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Research Article

Psychological and Physiological Time, In Childhood and Old Age. Synchronization with the Earth's Hyperbolic Magnetic Field

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Abstract: ***Introduction***: in the cell, physiological processes depend on time and circadian rhythms. The synchronization of time, in childhood and old age, may be related to hyperbolic lines of force in Earth's magnetic field. ***Methods*:** in relation to childhood and old age, scientific papers on physiological hyperbolic curves, Earth's magnetic field and time were reviewed. ***Results*:** There are hyperbolic curves and circadian rhythms in physiology. In childhood the geological (clock) time is very short, while the psychological time is long, with rapid physiological processes. In old age the geological time (clock) is very long, while the psychological time is short, with slow physiological processes. The lines of force in a magnet and in the Earth's magnetic field are hyperbolic images that deform the surrounding space. There is the possibility of modifying the hyperbolic dimensions of a physiological process, when we act in its time and space of development. In this way it could serve in the treatment of diseases. ***Conclusions*:** regarding geological time (clock), in childhood the psychological and physiological times are dilated, while in old age they are contracted. At birth, a "long life biorhythm" appears in cellular physiology and this ranges from birth to death. This biorhythm in cellular physiology is hyperbolic because it synchronizes with the hyperbolic lines of force in Earth's magnetic field. If external stimuli are applied to modify the hyperbolic physiological curves, they tend to synchronize again to become hyperbolas as before.

Keywords: Physiology, Circadian, Rhythms, Human, Magnetic, Space, Time, Hyperball.

INTRODUCTION

The cell is the basic anatomical, structural and functional unit of all living organisms. In humans the cells are eukaryotes and consist of the cell membrane, cytoplasm, and nucleus. In the cytoplasm there are mitochondria, ribosomes, endoplasmic reticulum, Golgi apparatus, lysosomes, centrosomes, fibrils, water, salts, etc. (Carrascal Marino E, 1979). Inside there are physiological processes that depend on time. The speed with which these processes take place is defined as V = S / T (V: speed, S: space, T: time). In this case, time T is a physical quantity used to measure its duration. In relativistic mechanics, time depends on the point of view of the observer, since each observer will have a time on his clock to measure simultaneous events (Garcia Santemases J, 1978; Halliday D*et al.*, 1990; Andreu Tormo J. 1978; Resnick R, 1981; Cohen-Tannoudji G*et al.*, 1988). Biological rhythms have been described as phenomena of adaptation to periodic variations in the environment, which are repeated over time and are related to the rotation of the Earth on its axis and around the Sun (Barcia Salorio D, 2007). If we express it in solar years, childhood is very short and old age very long, however if we measure physiological time, childhood is very long and old age very short. To a child the days last an eternity, while to an old man the days run out in an instant. There are illnesses where there is a lack of synchronization, so for example the depressive person perceives the external clock to be slower (Rojo Sierra M, 1984).It is known that time and its rhythms are within the nuclear molecules of DNA and RNA, in the genetic code, but they are controlled by a biological clock, which is regulated by environmental signals such as light, rest, sound (Barcia Salori, D, 2007; Rojo Sierra M, 1984).

According to previous studies, human physiology can be studied as an expansion-contraction system that moves at different speeds (González-González JM,1992a, 1992b, 1993, 1994&1995). It has also been indicated that it is possible to modify the hyperbolic dimensions of a biological process, when we act in its time and space of development (González-González JM, 2017a &2017b). Furthermore, it has been described that the Earth's magnetic field has hyperbolic lines of force, which deform the space in which we live (Andreu Tormo J, 1978). Thus, human physiology would be hyperbolic because it has adapted to that deformation (González-González JM, 2017b&2019). It

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has also been said that when a moving organ approaches an observer, it follows the hyperbolic lines of force that come out of the north pole of a magnet (the dilation factor perpendicular to the movement is 1 / K2 = c2-v2 / c2) and when a moving organ moves away from an observer, it follows the hyperbolic lines of force that enter through the south pole of a magnet (the contraction factor perpendicular to the movement is 1 / K2 = c2 / c2-v2) (K: constant, c: light velocity, v: velocity of a moving organ) (González-González JM, 2020).

