore, respecting empirically observed facts and without needing principles artificially imposed.

Let us look at the following example:

- *Enchanted forest*

Let us imagine a space with trees, where we are going to stroll. It would be an enjoyable stroll if there were not too many trees impeding us very often the passage. In other words, in this forest will be a specific density of trees, innate and independent of the observer. Without a doubt, other forests may be more or less populated.

Now we are going to the same forest to jog; we will notice we have to be more careful than when we were strolling not to run into the trees. The faster we go, the more crowded the forest seems; that is, acceleration changes the subjective density of trees in the forest.

Now let us imagine, but only for a moment, we are giants, and we are going for a picnic in the enchanted forest. Surely, the forest will once again appear more crowded than the first case.

Likewise, but the other way round, we could be in three different forests as far as their tree density, but density perceived by each observer were the same.

The scientific work, in this case, is not to maintain this apparent confusion of the forests with relative definitions because of the natural subjectivity of our senses.

Nor it consists in defining a different system of measurements' units for each situation, making impossible to grasp an intuitive idea of reality. Moreover, much less force us to calculate equations as if we were in any lost forest of the universe to take a small stroll through woods by our house.

This example of the enchanted forest helps us understand partial equivalence between gravity and velocity, or between variations in gravitational field and acceleration –speed variation.

As we will see later when discussing **movement with gravity**, the frequency of mass **resonance** changes with gravity and with variations in velocity due to the mechanism of movement through the gravitational or **kinetic aether**.

A typical relationship between acceleration in the global aether and gravity acceleration is elementary physics since the main effect of gravity is a centripetal acceleration by definition; that is, a force per unit of mass an object endures aimed toward the center of the gravity field of another object.

Moreover, physical units of the definition of gravity coincide with acceleration in general. Mathematically, gravity is a particular case of abstract acceleration. Nevertheless, besides constant G and its units, it is necessary to add another term into the formulae of gravity –with its units– to collect the additional gravity force due to velocity relative to **kinetic aether**.

Gravity acceleration is due to the elasticity of the reticular

structure of matter or **gravitational aether** and its radial symmetry.

Furthermore, as we have commented in other sections, two components of *attractis causa* generate a global force of gravity. There is no distortion of space or time, just of concepts in some physics theories.

Interesting cases of acceleration due to the force of global gravity are:

- At times, according to the definition of gravity acceleration, it can be null due to the effect of two gravitational fields balancing each other out; but the non-existence of longitudinal curvature of the filaments of **gravitational aether** does not mean the longitudinal tension of global aether is the same.
- Regarding orbit of the planets, Newton's *Law of Universal Gravitation* provides us with necessary relationships between inertia or centrifugal force and gravity or centripetal force to obtain a stable orbit of planets.

However, Paul Gerber, *General Relativity* with space distortion by energy, and *Global Dynamics*, with its **Merlin effect** explain the small anomalous precession of planet orbits –in chronological order, with the same formula, and different physical theories.

With velocity, mass increases with or without the presence of gravity field, but only within gravity field, there are also intrinsic variations in the force of gravity per unit of mass, because greater energy interchange occurs due to velocity – or kinetic energy–. Merlin effect refers to this phenomenon.

The variations in force of gravity to which Merlin effect

refers differ from both those derived from variation in distance and variation in mass in Newton's formula for gravity.

- Another relevant aspect of the development of the theory of gravitation is the force that produces **curvature of light** in the presence of mass. This fact, oddly enough, depends on two times Newton's gravitational acceleration, as *General Relativity* recognizes and justifies with space distortion due to energy.

For *Global Physics*, cause for the double curvature of light is again the Merlin effect, or the second component of **attractis causa** of gravity force explained in the book *Law of Global Gravity*.

In both cases, *General Relativity* states the cause of space distortion is total energy; in other words, it seems gravity is just space distortion. Consequently, reasoning vanishes and it is not clear gravity force is double for electromagnetic and **kinetic energy**, but not for mass at rest equivalent energy. This characteristic is essential to understand causes and mechanisms of movement in the global aether, with or without gravity.

