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From Living Earth to Machine Nature: Paradigm Shift and the Philosophical Roots of the Environmental Crisis

Arguments in favour of an aesthetic education of the human being according to Friedrich Schiller

The History of Truth: A Human Journey of Struggle, Achievement, and Loss

The Limits of Science

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Summary

Front page:
Statue of Hermes wearing a petasos (wide-brimmed hat), a traveler's cloak (chlamys), with the caduceus and a pouch.

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Editorial

por Fernando Schwarz

SCIENCE WITHOUT CONSCIENCE IS THE RUIN OF THE SOUL

This quote comes from the French writer and physician **François Rabelais** (1494–1553), who, through his character Gargantua, advises his son Pantagruel on the need not only to know, but also to understand with conscience before acting.

In the first half of the 20th century, **Gaston Bachelard** proposed the emergence of a "new scientific spirit."

"The revolutionary aspect of contemporary science profoundly influences the structure of our minds… The scientific spirit consists essentially in a correction of knowledge, an expansion of the frameworks of understanding… The entire intellectual life of science unfolds dialectically through the differentials of knowledge, at the frontier of the unknown."

The very essence of reflection consists in understanding that we had not understood. Gaston Bachelard invites each of us to become a kind of little Socrates: to renew our thinking through the appropriation of our imagination, in order to achieve an epistemological break that occurs each time we accept stepping outside our habitual ways of thinking, realizing that things are not what we believed, but what we should have thought.

The sociologist and philosopher **Edgar Morin** reminds us that our Western civilization is a victim of excess, of immoderation, fueled by the thirst for wealth and calculation.

"We are living in an age of regression, yet we behave as though it were the most rational age that has ever existed."[1]

We have lost the notion of "we," and Edgar Morin advocates for a revitalization of the human sciences. This is one of the essential purposes of our **Hermes International Center for Human Sciences Studies.**

The mythical figure of the god Hermes represents communication between worlds, and this inspires our interdisciplinary working mythology, as you will observe through the thematic diversity of the contributions in this issue. ■

(1) Les souvenirs viennent a ma rencontré, Edgar Morin, editions fayard, 2019.

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From Living Earth to Machine Nature: Paradigm Shift and the Philosophical Roots of the Environmental Crisis

Vívian Da Silva Braz

Introduction

The contemporary environmental crisis cannot be understood solely as the result of technical failures or deficiencies in resource management. Behind ecosystem degradation, climate change, and the accelerated loss of biodiversity lies a profound transformation in the way human beings have conceived nature and their place within it.

The way we interpret the natural world is not neutral: it guides our actions, defines our priorities, and shapes our relationships. If nature is understood as an object, it tends to be treated as a resource. If it is perceived as a web of life of which we are part, the ethical implications are different.

This thesis argues that the environmental crisis has a philosophical root: a rupture in the relationship between human beings and the Earth, associated with the consolidation of a mechanistic paradigm that reduced nature to a mechanism and an object of exploitation. However, the development of contemporary science and new currents of thought have begun to reconfigure this view, opening space for a re-enchantment of the world and for the need for an ethical reconnection with the Earth.

The Living Earth: Phýsis and the Conception of the Cosmos as an Organism

For much of human history, nature was not understood as an external object separate from human beings, but as a living reality embedded in a meaningful order. In Greek thought, the term phýsis did not simply designate the set of material things, but the internal principle of emergence and growth of beings. Aristotle defines phýsis as that which possesses "within itself the principle of motion and rest" (Physics, II, 1). In this sense, nature is not something moved externally but carries its own intrinsic dynamism.

In Plato, this conception becomes even more explicit. In the Timaeus, the cosmos is described as "a living being endowed with soul and intelligence" (Timaeus, 30b). The universe does not appear as a mechanism, but as an ordered organism, animated by a principle that structures it from within. The later idea of anima mundi, developed in Neoplatonism, would extend this view of the world as an animated totality.

This perception is not restricted to the Greek horizon. In The Sacred and the Profane, Mircea Eliade states:

"For the religious man, Nature is never exclusively 'natural': it is always charged with a religious value" (ELIADE, 1959, p. 95).

