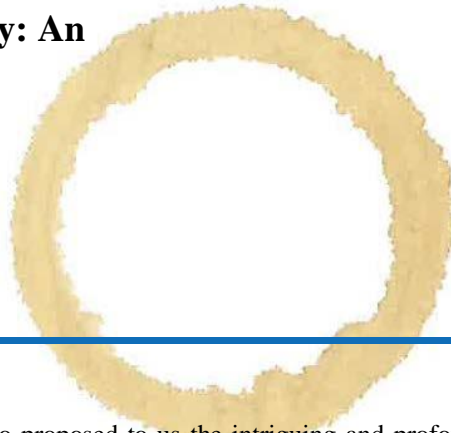


CERN IdeaSquare 10th Anniversary: An Aftermath Personal Reflection

Pablo Garcia Tello

CERN IdeaSquare, Switzerland

Corresponding author: pablo.garcia.tello@cern.ch



WE ARE “CONDEMNED TO BE FREE”

It was the great philosopher Jean Paul Sartre who proposed to us the intriguing and profound idea that, as humans, we are "condemned to be free" (Figure 1). Therefore, it is the responsibility of each one of us to create and shape our own existence¹. In other words, our lives have no inherent or pre-given meaning. According to Sartre, we are brutally "thrown into existence" without a predefined purpose, leaving us to create our own values and significance. This notion, central to his existentialism, is summed up by his statement, "existence precedes essence". We first exist and only later define ourselves and, entailed to it, our existence's meaning, through our actions, choices, and commitments. We can't escape freedom. We must continually make choices about how to live. Moreover, Sartre argues, every personal decision reflects our values and what we believe all humans should be. When we choose, we are, in essence, setting an example, shaping not only our own identity but also contributing to a collective image of humanity. Such is the greatness and vertigo of what we commonly call "free will". Sartre also argued about what he denominated "bad faith". A self-deceiving pathway to deny our freedom through personally and intrinsically believe that it is our roles and societal pressures, what, at the end of the day, define us. Moreover, as Sartre argued, by adopting fixed identities or always conforming to external expectations, we avoid the vertigo of freedom, and our responsibility mentioned above. In summary, Sartre sees this escape route as a form of soothing self-deception that limits or even worse, amputates, our authentic existence and within it, the meaning of our lives.



Fig. 1. Jean Paul Sartre.



Fig. 2. Measuring tape.

MEASURES AND TARGETS

Unfortunately, in my view, we live in times where organizations, private or public, are tyrannically governed by an incomprehensibly self-imposed Goodhart's Law. The expression was first coined by economist Charles Goodhart in the context of criticizing Thatcher's government for trying to conduct a monetary policy based on targets for broad and narrow money². Despite its origin, Goodhart's Law reflects a much more general

¹ J.-P. Sartre, *Being and nothingness: an essay in phenomenological ontology*, Citadel Press, 2001.

² J. Z. Muller, *The Tyranny of Metrics*, Princeton University Press, 2018.

phenomena than the purely economic one³. Expressing it concisely, it says: “*When a measure becomes a target, it ceases to be a good measure*” (Figure 2). This is why, despite criticisms of vagueness, and avoiding being trapped by Goodhart’s Law, I maintain that the best definition of IdeaSquare, rooted more in experience than theory, is simply this: *IdeaSquare is what we freely choose to make of it*. Here, “we”, is meant both in an individual and in a collective-collaborative sense. Along its 10th Anniversary celebration event, and proven by all of you, I stubbornly think the definition holds. Moreover, your individual and collective, testimonials, allowed me to discover yet another of its multiple dimensions connected to Sartre’s philosophy. IdeaSquare enables us to discover and enact, in a tiny part of course, the meanings of our lives. At least, I can say, it is my case.

“TO BE IS TO BE PERCEIVED”

In quantum mechanics, nature takes a strange turn. According to its standard interpretation, developed by Niels Bohr, particles do not have definite states until they are observed or measured, suggesting that reality is shaped by the very act of observation⁴. This concept echoes the earlier philosophical idea “*to be is to be perceived*”, attributed to the philosopher George Berkeley⁵. Physicist John Wheeler expanded on this, asserting that reality doesn’t simply “*exist out there*” in a fixed, concrete form but instead emerges from acts of observation and measurement⁶. Einstein, however, rejected this view (Figure 3). He famously questioned the notion of observer-dependent reality with the rhetorical phrase, “*Is the moon there when nobody looks?*”. This expression captures Einstein’s deep skepticism about the implications of quantum mechanics and was popularized by Abraham Pais, a theoretical physicist and historian in his biography of Einstein⁷. I am profoundly Einsteinian, although regarding IdeaSquare, I am happy to concede Bohr’s perspective. Building on the previous considerations, IdeaSquare does not possess an existence independent of “*a collective act of observation*”. In other words, it is through our contributions, collaborations, and actions that IdeaSquare takes its always evolving shape. And embedded in it, its purpose and meaning continuously redefined by all of us.