The hypothesis of this work is that in childhood and old age there is a different synchronization of time. This depends on hyperbolic physiological processes, which are related to the hyperbolic lines of force of the Earth's magnetic field. The aim of this work is to describe this relationship and establish a new concept of time in the cell.

MATERIALS AND METHODS

In relation to childhood and old age, scientific papers on the physiological hyperbolic curves, the Earth's magnetic field and time were reviewed. I used Internet search engines with Osint techniques (open source intelligence techniques), to select those articles considered of greatest interest for this work. The theory of relativity has been revised (Andreu Tormo J, 1978; Resnick R, 1981; Cohen-Tannoudji G *et al.*, 1988) and some previous works by this author have been taken into account (González-González JM, 1992a, 1992b, 1993, 1994, 1995, 2017a, 2017b, 2019&2020). Data on time synchronization in childhood and old age were collected. The relationship of these data with the physiological hyperbolic curves and with the Earth's magnetic field was then studied theoretically.

RESULTS

The results indicate that there are many hyperbolic curves (González-González JM, 2017a, 2017b, 2019&2020; Atassi MZ *et al.*, 2005; Tallarida RJ, 2016; Doelle HW, 1982; Vickrey JF *et al.*, 2002; Retnakaran R *et al.*, 2008;Mizuo J*et al.*, 2000;Seiryo Sugiura *et al.*, 1995; Iwamoto H *et al.*, 1990; Whinnery T *et al.*, 2014; Zhou Y*et al.*, 2018; Gómez Urgelles J, 2016) and circadian rhythms (González-González JM,2018) in physiology (table 1).

Table 1. Hyperbolic curves and circadian rhythms in physiology.

Hyperbolic curves
- Oxygen saturation for hemoglobin and myoglobin in relation to partial oxygen pressure (Atassi MZ *et al.*, 2005).
- Sometimes dose-effect relationship curves (Tallarida RJ, 2016).
- Glucokinase and fructokinase saturation curves (Doelle HW, 1982).
- Aspartate saturation curves (Vickrey JF*et al.*, 2002).
- Insulin sensitivity in oral glucose tolerance test (Retnakaran R *et al.*, 2008).
- Heart rate responses during exercise (Mizuo J *et al.*, 2000).
- Strength-speed ratio of myocardial myosin isoenzymes (Seiryo Sugiura*et al.*, 1995).
- Force-speed ratio of shortening of skeletal muscle fibers (Iwamoto H*et al.*, 1990).
- In aviation, periods of incapacitation in extreme gravitational stress (Whinnery T*et al.*, 2014).
- Descriptions of the perception of odors, in an olfactory space (Zhou Y*et al.*, 2018).
- The human eye perceives a hyperbolic image of reality (González-González JM, 2017a, 2017b, 2019&2020; Gómez Urgelles J, 2016).
Circadian rhythms (González-González JM, 2018).
- Testosterone and cortisol: maximum at 8:00 hours and minimum at 22:00 hours.
- Melatonin: light decreases production, darkness increases it.
- Salivary flow: maximum between 6-14 years and decreases after 20 years. It is more in men, more by day and less by night.
- Respiratory rhythm: every 6 seconds.
- Heart rate: every 1 second.
- Menstruation: 28 days

In childhood geological time (clock) is very short, while psychological time is long, with rapid physiological processes. In old age geological time (clock) is very long, while psychological time is short, with slow physiological processes (table 2).

Table 2. Geological, psychological and physiological times, in childhood and in old age.

	Childhood	**Old age**
Geological time (on a clock)	Brief. From 0-11 years	Long. Over 65 years old
Psychological time (perception of time)	The days are perceived as very long. They last a long time	The days are perceived as very short. They last a short time
Physiological time (in the cell)	Physiological processes are fast	Physiological processes are slow

The human eye perceives a hyperbolic image of reality (González-González JM, 2017a, 2017b, 2019&2020). The lines of force in a magnet and in the Earth's magnetic field deform the surrounding space (Andreu Tormo J, 1978), being in both cases hyperbolic images (González-González JM, 2017a, 2017b, 2019&2020) (fig. 1).