Global Physics bases on ***Global Conservation Principle*** that, as his name indicates, represents a more general equivalence than *Theory of Relativity*, by including gravity together with mass and energy. Nonetheless, it is different, and it supports the extension of classical *Principle of Energy Conservation*.

On the contrary, as far as differences between gravity and other acceleration through the gravitational, kinetic or global aether, the equivalence is more restricted since it does not end up representing an identity between concepts of acceleration and gravity and much less assigning temporal effects to any of

them.

Proposed global equivalence seats on the unification of **fundamental forces** by *Global Mechanics* and in energy effects studied by *Law of Global Gravity* and *Global Dynamics* regarding velocity, acceleration, and gravity.

In the example of the enchanted forest, if there are more trees or we move is equivalent to the forest moving toward us. To the effects analyzed, the three cases are indistinguishable. However, the number of trees is different if we know how to do the calculus.

Lastly, besides not assigning temporal effects to gravity and velocity, *Global Dynamics*, by explaining the **orbit of Mercury** and **curvature of light** with the **Merlin effect**, makes unnecessary the **principle of equality** between inertial mass and gravitational mass –from both *Classical Mechanics* and Einstein's *Theory of Relativity*.

The mass definition in *Global Mechanics* derives from its physical reality and not for its inertial or gravitational behavior. Mass has one concept, and its behavior depends on interacting energies with their corresponding forces.

3.f) Mechanisms of movement

When discussing movement in general, we have seen characteristics and properties of the speed of light or electromagnetic energy.

We have also shown source, meaning, and material support for **kinetic energy** about mass motion upon the reticular structure of matter, global aether, or **kinetic aether**.

Supersymmetry breaking occurs with mass when generating a gravitational field. This phenomenon presents two types of effects on the mechanisms of motion:

- Acceleration of free fall of bodies corresponding to Newton's *Law of Universal Gravitation* that operates according to *Newton's Second Law* or proportionality of force, mass and **acceleration**; keeping in mind the increase of mass with velocity.

The main difference between motion within total symmetry and accelerated movement of free fall is that increment of kinetic energy comes from potential gravitational energy.

- The second component of the *attractis causa* or *Merlin effect* explained in the book *Law of Global Gravity*, enlightens effect of the **curvature of light** in gravitational lensing and anomalous precession of orbits of the planets.

Next, we will explain kinetic energy as a direct cause of movement, and the mechanisms of velocity and acceleration of mass, with and without gravity.

Section *Movement with gravity* studies mechanics of motion of mass with the radial symmetry of gravity, and explains it is like with total symmetry, but with the addition of intrinsic force of gravity.

3.f.1. Physics of movement without gravity

In this section, we analyze mechanics of movement of bodies with mass in a theoretical phase of total symmetry of **kinetic aether**.

Let us look at different situations of mass and **kinetic energy** regarding motion and **acceleration**.

- **Rest**

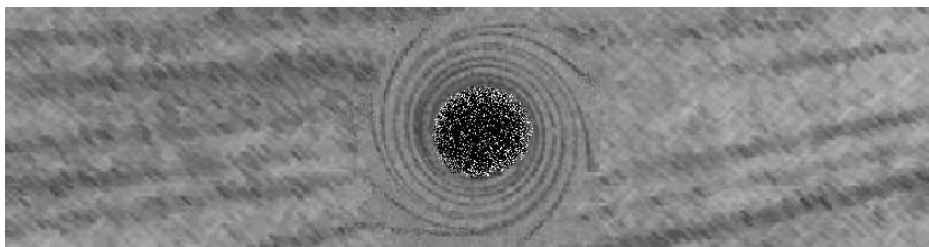
Global mass is mass at rest plus kinetic mass –equivalent mass to kinetic energy–, but in this case, kinetic energy is null.

