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TWIN PARADOX IS WRONG

Claudia Blass

cl.blass@hotmail.com

This is a fragment from *Fundamental Theory of Time* regarding the twin paradox, pp 27-31.

Abstract: Twin paradox occupied a lot of space in papers and books and one more time has an option to presented as it is. Regarding the time, since is fix, compartment and vacuumed, twin paradox show that both brothers has the same age after on of them is going into space.

Key words: twin paradox, atmospheric time, extraatmospheric time, absolute time, absolute time, distance, space.

Twin paradox explained regarding time in atmospheric space and extraatmopshere

Time is compartmented within its dimensions, but before developing this theory further, I wish to highlight the contributions of physicists (concerning the passage of time in relation to the atmosphere and extraatmosphere) regarding the interesting concepts that they had. In his Special Theory of Relativity, Einstein (1905) talks about atomic clocks, two in number, which *"if put together and synchronized, then one is removed and brought back, the clock which has traveled will fall behind that which remained stationary"* (Einstein, 1905). These clocks only showed small and insignificant differences, but that is to be expected because the atomic clock (assuming the clock did travel in space) which was placed in the ship and sent into space was located in the area of time inside the ship. That ship had its own gas, or air, and it was certainly not in the area of time in the space outside the ship. This is the effect created aboard such a flying vehicle. But if, for example, we get on a plane with corresponding, synchronized wrist watches, and suppose we fly on the route from Bucharest to Paris, the indicators of the clocks, whether they are digital or mechanical, will show the same time as the clocks on the surface of the Earth (that is to say, from where we started, Bucharest in our example). Why do the clocks act like this? Because, although the plane flies at a specific altitude and speed, it is located in the atmospheric space of time, which I referred to previously as **vacuum 0** (zero). In the image in Fig. 3 (in the previous chapter), we can see what this vacuum looks like, what time in space is like on the surface of Earth and how it acts compared to the time of the other vacuums. Coming back, however, to the important contributions of physicists concerning time, the first to develop the theory of relativity were the physicists H. Lorentz and H. Poincaré.

The great physicist, mathematician and French philosopher Jules Henri Poincaré (1854-1912) is the one who spoke for the first time about **the Theory of Relativity,** and a major contribution to this theory (of relativity) is the theory of Maxwell (1831-1879), who in turn developed his theory from that of physicist Hendrik Lorentz (Iancu, Noema, 2002, p. 5).

Dutch physicist and mathematician Hendrik Antoon Lorentz (1853-1928) said (1904) that "*electromagnetic forces are subject to slight changes caused by their movement, called the Lorentz transformation",* and thus a new page in the theory of relativity was opened (quoted from the article "Hendrik Lorentz -Biographical", found on the website http://www.nobelprize.org), which Henri Poincaré later developed. In 1900, in his work *The Theory of Lorentz and the Principle of Reaction*, Poincaré derives the expression *M=S/c2* in which *M* is the momentum (impulse) of radiation, *S* is the flux of radiation and *c* is the speed of light (Poincaré, 1900). Four years later, in 1904, Poincaré gives the phrase a new identity: *"The Principle of Relativity"* (Poincaré, 1904). In 1911, Einstein redefines the result of the *"natural consequences of special relativity",* as he considered it, with the following example: *"if we were to place a living organism in a box… one could arrange that the organism, after an arbitrarily lengthy flight, could be returned to its original spot in a scarcely altered condition, while corresponding* *organisms, which had remained in their original positions, had long since given way to new generations. So as far as the moving organism was concerned, the lengthy time of the journey was a mere instant, provided the motion took place at almost the speed of light"* (quoted from Resnick and Halliday, 1992). For a better understanding, in his article *Space, Time and Integrative Science* (Noema magazine, 2002, p. 5), Iancu defines the two theories, those of special relativity and general relativity, as follows:

- Special relativity: - *"special "relativity" deals exclusively with constant speeds in a straight line and states that the fundamental physical laws have the same form for all observers who pass each other near the straight line and with a uniform motion".*
- General relativity, as defined by Einstein - *"refers to any type of movement and lays down that any fundamental law of physics must be expressed in a form that is the same for all observers, even those that accelerate away from one another".*

In *The Theory of Relativity Simplified (*original title: *Teoria relativității pe înțelesul tuturor),* Einstein says that the *"special theory of relativity was crystallized from the Maxwell-Lorentz theory of electromagnetic phenomena"* (Einstein, 2005, p. 50), taking into consideration the fact that the experiments of both (Maxwell and Lorentz) *"support both the electromagnetic theory and the relativity theory"* (Ibid, 2005, p. 50). The name "*special relativity"* is indeed expressed in this way (Maftei *et. al.*, 2001, vol. I), because it *"was born in the context of the development of electrodynamics of bodies in motion, its occurrence being closely linked to the issue of 'ether' and the possibility of involvement by the bodies in motion".* At the same time, to this theory, a major contribution was made by German mathematician David Hilbert (1862-1943). On the official Nobel Prize website (www.nobelprize.org), on the page *History of relativity* (original title: *"Relativity"*), the fact is stated that on November 20 1919, Hilbert published an article on the general theory of relativity with the correct field equations (http://www.nobelprize.org/educational/physics/relativity/history-1.html). I will continue on the subject of the theory of special relativity with French physicist Paul Langevin who, in 1911, simplifies Einstein's idea in a way that is easier to understand through the so-called "twins paradox" thought experiment, incidentally extremely useful in that that it helps a lot to understand the passing of time as Einstein saw it (B. Crowell, 2007, in the book *Conceptual Physics* (rev. 27.12.2009), quoted from the article *Relativity. Twins* *paradox* (original title: *Relativitatea. Paradoxul gemenilor*), published on January 23, 2010, on the website: http://scientia.ro/fizica/78-teoria-relativitatii/676-relativitatea -6-cum-functioneaza-paradoxul-gemenilor.html). This "twins paradox" concerns a pair of twins that are born on Earth: one leaves on a journey in space, while the other remains on Earth. At the end of the journey, the brother who remained on Earth was 10 years old, while the other brother who returned from space was 5.14 years old. Langevin believes that there are differences in rates of aging, and that *"any change in speed or acceleration has an absolute quality"* ((Langevin, P. (1911), translated by J. B. Sykes, 1973)). Thus, in the case of the twins, Langevin believes that *"only the traveler underwent an acceleration that changed the direction of speed"* (Crowell, 2007, quoted from *Relativity. Twins paradox* (original title: *Relativitatea. Paradoxul gemenilor; 23 January 2010*) on the website: http://scientia.ro/fizica/78-teoria-relativitatii/676-relativitatea-6-cum-functio neaza-paradoxul-gemenilor.html).

