

# QUANTUM INFORMATION vs. RELATIVISTIC DILATATION, A SUMMARY

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## Abstract

Our traditional "Externally Observed Time (with material clocks)" does not dilated, its unit is **fixed**. The **apparent** "dilations" that are postulated from the relativistic measures, for the same reason empirical and unquestionable, are **not due to supposed dilations** of said Unit of Time, but are **due to the superimposition/irruption of another "Time (of quantum origin or pre-material)"** which is the **variable and dilating** component of the externally measured/observed total Time. A **necessary hemi-symmetrical** Time to Process the **empirical** quantum-underlying Information, **necessary** for **governs** the basic physical phenomena. **Five dimensions**, three of the Space, **but two of the Time**, make it possible to **resolve** the current inconsistencies in physics.

## REAL HEMI-SYMMETRY OF THE UNIT OF TIME, VERSUS THE UN-REAL RELATIVISTIC SYMMETRY.

Science has always progressed by **accepting errors**, and **correcting them**. Although many times with a strong opposition from the same scientific community, as the case that I expose.

The hypothesis called "Time dilatation" at high speeds, proposed more than 100 years ago to explain some consequences of MAXWELL's equations at high speeds, should be made clear to the reader that it refers strictly to **the dilatation of the Unit** with which it is measured. the Time, and **not** to the dilatation of the result of the measured Time, since if there is a dilatation of the Unit, the measured Time is just contracted/ delayed/ retard. For example, if a ruler were to be expanded more than double, until the centimeters became like an "inch" [=inch=2.5 cm], the new measured values would be 2.5 times smaller; if it dilated 100 times, it would be like confusing centimeters for meters; etc.; etc.; etc. The merchants rigged the scales (that is, their unit) to sell less for more. Subsequently, said time "dilatation" could be observed by the progressive **delay** of the clocks in faster systems (aircraft, Experiment by HAFELE KEATING, 1971), referenced to the "static" clocks, at rest, of the Earth. That "the twin that travels fast ages less".

When gently starting a train, anyone has thought that it is the station that is going backwards. And it is true (regarding our train). If the researchers had done the calculations inside the planes themselves, and not at their University (**why not?** as Ian McCAUSLAND, an emeritus physicist, put it), reversing the perspective of the comparison between the two systems, not referring to the static and huge Earth, but referring to the mobile and smaller system (aircraft), it turns an **absurd and irresolvable** "theory", because the opposite happens, a contraction (of unity) of the Earth's clocks, which are therefore **advanced** (compared to the airplane clocks, which are delayed).

This and many other inconsistencies have generated **continuous debates and paradoxes** (which for convenience they try to ignore) why with this hypothesis of the surprising dilatation of the unit (then it is no longer a "unit") the "theory" that has resulted ("Special Relativity") forces to accept that the comparisons of time in one perspective or another are **"symmetrical"** (the "dilatation" is always fulfilled, no matter where you look at it), which **never** happens in reality (nor did it happen in said experiment), because if a clock A delay with respect to another B, the latter B can

**never** simultaneously delay with respect to the first (symmetry), but **always** advance (called in mathematics, tensor behavior of asymmetry/ "hemi-symmetry"/ **reciprocity** [as the "debit - credit", as the "purchase - sale"]).

## A NECESSARY UNDERLYING-QUANTUM INFORMATION IN PHYSICAL PROCESSES

All this is due to the fact that more than a century ago **a necessary underlying Information in physics was ignored**, underlying information that, on the contrary, is accepted in the remaining natural phenomena, whether biological (genetics) or psychic (psyche, unconscious). An underlying information that corresponds to the quantum field, today totally **unquestionable** due to phenomena such as "Entanglement", quantum computing, the behavior of the photon, or in general due to quantum phenomena. Said Information **implies another component** of Time **that is superimposed** on the Time required by the dynamics of real-material phenomena.

A **necessary** Time to Process the **empirical** quantum-underlying Information, **necessary** for **governs** the basic physical phenomena. The Processing Time of said quantum Information **is empirical**, and must be associated with the LORENTZ Transformation, until today erroneously associated with a supposed relativistic dilatation of Time (externally observed).

A ignored Time that from the outset allows the **necessary and real hemi-symmetry** in time comparisons (I repeat, if a clock A delay with respect to another B, the latter B advances with respect to the first A). And, precisely, it is by ignoring it that it is **mistakenly** thought that due to the increase in the speed of a system, what is dilated is the traditional/classical unit with which we measure time. That is to say, the time measured by the clocks is the superimposition/insertion/sum of the traditional classical time of the material dynamics (own or "static"), which is **fixed, plus** the processing time, which is **variable** depending on the speed. of the system. The alleged "dilatation" is not such, but is due to the appearance/superposition of the **greatest** time necessary in the **fastest** system, for the processing of the **greatest** quantum/underlying information that controls any material dynamic.

If we replace an alleged unjustifiable dilatation (because of its serious contradictions already expressed), and in its place the logical emergence of a longer control processing time is accepted to increase speed, then, in addition to resolving contradictions, many things are understood\*.

