

Article

Death: An Unpredictable Variable of Time - Is the Impossible Possible?

Massimo Cocchi^{*1,2}, Fabio Gabrielli³ & Jack A. Tuszynski^{4,5}

¹Research Institute for Quantitative and Quantum Dynamics of
Living Organisms Center for Medicine, Mathematics & Philosophy Studies

²Department of Veterinary Medical Sciences, University of Bologna

³Theological Faculty of Northern Italy

⁴DIMEAS, Politecnico di Torino, Turin, Italy

⁵Department of Physics, University of Alberta, Edmonton, Alberta, Canada

Abstract

Space, time, finite and infinite, death and immortality have always been moments of absolute reflection for man. This article, between quantum physics, Western speculation and Eastern philosophy, intends to hypothesize the non-dimensionality of death, its innumerability, like dream or schizophrenia, on the basis of superimposed logic and quantum entanglement. In this context, the theme of infinity is also dealt with, based on the cyclicity and repeatability of the Universe proposed by recent models in line with Eastern philosophy and religion.

Keywords: Space, time, finite, infinite, death, immortality, quantum physics, entanglement.

...There's no life that couldn't be immortal if only for a moment. Death always arrives by that very moment too late... Wislawa Szymborska (Nobel Prize in Literature, 1996)

When one is able to write a thought like this, it means grasping one of the main themes that have always affected the human brain, at least some self-reflective brains. It means expressing, without entering into arcane discussions, the concept of space and time within the thought of the infinite.

Life, death and immortality, three domains that have stirred the imagination of many and that many have tried to explain by taking refuge in personal beliefs without being able to demonstrate and explain the existence of these dominions.

As for death, Derrida (1993) hits the mark when he states that famous "death stories", such as those of Aries (1974) or Thomas (1975), present what death is for man as a foregone, obvious fact, not worthy of investigation. Derrida himself, confronting in a tight way with the existential

*Correspondence: Prof. Massimo Cocchi, Research Institute for Quantitative and Quantum Dynamics of Living Organisms Center for Medicine, Mathematics & Philosophy Studies. Department of Veterinary Medical Sciences.
E-mail: massimo.cocchi@unibo.it

analytic of Heidegger, sees in death the name of an impossible simultaneity and of a simultaneous impossibility. In other words, an aporia, like time.

After all, thinking according to the aporia means accepting surpluses, temporal irruptions, continuous splits of boundaries and certainties, without identifying reassurances, linear, but always in the sign of indeterminacy, of the singularity that is never countable or appropriable.

There is no doubt that the problem is space-time and it is there that the enigma is played.

Augustine from Ippona, confirming the enigma of the time, in the XI book of Confessions said: "Quid est ergo tempus? Si nemo ex me quaerat, scio; si quaerenti explicare velim, nescio".

In an even more strictness way, always following the XI book of Confessions, the only thing that for Augustine seems to be acceptable is the presence of a past and a future.

In fact, without anything that passes, there would not be a past time; without anything to come, there would be no future time; without anything that exists, there would not be a present time. Nevertheless, how could the past and the future exist "since the former is no longer, the latter is not yet?

Even the present itself - continues Augustine - if it were always present, without referring to the past, would no longer be time, but eternity: If, therefore, the present, to be considered time, must refer to the past, how can we also say that it exists, if the reason why it exists is that it will not exist? Therefore, we cannot speak, in truth, of existence of the time, except insofar as it tends not to exist.

Ultimately, the past and the present would not exist. In fact, the first is no longer, while the second is not yet. The same present, ultimately, is only a moment that translates into the past and, as such, does not exist. However, Augustine writes:

"We talk about long times and short times, referring only to the past or the future. A past time is called long if it is, for example, one hundred years earlier; and so, a future is long if it is a hundred years later; short then is the past when it is, suppose, ten days earlier, and short the future ten days later. Nevertheless, how can be long or short what is not? The past is not more, the future is not yet. Therefore, we should not say that the time is long, but we should say that the past was long, and that the future will be long. My Lord, my light, will not even your truth mock man here too? Why, this past time, which was long, it was when it was already past, or when it was still present?

It could only be long when it was something that could be long. Once past, it was no longer, and therefore could not even be long, because it was not at all.

So, we should not say of the past time that was long: since we will not find anything, that it has been long, since it is not, as it has passed. Let us say instead that that present time was long, because while it was present, it was long. Then it had not already passed, so as not to be; it was

something that could be long. Instead, as soon as it passed, it ceased to be long, since it ceased to be ".

As you can see, an authentic enigma, moreover essential, because we are time and space. Space and time, in fact, are not to be understood as containers of objects, independent with respect to them, as noted by Heidegger's thought.

Indeed, even before Heidegger, the Zen master Dōgen emphasizes how events, objects, we ourselves are not in the time, but we are time: "Being-time means that time is the being, that is, time is existence, existence is time [...].

When you cross the river or climb the mountain, you are the time. We cannot be separated by time (Dōgen, 1994).