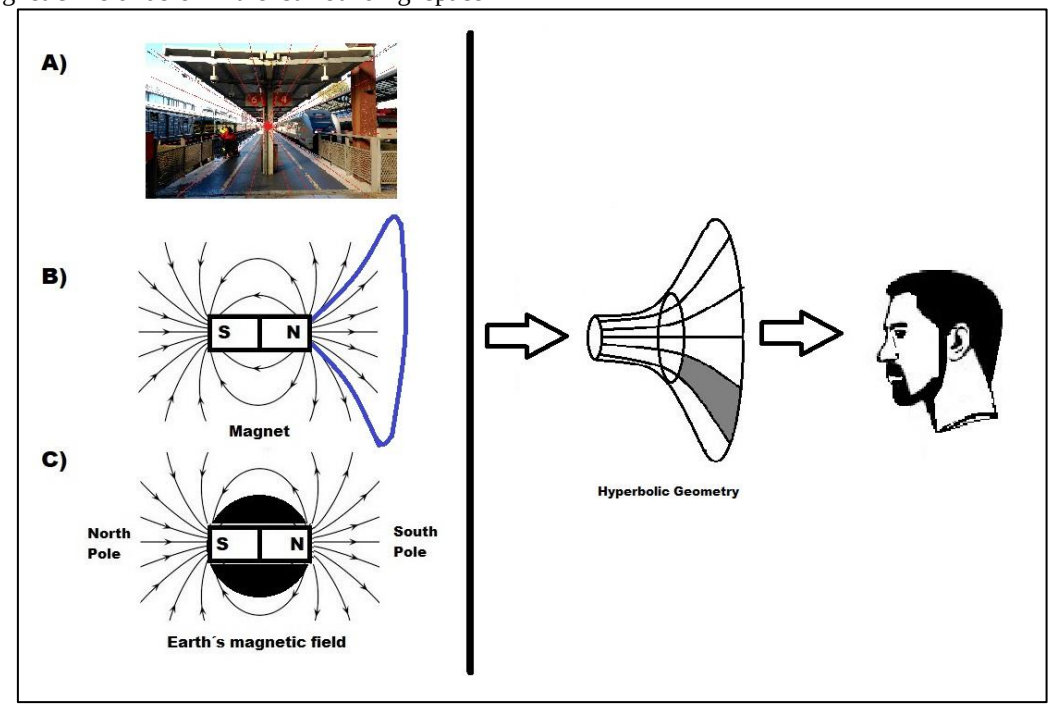

Figure 1. The points farthest from the observer are smaller for him, because he sees a hyperbolic image (A). When an observer sees a magnet (B) or Earth's magnetic field (C), their lines of force are also hyperbolic.

Diseases can be studied as an expansion-contraction system that moves with different speeds (González-González JM, 1992a, 1992b, 1993, 1994&1995). Sometimes it reminds of the concept of fractal (González-González JM, 1997a & 1997b). There is the possibility of modifying the hyperbolic dimensions of a physiological process, when we act in its time and space of development. In this way it could serve in the treatment of diseases (González-González JM, 2017a&2017b).

When a moving object approaches an observer, it follows hyperbolic lines of force that come out of the north pole of a magnet (the dilation factor perpendicular to the movement is 1/K2 = c2-v2/c2). (K:constante, c:velocidad de la luz, v:velocidad de un objeto). And when that moving object moves away from that observer, it follows hyperbolic lines of force that enter through the south pole of the next magnet (the contraction factor perpendicular to the movement is 1/K2 = c2/c2-v2) (fig. 2) (González-González JM, 2020).