In the same chapter he adds:

"The Earth too is 'transparent': it presents itself as a universal mother and nourisher" (ELIADE, 1959, p. 95),

and further:

"Taken as a whole, the Cosmos is at once a real, living, and sacred organism" (ELIADE, 1959, p. 95).

In A History of Religious Ideas, when examining archaic religions, Eliade (1978) observes that "the Earth is conceived as a universal matrix, source of fertility and generative principle of all living forms." Here the Earth does not appear as a mere physical element, but as the symbolic foundation of life and the continuity of the cosmos.

This symbolization of the Earth as Mother appears across different civilizations. In Hinduism, Prithvi personifies the Earth as a living entity; in Mediterranean mythologies, chthonic deities express the fertility of the soil; in Andean cosmologies, Pachamama represents the Earth as a living presence and object of ritual reciprocity. In various Indigenous

traditions of the Americas, the Earth is conceived as ancestor or relative, establishing a relationship grounded in responsibility and care.

David Abram observes that the radical separation between subject and nature is not a universal condition of consciousness, but a historically specific development. By recovering the sensory dimension of experience, he suggests that human beings have always been immersed in a "more-than-human world," in which perception and environment are intertwined (ABRAM, 1996).

It is not a matter of idealizing a past free of conflicts or environmental transformations. However, in these different traditions, the human being was not perceived as an isolated subject facing an inert world, but as part of a meaningful totality. Nature was understood within a living order endowed with meaning.

Authors such as René Descartes and Francis Bacon played a central role in this reconfiguration. The separation between subject and object, mind and matter, allowed the objectification of the natural world as something external to the observer. Nature came to be understood as material extension governed by mechanical laws.

Max Weber (2001) described this process as the "disenchantment of the world" (Entzauberung der Welt), noting that modern rationalization replaced symbolic explanations with technical-scientific structures. The world became calculable, measurable, and predictable. Nature ceased to be an experience of meaning and became an object of analysis and control.

This transformation produced undeniable scientific advances. However, it also consolidated a fragmented view of reality. Nature was progressively reduced to a set of manipulable parts, and the value of beings came to be measured in terms of utility.

The mechanistic paradigm was not limited to the scientific domain. Its implications extended to the economy, social organization, and even to the very conception of the human being. If nature was a machine, the world itself could also be reorganized according to criteria of efficiency and control.

The Philosophical Root of the Environmental Crisis: Conception of Human Being and Relational Rupture

The modern transformation did not imply merely a methodological change, but a profound reconfiguration of human self-understanding. With the consolidation of the separation between subject and object, the human being came to conceive itself as an autonomous instance in relation to an external world available for its intervention.

When nature is primarily understood as an object, the relationship with it tends to assume a utilitarian character. The natural world ceases to be a community of life and becomes a resource. The intrinsic value of beings is subordinated to their functionality.

This shift also affects human relationships. The instrumental logic that fragments nature may extend to the social fabric, turning people into means for economic or productive ends. The ecological crisis, in this sense, does not arise in isolation; it is embedded within a broader framework of crisis of values and

weakening of virtues such as prudence, responsibility, and reciprocity.

Modernity produced important achievements—individual rights, technological advances, expansion of knowledge—but also reinforced an anthropocentric stance. The human being came to occupy an absolute central position, while other beings were reduced to instruments.

Environmental degradation cannot be explained solely by material needs. It expresses an underlying conception according to which the natural world lacks intrinsic value. The way we conceive nature shapes the way we relate to it. If it is an object, it will be exploited; if it is a web of life, it will demand responsibility.

The environmental crisis thus reveals a profound relational rupture. It is not merely about emissions or deforestation, but about an alteration in the structure of values that guide human action. The transformation required is not limited to technological innovation; it involves revising the way we understand the world and our place within it.