We are always within a model with Euclidean space, absolute time, and with motion measured within the natural reference system or kinetic aether.

Global or kinetic aether is in constant vibration and synchronized with the **resonance** of mass.

Mass at rest or null movement

(System of natural reference)



The privileged velocity is zero when mass is at rest within **kinetic aether** –natural system of reference regarding kinetic energy–, and kinetic energy is null. Therefore, there will be a balance in the three-dimensional play of forces in

the interaction between kinetic aether and the mass, given the total symmetry of global aether of our hypothesis.

When there is no movement of the mass in the **kinetic aether**, if the system of reference changes, there would be relative movement, but mass would not have changed, and **kinetic energy** would still be null. That is, relative motion does not express the underlying physical reality. It is like when one is moving in a car, and the trees appear to move towards the person, and it looks they are getting bigger. Of course, all depends on the definitions and axioms.

■ **Mechanisms of linear and uniform motion**

After an instant acceleration or **acceleration** during a specific period, we can outline uniform rectilinear motion.

Now, there is kinetic energy provided by the initial force that produced the acceleration. Mass has deformed, or altered its spatial configuration, once it absorbed energy; so, the mass will have an edgy shape as in the figure. This absorption and spatial deformation of global mass is the essence of kinetic energy.

As a result, the concept of an increase in Einstein's **relativistic mass** –regardless of its mathematical formalization– is only correct when using in the natural system of reference of movement or kinetic aether.

Continuing with the case of total symmetry, the vibration of global aether synchronizes with vibration or resonance of mass; given that mass is a slipknot throughout the filaments of global aether.

The interaction between moving mass and **kinetic aether** will produce forces due to the kinetic aether natural tendency to revert to the state of total symmetry. However,

the spatial configuration of mass no longer has the symmetry of the figure of mass at rest; therefore, the play of forces will not give a null resultant initially.

Vibration or internal energy of both the filaments of the mass and kinetic aether –red line in the figure– would affect the mass depending on the points and angles of contact. We can analyze in these terms; but, in fact, it is an internal process, because we know mass is the curl of filaments of **kinetic aether**.

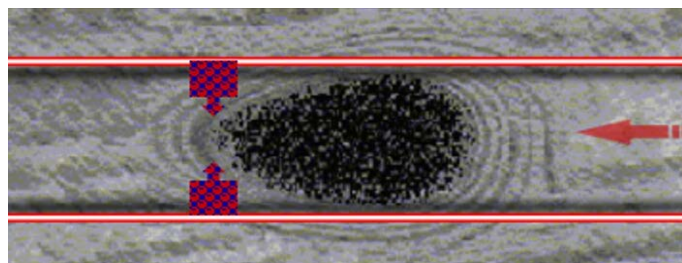
Continuing with the analysis, exchange of energy would be bigger on the right side of the visible contact point, so the mass will begin to move towards the left. At the same time, move to the left means an increase in resistance to the movement; this resistance will increase with velocity.

Consequently, the forces will balance themselves out with the mechanism of mass movement, since it increases contact or tension of the filaments in the sense of movement and relaxes contact or tension of the filaments in the opposite side. Keeping in mind total effects are in three-dimensional Euclidean space.

Likewise, as we can see in the figure, the total energy exchange will be null because of the forces –vertical arrows– are opposite.

Kinetic aether

Dynamic equilibrium of the elastic forces



Therefore, when speed balances the energy exchange, it will begin a uniform linear movement in the absence of other forces.

While kinetic energy does not undergo any variation, velocity continues with uniform motion. This type of motion is consistent with **Newton's First Law**.

On the other hand, movement makes it so that the mass reaches next vibration of the filaments of kinetic aether a little earlier than if it were at rest, and so on. In other words, the resonance frequency of mass is greater than in the state of rest.

Therefore, the resonance frequency of mass, increased by the mechanism of movement, is still synchronized with the filaments of global aether. That is, movement on global aether is the mechanism of balancing the **resonance** of mass with global aether itself, or of its synchronization.