From the above, should we understand that time has passed more slowly for the twin in space? And that this is this due to an acceleration in speed alone? Wrong. It must be added that although a person's (a traveler's) biological clock may have changed, but the YEARS are still the same for both brothers. In other words, although we may look younger, our age still increases with time, no matter how fast time flows! If speed accelerated the passage of time, as Langevin suggests, then we would have to say that the brother in the ship was older. Why? Because time does not change according to the *Fundamental Theory of Time* (see chap. 2. *Vacuumed Time*), it just passes faster (due to the acceleration in speed which Langevin speaks of), or, in the case of the brother who remained on Earth, time passes slower (than that of his brother on the ship), so the brother on Earth would be the youngest one (because time is passing more slowly!). Another expression lacking clarity with regards to the passage of time outside that of the Earth (vacuum zero), is as follows: *"... the clock which has traveled will fall behind that which remained stationary"* (Einstein, 1905). The clock that remained stationary? Assuming that it refers to the (atomic) clock on Earth, we should keep in mind that the planet is in continuous motion and never stays in one place, and in this case, *"the clock that has traveled"* is behind what? The other clock that remained on the planet, which, as I mentioned before and as we all we know, is in continuous motion through both its rotations (around the Sun and around its axis)! I wish to conclude on this fictional situation, which is in any case "critical" or rather "ambiguous", in a context where it is not clear (logically) who ages (or rejuvenates) and why or where, that there is no such relationship between the Time elapsed in the extraatmosphere and the Time elapsed in the vacuum zero of the planet. I shall continue this discussion on the topic of the "twins paradox" and others below.

Concerning the question of *What is personal time?* (original title: *Ce este timpul propriu?)* Eugen Ganțolea (2012) agrees with Einstein (Theory of Relativity, 1905), who states that: *"there is no absolute time, instead every observer has his own measure of time"*. We will examine in the following lines and chapters if he is right and if time really is relative.

In *Relativity* (original title in German: *Zur Elektrodynamik bewegter Körper (*published in *Annalen der Physik*, 1905), Einstein considers that *"for an observer on a moving body, time is passing faster than for a body at rest"*. Regarding this claim, time does **not** flow faster for an observer if he is on a moving body as opposed to a body at rest. First, it must be pointed out that if, for example, we have an observer named Gigi, who drives from Bucharest to Focșani, the journey between these two cities being around 200 km, he will arrive in approx. three hours. He could also arrive in five hours, or even more, at a speed which Newton would consider to be relative. From this we may conclude that time is not relative, because the watch in Bucharest on his cousin's hand and the watch on Gigi's hand are identical; time did not elapse faster for the traveler ("the observer on a body in motion" being Gigi in the car).

Another example: Maria and Ioana are cousins. Maria travels by train from Bucharest to Iași in over seven hours. Both Maria and Ioana start reading the same book that they have just bought. Ioana reads at home in Bucharest while Maria starts reading on the bus to the train station, on the platform while waiting for the train and then, of course, in the train. Both finish reading the book in approximately seven hours. Here, we can see that for Maria, time had not passed faster; she was able to finish the book, as did Ioana, without leaving the house. So time is the same for all. Indeed, certain activities give us the impression that time is passing faster, just as stressful, unpleasant chores, disease and suffering give us the feeling that the time is passing much slower. But that's a far cry from saying that the time is relative, in my opinion. (see chap. 14. *Finite or Infinite Time?*).

Conclusions

Time is complex, is different here on Earth then outside of Earth. Twin paradox was an example to show what Einstein want to say about time. Unfortunately, is a big misunderstanding regarding this twin paradox because we must take in account that the time here in the atmospheric space of planet Earth (and on surface of course) is different then time outside which I named: extraatmospheric space. So, in this case, twin paradox reflect but this two brothers time different and not. In this paper, presented by few examples, show that the time is not relative, is fix, absolute and also depend very much by distance between this two brothers. Their age are equal: brother which has been in space is not younger and the other brother remained on planet is not older.

For more discussion and examples regarding the twin paradox, are in the book entitled: *Fundamental Theory of Time* and subtitle: *Absolute Mechanics*, Blass, 2017, CreateSpace Publisher.
This book is distributed in both print and digital formats by Amazon.com, .de, .fr, .co.uk., br., and other.

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