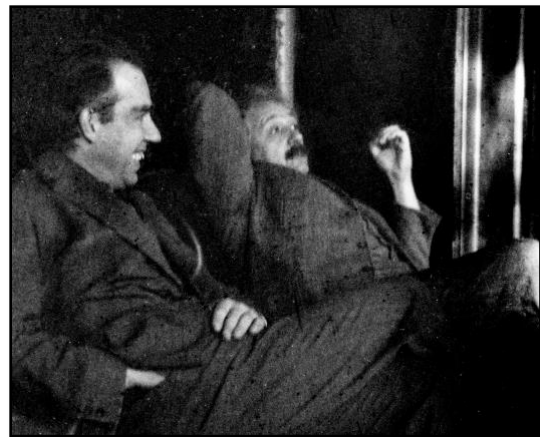


Fig. 3. Bohr and Einstein debating.

WHAT IS LIFE?

The definition of life remains a challenge, both for the scientific and humanistic realms. This might be because life is more accurately to be understood as a process, rather than an attribute. In rough strokes, an attribute is something arguably fixed and static. In contrast, life is fundamentally characterized by change, adaptation, and interaction. It is a continuous process of growth, decay, reproduction, and response to the environment. Rather than being something that simply exists, life is a series of interconnected activities that unfold over time⁸. A living organism interacts, influences, and is influenced by the environment. Biological processes like metabolism, respiration, and cellular division are integral to life. Living organisms are in a constant state of flux, continually renewing their cells, adapting to environmental pressures, and evolving across generations, all while maintaining their core identity and structure. This dynamic balance not only sustains their existence but also plays a crucial role in their preservation. The Chilean biologists Humberto Maturana and Francisco Varela introduced the concept

³ D. Manheim and S. Garrabrant, (2018), Categorizing Variants of Goodhart’s Law, <https://arxiv.org/abs/1803.04585>

⁴ J. Faye and H. Folse, Niels Bohr and Philosophy of Physics: Twenty-First Century Perspectives, Bloomsbury Academic, 2019.

⁵ G. Berkeley, A Treatise Concerning the Principles of Human Knowledge, Hackett Classics, 1982.

⁶ J.A. Wheeler, How come the quantum? Ann. NY Acad. Sci. 480, (1986) 304–316.

⁷ A. Pais, Subtle is the Lord: the science and the life of Albert Einstein, Oxford University Press, 2005.

⁸ P. Nurse, What Is Life? Five Great Ideas in Biology, W. W. Norton & Company, 2021.



Fig. 4. Paramecium.

of autopoiesis in this context⁹. It refers to the self-producing, self-maintaining nature of living systems (Figure 4). In a similar way, IdeaSquare's identity is not static, fixed in time. Thanks to all of us it constantly evolves and changes while at the same time preserving its idiosyncrasy given by the organization it belongs to: CERN. A unique place where challenges seemingly impossible become a reality for seeking frontier questions such as where the Universe comes from and what its fundamental building blocks are. Questions that ultimately help each one of us individually but also collectively, as humankind, to create the meaning of our existence.

THE UNPREDICTABILITY OF THE FUTURE

Decades ago, in the field of physics, we learned that the deterministic Newtonian paradigm was over. For good or bad, the most we can say about the future is probabilistic in nature. Moreover, we discovered that the future behavior of systems can be highly sensitive to their initial conditions¹⁰. A small change in them can lead to unpredictable and vastly different outcomes, revealing the complexity of even seemingly straightforward systems such as a pendulum. The “*butterfly effect*”, coined by the meteorologist Edward Lorenz, is a metaphor suggesting that small, seemingly insignificant events can lead to large, unpredictable consequences. In its popular form it presents the idea that the flap of a butterfly's wings in one corner of Planet Earth, through a chain of magnifying events, could eventually originate a tornado in a somewhere distant location. It draws attention to the interconnectedness in the world around us. It could be argued that IdeaSquare is a system. The nature of it would perhaps be the subject of an interesting debate. One, I wish, we could all engage in someday, driven by the curiosity to explore the unexpected insights that such a seemingly simple question could reveal. Thus, as a system, IdeaSquare's future is subjected to multiple input variations that can lead to a myriad of evolving pathways that we don't know about neither we can predict. Some of them might help to preserve its existence while some others might be detrimental for it. However, there is one factor that makes me be, in a primeval way, “irrationally optimistic” about the first vs. the second. It is the fact that IdeaSquare's future will be entangled with each one of us in one way or another. And through this entanglement, coming back to Sartre, resides our capacity to steer our joined future in a positive way.



Fig. 5. *Papilio machaon*.

⁹ H. Maturana and F. Varela, *Autopoiesis and Cognition: The Realization of the Living*, Boston Studies in the Philosophy of Science, 1979.

¹⁰ J. Gleick, *Chaos: Making a New Science*, Penguin, 1988.