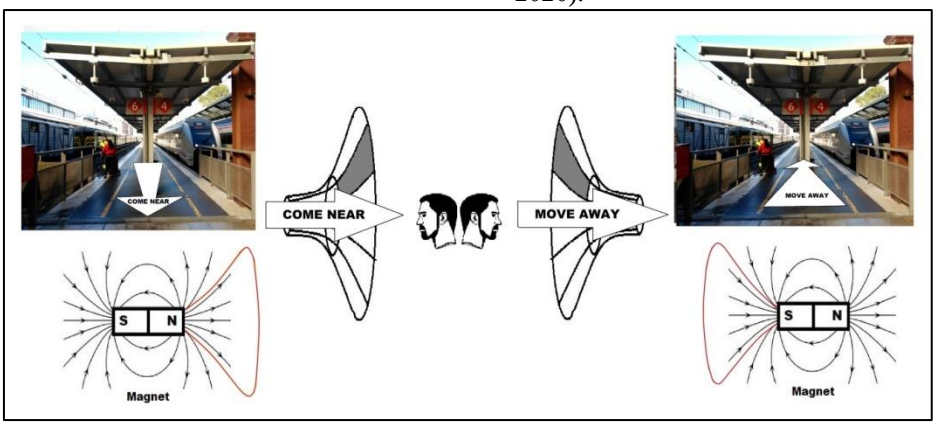

Figure 2. When a moving object approaches an observer, it follows hyperbolic lines of force that come out of the north pole of a magnetand when that moving object moves away from that observer, it follows hyperbolic lines of force that enter through the south pole of the next magnet.

DISCUSSION

If time merges with a three-dimensional universo, we have a fourth dimension. In this way a physical event does not disappear, but is a point in that four-dimensional universe that will always exist even if we are not there (Rojo Sierra M, 1984).

If we consider table 2, childhood is a short geological (clock) time, because it is few years compared to old age. However, a child during his childhood has the psychological perception that time is very slow (it lasts a long time), while physiological processes are fast. During old age, these physiological processes become slow and the elderly person has the psychological perception that time is very fast (it lasts him little).

In Figures 3 and 4 we see an example in which the hand of the clock moves from position 1 to 3 for two hours (geological time). During childhood, psychological time is less than those two hours, because time is slow and the hands of the clock move very slowly. We represent that time as if the hands of the clock had moved from T1 to T2, but less than those two hours. When T2 reaches two hours on the geological clock, the child will interpret that his psychological time has been greater. That is, he will have a dilated psychological time (fig. 3A).

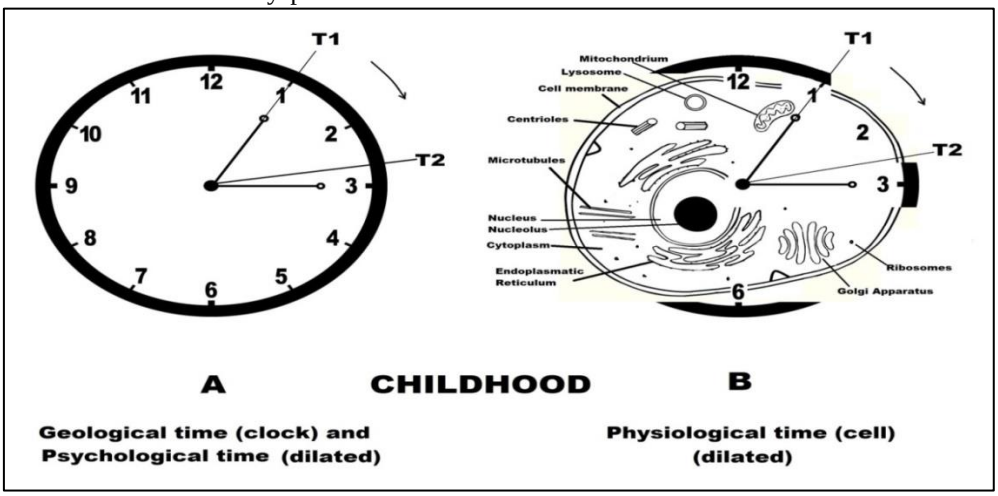

Figure 3. On a clock the hand moves from position 1 to 3. In childhood the hand moves very slowly (T1-T2 interval). For this reason, the psychological (A) and physiological (B) times are slow and last a long time (dilation).