According to Paola Zizzi (2018):

...past and future as two non-separable moments, and in this sense time "flows", even if it would be better to say "entangles". Without entanglement, the quantum space-time structure, like that of the original GQN (Growing Quantum Network), resembles a causal set with a discrete internal arrow of time, a partial order among the nodes, but without a flow of quantum information. And, without the latter, past and future are separate events, which do not share any information. Thus, the usual concept of causality should be revisited in some way in order to include entanglement and become in accord with the process of quantum memory storage in the past.

When space and time overlap there is no dimension, so there is no awareness, there is, precisely, entanglement. The future time has no dimension (Cocchi & Capezzani, 2017), so as a thing that has no dimension does not exist, even death, which represents a future time, does not exist. Death could be the door to the future, so a necessary experience for a life that is no longer measurable but discrete. Is there an explanation for the meaning of life that would otherwise be meaningless? Then why joy and suffering? What is the fertilizing meaning of life?

If we could live a little while in the future, not disconnected from the past, we would be immortal. Perhaps this is the quantum dimension of life. Because death cannot exist, the concept of immortality is in the dimension of the mind, that is, of a space-time non-measurable in a classic way. Only the schizophrenic madness (hallucination) and the dream could represent a condition of time-space absence, therefore only the hallucination and the dream could represent conditions of eternity and immortality. Dreaming states have been convincingly discussed as manifestations of the quantum mode of operation of the human brain (Cocchi et al. 2017), perhaps partly because of the disconnection of the human brain from external inputs when in a dreaming state. On the other hand, premonitory dreams may be interpreted as proofs of quantum entanglement with the same or other brain at future time points.

If the brain's functions are explainable by quantum physics (Vitiello, 2001), is this a myth or reality?

The hypotheses regarding the dichotomy between the Brain as an open system (Penrose, 2012) and the Universe (space-time) as a closed system are very interesting. We believe that man will continue to ask questions and make assumptions about the issues of the impossible.

The real "borderless" is, therefore, the brain, not constrained by time-space entanglement.

The brain, although made up of atoms and hence subjected to the quantum laws of physics, if, as an open system, it contained the Universe and would not be dependent on quantum phenomena. Therefore, when its meaning is expressed, one refers to something that belongs to matter, that is, to something "finite" and would not need quantum communications with the future, but the future being already included in the brain would be expressed beyond space and time.

If space is a closed system, the future for space does not exist, while for the brain, it could be the path of dialogue towards a dimension out of time and space, to use a term understandably defined in common language, in eternity, that is, in a concept that does not contain the sense of finiteness.

The dream, the processing peculiarity of the brain, is by definition an a-quantum event (Cocchi et al. 2009, being an immaterial product, beyond the space and time dimension. The brain, therefore, not being able to be circumscribed in space and time being an expression of the non-materiality of the brain and producing non-measurable situations, in a belonging that goes beyond the matter, cannot be placed in a dimension.

Some of the questions related to the infinite would need to be reformulated should the Universe be found to be finite either in space or time dimensions, or in both. Indeed, recently cosmologists have been proposing cyclic Universe models (Rovelli & Vidotto, 2018) with cyclical properties in the time dimension where big bang events are followed by eons of inflationary expansions, which are followed by collapses and then rebirths through subsequent big bangs. These models envisage the Universe as enormous but finite and time periodic. Echoes of previous cycles can apparently be seen in the form of cosmic radiation coming to us from the outer edges of the present Universe (Wolf, 1994). The linearity of the time axis and a concomitant evolution of the Universe from the Big Bang to an unlimited expansion through inflation parallel the Western mindset of continued progress. Cyclicity and repeatability of the Universe proposed by these recent models parallel the worldview, which is prevalent in Eastern philosophy and religion. The two fundamental points of oriental thought, let us not forget, are the unity, the continuous interdependence of the universe and its structural dynamism. The same microscopic dimension shows how the world is a set of elements that can never be separated, in a close relationship and in continuous motion. Of course, man is an integral part of the system. In this context, cyclicity should not be seen as immobility and stasis, but rather as stability and perennial novelty (for example, every summer is different from another, but it is always summer). Space and time are, in this view, closely linked, not in opposition. Everything is event, activity: one thing it is because it acts.

Life and death, in a vision of this kind, are not seen as opposite realities, separate, but complementary, contiguous (Pasqualotto, 2018).

The Taoist Master Zhuangzi writes: "Death and life, duration and destruction, misery and glory, poverty and wealth, wisdom and ignorance, reproach and praise, hunger and thirst, the cold and the heat, these are the alternate events whose natural course constitutes Destiny " (Rongpei, 1999; Watson, 1968).

Not, therefore, *meditatio mortis*, as emphasized by many strands of Western thought (philosophy as Platonism' death exercise) or on the contrary, as Spinoza wanted, *meditatio vitae* (Spinoza, 2002), but, following Eastern thought, *meditatio vitae et mortis*.

The two worldviews: Eastern (cyclical) and Western (linear) appear not to be compatible with each other. Paradoxically, quantum entanglement and special theory of relativity while closer to the Eastern philosophical mindset emerged out of the Western scientific progress in a conceptual continuum starting with Descartes and Newton and ending up with Planck, Heisenberg and Einstein.

We would like to end this short reflection with the words of Paola Zizzi: "The brain is an open system, and its environment is the universe. But the universe is a closed system, and all that the two exchange remains secret to God (poetry of the nightfall)".

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