Resonance frequency or vibration of mass has increased with velocity through the global aether. It appears that time does not change, unless the current **definition of second** precisely based on this frequency, as *General Relativity* proposes.

■ **Mechanisms of motion with acceleration**

Acceleration within the natural system of reference or global aether implies an increase in kinetic energy. This process is similar to the previous case of linear uniform motion regarding change or initial acceleration concerning the state of rest.

The continuous increase of kinetic energy implies greater increase and greater deformation of mass. Likewise, greater velocity implies greater mass resonance to keep synchronization with **kinetic aether**.

Again, in this case, time does not change.

On the contrary, in *General Relativity*, what governs the relative unit of time is velocity; consequently, the acceleration will change this unit.

With these characteristics of the model about motion and acceleration, it would be immediate to know the size of a global aether reticule if it relates directly to the mass resonance frequency.

It is not surprising that maximum speed of mass is the velocity of propagation of longitudinal tension of the kinetic or global aether –same as the speed of light. When reaching that speed, the mass will have an energy level related with c^2 , which implies a physical limit between different phases of global aether.

3.f.2. Physics of movement with gravity

This section analyzes an important characteristic of motion in the reticular structure of matter, gravitational aether, or global aether with the radial symmetry of gravitational **potential energy**, contrary to theoretical total symmetry that we have studied in the previous section.

We are referring to **Merlin effect**, which clarifies curvature of light in **gravitational lensing**, and **anomalous precession** of the orbit of Mercury, about Newton's *Law of Universal Gravitation*. Einstein's *General Relativity* with its field equations and its distortion of space and time also explicates both natural phenomena. However, the first one to explain the anomalous precession was Paul Gerber with the same exact formula.

The significance of this effect lies in that it is not only compatible with the composition of mass, electromagnetic energy and full model of *Global Mechanics*, but it reinforces the model. Moreover, if these new mechanisms of movement confirm, they would make clear that relativistic mechanics is incorrect.

As in section **movement without gravity**, in this section, we have not found any reason to believe time and space are relative, but we have detected some arguments to think just the opposite. In other words, we describe the mechanical causes of desynchronization of atomic clocks with movement and gravity.

3.f.2.a) Dynamics of movement of light

Regardless of the description of wave movement and Maxwell's Laws, propagation of light shows a small angular deviation when passing close by the stars, or curvature of light. This effect of **gravitational lensing** helps to understand nature of electromagnetic energy.

We have commented about characteristics of propagation of electromagnetic energy through **luminiferous aether** –gravity field– in the book *Global Mechanics*, and on another hand, we have carried out analytical analysis of **curvature of light** in section *Energy experiments* in the book *Law of Global Gravity*. The latter also discuss forces taking part in the gravitational theory of electromagnetic energy, kinetic energy, and of mass.

$$\text{Global Gravity Law} \quad \mathbf{g}_g = \mathbf{G} \frac{\mathbf{M}[1 + \pi \mathbf{v}^2 / \mathbf{c}^2]}{\mathbf{r}^2}$$

Law of Global Gravity is a mathematical formula that collects implications of **Merlin effect**, or second component of *attractis causa*, modifying Newton's *Law of Universal Gravitation*. In short, the formula adds **kinetic energy** to the gravitational interaction.

Conceptually, we can see that global mass of the object in movement does not appear in the formula because it should appear on both sides of the equation. That is, an increase of global mass would not change orbits of the planets or velocity

of free falling bodies. However, the second component of **attractis causa** will modify them because of the double gravitational effect of kinetic mass –equivalent mass to electromagnetic energy transformed into kinetic energy–, which provokes an increment in gravity force per unit of mass.

In the case of light, we would have to put this equation regarding energy, but it would be equivalent, given that mass is nothing more than a type of elastic energy or phase of gravitational or global aether.