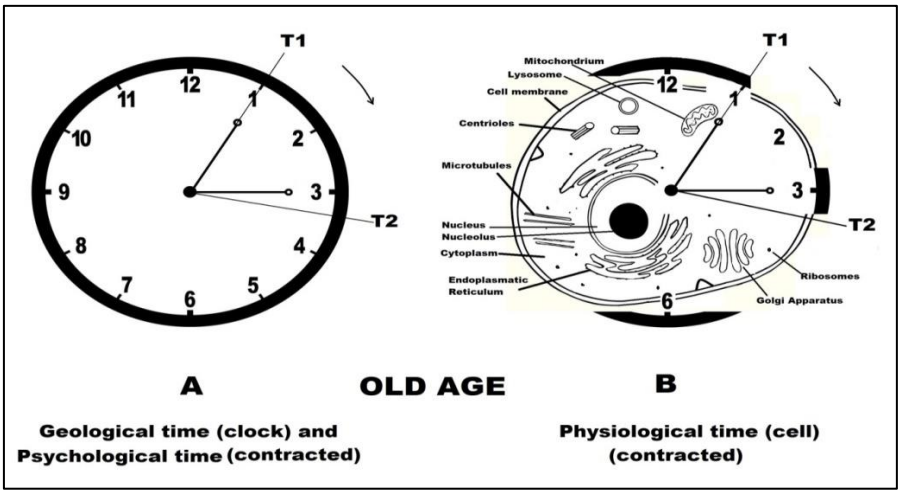

Figure 4. On a clock the hand moves from position 1 to 3. In old age the hand moves very fast (T1-T2 interval). For this reason, the psychological (A) and physiological (B) times are fast and last a short time (contraction).

In contrast, in old age that psychological time is more than those two hours, because time is very fast and the hands of the clock move very quickly.That time is represented by a T1-T2 interval, but more than those two hours. When the hands of the geological clock reach T2, the old man will interpret that his psychological time has been less. That is, he will have a contracted psychological time (fig. 4A).

In childhood, physiological processes take place over a long period of time, in which the hands of the clock move very slowly. We represent that time with a T1-T2 interval, but less than those two hours. If

we use the geological clock to measure the physiological processes that occur in this T1-T2 interval, these physiological processes are faster (Fig. 3B).

In contrast, in old age physiological processes take place in a contracted time, in which the hands of the clock move very fast. We represent that time with a T1-T2 interval, but more than those two hours. If we use the geological clock to measure the physiological processes that occur in this T1-T2 interval, these physiological processes are slower (Fig. 4B).

In human physiology there are many hyperbolic curves (González-González JM, 2017a, 2017b, 2019&2020; Atassi MZ *et al.*, 2005; Tallarida RJ, 2016; Doelle HW, 1982; Vickrey JF *et al.*, 2002; Retnakaran R *et al.*, 2008; Mizuo J *et al.*, 2000; Seiryo Sugiura *et al.*, 1995; Iwamoto H*et al.*, 1990; Whinnery T *et al.*, 2014; Zhou Y *et al.*, 2018; Gómez Urgelles J, 2016) (Table 1) and according to previous works they may be related to hyperbolic lines of force in a magnet and the Earth's magnetic field (González-González JM, 2017a, 2017b, 2019&2020) (fig. 1). We know that some stimuli such as variations in light, temperature and humidity can synchronize biological rhythms, because it makes them change to approach the stimulus frequency(Barcia Salorio D, 2007; Rojo Sierra M, 1984). The Earth's magnetic field has hyperbolic lines of force that influence human physiology. In this way, the cells of the human body synchronize their physiological processes to create similar hyperbolic curves (González-González JM, 2020). In these curves it is possible to act to modify physiological processes and in this way treat diseases (González-González JM, 2017b).

The differences between geological time and physiological time, in childhood and old age, are possibly due to the existence of a “long life biorhythm”, which goes from birth to death. This biorhythm follows, like the rest of the hyperbolic curves in physiology, a path adapted to the hyperbolic lines of force of the Earth's magnetic field. At birth, that "long life biorhythm" appears in cellular physiology and becomes hyperbolic by synchronizing with the hyperbolic lines of force in Earth's magnetic field. This possibly participates in many cellular reactions.

If external stimuli are applied to modify the hyperbolic physiological curves in the cell, they tend to synchronize again to become hyperbolas as before. In a previous work, the relationship between these curves and time was studied theoretically. Thus, the expansion and contraction factors perpendicular to the movement of an organ were pointed out (González-González,JM, 2020). In the cell there are organs that move within it and are subject to the factors mentioned above. In this way, all their cellular physiological processes have a permanent synchronization.

CONCLUSIONS

1. With respect to geological time (clock), in childhood the psychological and physiological times are dilated, while in old age they are contracted.
2. At birth, a "long life biorhythm" appears in cellular physiology and this ranges from birth to death. This biorhythm is hyperbolic because it synchronizes with the hyperbolic lines of force in Earth's magnetic field.
3. If external stimuli are applied to modify the hyperbolic physiological curves, they tend to synchronize again to become hyperbolas as before.

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