\* In a "static" system, at absolute rest, all time is material time. In the fastest "mobile" system, part of the time is due to higher processing, due to its higher speed ("hibernation" periods for greater control), so material time is less and mobile clocks, which are materials, mark less time (for this reason we age less, all material dynamics are slower, and thus the obligatory hemi-simetricity/ reciprocity is fulfilled). Thus, in the atmospheric Muon that forms in the stratosphere at a height of more than 10 km and travels close to the speed of light "c" (0.995c), its material time is !!only 1/20 part of the total!! (by the LORENTZ Factor, experimentally proven and unquestionable), the remaining 19/20 are processing time (periods of "hibernation" for greater control of its extraordinary speed, almost "c"), so to fulfill its life it needs 20 times longer time than the Muon at rest (2.2  $\mu$ s [millionths of a second]), or what is the same, it takes the time observed on Earth (which is 2.2 x 20 =44  $\mu$ s), and at said speed of almost "c " can travel a distance 20 times greater (13 km, and reach sea level, ROSSI – HALL atmospheric Muon experiment, 1941).

And the causality is revealed, through some intrinsic processes of calculation of said quantum/underlying information for the control of the dynamics. I insist, that there be strict **compliance with the intrinsic laws of physics by matter** (laws that science

tries to simulate and approximate with more or less accurate mathematical laws). And what is more important, this necessary processing time **recovers the necessary causality of physics**, justifying the order and reiteration of all behaviors, versus what would otherwise be chaos without control or laws of its own, which undoubtedly cannot be given at all.

It is a "Calculation or processing Time" that, logically, **increases** with the **increase** in speed of the system (due to **increasing** the trajectory and therefore **increasing** the interactions to calculate/ control in a same "Time of material dynamics"), so that this ignored component is a **variable component depending on the speed**, and that while it intervenes, matter continues its course but without acting as such, like someone who sleeps at night, or winters (and the rest of the world is still active). Its nature is **non-material**.

This, in turn, explains the omnipresent photon, **!!without mass!!** (no matter how much effort has been put into finding it) but with energy, which is an example of said **pre-material stage**, of information and energy **without matter** (see "Information. Delocation. Singularity"). The photon already existed, then, before matter appeared, so, by the way, said information processing, also independent of matter (for example, manifested in the "Entanglement"), was what it could manage the energy of photons for the emergence of matter (and avoids the current **non-causal and creationist hypotheses**).

Consequently, the physical magnitude of Time must be **split/ unraveling into its two components** (Time as a double Unit):

- the real/material "t<sub>m</sub>" (a strict unit, **fixed**), and
- the virtual/ informational/ processing "t<sub>p</sub>" (a **variable** time superimposed/ inserted on traditional material time),

and in coherence, **all the relativistic/ non-classical equations of the last century must be correctly reintegrated**, since the traditional "dt" is strictly

**dt = d(t<sub>m</sub> + t<sub>p</sub>)**, with t<sub>m</sub> **fixed** and t<sub>p</sub> **variable**.

THERE ARE NOT ONLY 4 DIMENSIONS (THE CURRENT AND CENTENNIAL "SPACE-TIME"), BUT 5 DIMENSIONS.

If we except the domain of classical physics, it is **incorrect** to integrate with respect to "dt" high speed phenomena, as has been done **incorrectly** for the last 100 years. Since the experiments have always referred to the huge Earth with respect to tiny particles or objects, as happened in antiquity and up to the modern age, a new Ptolemyism has fallen.

Said component of time due to said processing of the underlying/ quantum information, does **not imply any contradiction** with all the millions and millions of empirical results incorporated by physics until today. If what has been explained has been understood, **in all the millions of experiments already carried out**, what has been measured and observed and its results, it is **neither** questioned, **nor** contradicted by what has been exposed. The empirical is unquestionable. What varies, decreasing, is the material time lived by the matter of the fastest system, due to the **greater** moments of "hibernation" (ergo, without material dynamics) in which said system is **more** intervened by the **greater** control (superimposed/inserted). of processing time. This alone explains many things that are not yet understood. And, **finally** (as B. Roy FRIEDEN already tried), the **information in the equations of physics is implicated empirically and numerically**.

At the same time, reality is explained with a **strict, certain, causal theory, without contradictions**. Ptolemyism is avoided if a new interpretation is given to the LORENTZ Transformation, with a **non-scalar but functional Factor that inversely involves the value of the masses** (incorrectly ignored until today). It is otherwise inapplicable, for example, to a "Binary star system". Or when one day two atomic clocks are correctly compared, one on Earth and the other on the Moon, the expected LORENTZ factor **will not be measured**, but reduced by 1/84 (due to the ratio of both masses). And always with the **contradiction** due to which this document has been started, that from the Moon time will have contracted.

Thus, he **harmonizes** the two Relativities (the "special" and the "general" that are still in conflict today, giving a more correct interpretation to the LORENTZ Transformation), and harmonizes these Relativities with the Quantum; **explains** the HEISENBERG Principle (see "Information or Dilation" for a detailed explanation), or "Entanglement", or Quantum Computing, or the "dark", etc., etc., etc., **avoiding** all the paradoxes, inconsistencies and inexplicabilities accumulated by the hypotheses of current physics since the MAXWELL equations ("hypotheses" not "theories", due to these repeated inconsistencies and contradictions).

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