Logically, reasoning would refer to electromagnetic energy instead of **kinetic energy**. Since the speed of light is equal to the speed of **gravitational waves** –in the sense of propagation of longitudinal tension of gravitational aether–, gravitational interaction is exactly twice as a mass at rest; the same result as observed in solar eclipse of 1919, and explained by Einstein with space alterations due to energy.

3.f.2.b) Mechanisms of bodies in free fall

According to Wikipedia, in free fall only forces of gravity affect movement of the bodies. Although, they also speak of free fall in cases of movement with distortion of space and time due to gravitational energy in *General Relativity*.

Global Dynamics explains deviation in free fall in regards to Newton's *Law of Gravitation*. It offers an alternative to *General Relativity*, maintaining principles of Euclidean space and absolute time, and without using any artificial dimension or changing the physical reality for each observer.

Mathematical demonstration of **anomalous precession of Mercury** with a formula for the *Law of Global Gravity* is available in the section mentioned earlier in *Energy experiments*.

The new model seats on the following points:

- **Mass at rest in gravity field**

The gravitational aether is in constant vibration and synchronized with the **resonance** of mass.

Logically, when increasing the tension of the longitudinal curvature of gravitational aether, its vibration will be faster; therefore, it would imply an increase in the resonance frequency of the mass.

In more intuitive physics, what occurs is an increase in the intensity of the gravitational field, which would have same effects as those mentioned in the previous section on **movement without gravity**.

Time does not appear to change by any **acceleration** or increase in its absolute rhythm except when we measure it based on mass resonance as *General Relativity* does, but it is not the case of *Global Physics*.

- **Kinetic energy and velocity of mass**

Section *3.c.3.Velocity of mass* refers to the elements of this concept, specifically, the concept of mass in *Global Mechanics*, and the material support of kinetic energy.

- **Movement of bodies with mass and total symmetry**

We have discussed common peculiarities of movement on global or **kinetic aether** with total symmetry in section *Physics of movement without gravity*.

Kinetic energy is the cause for the mechanism of mass motion in a theoretical total symmetry of global aether, and it will intervene in free fall.

We have described various states of motion of the mass, at rest, uniform movement, and acceleration, together with the meaning or effects of the corresponding kinetic energy related to them. In other words, the same mechanisms of motion as a response to kinetic mass, keeping synchronization of mass **resonance** with global aether vibration while velocity changes.

- **Free fall movement in Newton's Mechanics (radial symmetry)**

This movement is similar to displacement with total symmetry when the force applied is the force of Newton's gravity. This force is the first component of the *attractis causa* in the *Law of Global Gravity*.

The increase in mass with velocity derived from **relativistic**

mass would not affect **acceleration**, given that Newton's gravity increases in same proportion as mass. Earlier in this book, and in the book *Law of Global Gravity*, we said this increase in mass with velocity is correct as long as we measure velocity regarding its natural or privileged system of reference –gravitational aether or global aether.

■ **Second component of *atractis causa*, or Merlin effect**

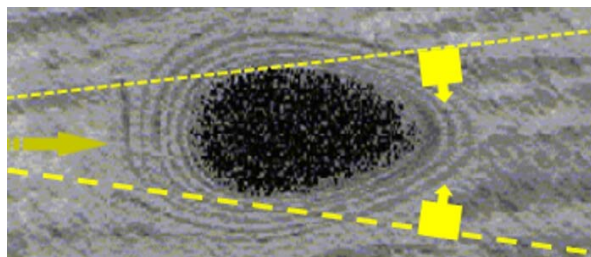
This effect will appear in any displacement of mass throughout global aether with radial symmetry. In other words, it appears together with Newton's gravity wherever there is also the movement of the mass in regards to the natural system of reference.

The only thing left to explain is why the deviation is smaller in case of *free fall* than in movement of light.

On global aether with the typical radial symmetry of gravity, the difference between the movement of light and bodies with mass has a strong significance, because same formula and same argument elucidates both deviations. **Merlin effect** is due to increase in the gravitational interaction due to velocity, and energy –kinetic or electromagnetic–quantifies the effect in both cases.

Gravitational aether

Mechanism of free fall of bodies



Kinetic energy quantifies the effect because the movement of global mass is involved and, taking into account its velocity, it takes up an energy equivalent to the

electromagnetic or gravitational energy necessary to reach the speed from initial state at rest, within its natural reference system or gravitational aether.

In other words, the second component of *attractis causa* or Merlin effect over global mass is equal to Newton's force of gravity on kinetic mass, or an increase of mass at rest due to velocity, given that force of gravity of electromagnetic energy is double. One part compensates for the mass increase with speed, maintaining a force of gravity per unit of mass, and the other part produces an increase in the force of gravity per unit of mass.

Subsequently, potential gravitational energy will also change, as discussed in the section on *Potential energy* from the book *Law of Global Gravity*.

In short, if the force of global gravity per unit of mass increases, the orbits of the planets and, in general, free fall movement of bodies with mass will change.

On another hand, *General Relativity* uses additional kinetic energy –or energy in general by extension– to stretch or expand space or to modulate time –depending on *reference frame*–, so calculi within that theory are consistent, although they do not make much sense.

The relation between force, mass, and *acceleration* continued to exist in *Global Physics* model, but it is not constant. We have to take into account intrinsic increases in mass and gravity force with velocity, regardless the decrease in the force of gravity with distance.

Another relevant aspect is the impossibility of determining the Constant of Universal Gravitation when we do not know the relative speed to the *kinetic aether*. For instance, because on

Earth there is always common kinetic energy of all the objects on the planet and the planet itself, the second component of *attractis causa* would be included in the Constant of Universal Gravitation.

Planetary orbits could be different if we use reference system of the star or outside the star, because kinetic energy would be affected, and therefore, the force of gravity. *The Last Dolphin paradox* shows this effect in the kinetic or gravitational aether.

Also, there is a project to measure the Constant of Universal Gravitation in outer space. According to our reasoning, various measurements, with different velocities and locations, could allow determining the relative motion of the Sun to the *kinetic aether* in which it moves.

Moreover, it could be achieved same way in Earth, but it is doubtful precision of measurements would be good enough. Perhaps, an analysis of *Gravity Probe B* data throughout its duration could elucidate this subject.

3.f.2.c) Physics of normal movement of bodies

If we add other forces to free fall motion, **kinetic energy** can make the body move in any direction. Direction and sense of movement will depend on the spatial configuration of the object's global mass, and of the global, kinetic or gravitational aether. Resulting force from energy exchange, given the spatial configurations mentioned, will be the cause of motion.

Gravitational aether and kinetic mass

Bewitched heart



In the figure of the bewitched heart, we can see, from the string's arrangement –further apart at the top– that if we make the strings vibrate, any object or energy property on them will tend to move upwards. We just need to imagine the strings are a bit convex to the vertical axis in the middle, and that they

have some longitudinal tension.

However, if the object had a shape like the black triangle, it could well move to the contrary, then its spatial configuration would mean greater effect on the exchange of energy than that of spatial configuration of the strings.

The spatial configuration of global mass, and of the gravitational aether –supporting medium of the gravity field, mass and kinetic energy–, govern movement and explain why bodies in motion do not stop until other forces apply, as we discussed in the previous section on *Physics of movement without gravity*.

* * *



When **Don Magufo** finishes the book,
he happily calls **Einsother**,
who spends his life *surrounding the Sun and contemplating the
Moon*,

to thank him for his contributions, and asks him:

–Do you think some scientists will get mad about so much
theory?–

Einsother takes a double lapy, looks at **M^a José** and
replies:

–I don't think so.

Perhaps will get angry those who do not believe anything
because they don't know how to evaluate things by
themselves.

It is more plausible for scientists to get a little bit self-crabbed.–



©

MOLWICK