Contemporary Science and the Rediscovery of the Complexity of Life

The Gaia hypothesis, formulated by Lovelock (1979), initially encountered considerable resistance within the scientific community. By suggesting that the Earth could be understood as a self-regulating system, in which living organisms actively participate in maintaining conditions favorable for life, the proposal was considered by some to be incompatible with the dominant mechanistic paradigm. The idea that the biosphere could influence climatic stability seemed to attribute intentionality to the planet.

However, collaboration with Margulis proved decisive in strengthening the biological foundations of the hypothesis. In Symbiotic Planet, Margulis (1998) shows that evolution is not explained solely by competition, but also by processes of symbiosis and integration among organisms. The eukaryotic cell itself arises from ancient symbiotic associations. Life, in this sense, is organized in networks of interdependence.

At the same time, the development of Earth System Science empirically consolidated the understanding of the planet as an integrated system. Atmosphere, oceans, soils, and biosphere began to be studied as interrelated components of a global dynamic. It became evident that biological processes directly influence biogeochemical cycles and climate regulation. The Earth came to be described as a complex system with emergent properties—characteristics that cannot be deduced simply from the isolated analysis of its parts.

As Scarano (2023) points out, the Gaia hypothesis was initially rejected because it challenged deeply rooted assumptions in modern scientific tradition. However, advances in ecology, climatology, and biogeochemistry have reinforced the understanding that living systems actively participate in planetary dynamics. In Regenerantes de Gaia (in Portuguese), Scarano proposes that human beings can act not only as agents of degradation but also as conscious participants in regenerative processes within Earth systems.

The systems thinking developed by Capra and Luisi (2014) provides a conceptual framework for understanding these findings. In The Systems View of Life, the authors argue that living organisms are self-organizing systems whose identity emerges from the relationships among their components. Life is defined as a network of interdependent processes.

In contemporary ecology, converging evidence continues to accumulate. Research on forests, soils, and mycorrhizal networks has shown that ecosystems function as highly integrated systems. Studies such as those by Simard (2021) reveal that trees exchange nutrients and chemical signals through underground fungal networks. These findings do not turn the forest into a literal organism, but they do reveal levels of cooperation and interdependence that challenge overly simplified views.

The body of these investigations does not imply an uncritical return to ancient cosmologies, but rather an expansion of the scientific horizon. Biological reality reveals itself to be more complex, relational, and integrated than the classical mechanistic model allowed. Contemporary science does not abandon rigor; it expands its understanding of life as a dynamic system.

The Re-enchantment of Nature: A Reconfiguration of Perception

The process described by Weber (2001) as the "disenchantment of the world" characterized the consolidation of a rationality that replaced symbolic explanations with technical-scientific structures. The world became calculable, predictable, and measurable. Nature came to be described primarily in terms of laws,

functions, and mechanisms.

However, the development of contemporary science has opened space for a reconsideration of this image. Various authors have used the term "re-enchantment" to describe a shift in the understanding of the natural world. It is not a return to magical thinking nor a rejection of the scientific method, but an expansion of the interpretative horizon in light of the complexity revealed by current research.

The Gaia hypothesis (Lovelock, 1979), the symbiotic biology of Margulis (1998), and the advancement of Earth System Science have contributed to shifting the image of the planet as a passive stage. The Earth has come to be understood as an integrated system in which physical, chemical, and biological processes interact dynamically. Climate stability, for example, depends on continuous interactions between living organisms and their environment.

Capra and Luisi (2014) argue that life must be understood as a network of self-organizing relationships. The identity of a living system does not reside in isolated parts, but in the relational patterns that constitute it. Attention shifts from individual components to the dynamics of interactions.

The concept of emergent properties—characteristics that cannot be explained by the mere sum of elements—has become central across multiple disciplines. Ecosystems and climate systems exhibit behaviors that arise from interactions across different levels of organization. This understanding complicates the image of nature and challenges reductionism.

In this context, speaking of re-enchantment means recognizing that the reality revealed by contemporary science is more intricate and interdependent than the classical mechanistic paradigm assumed. The world does not return to myth; it reveals a structural depth that requires new categories of understanding.

By recognizing this complexity, it becomes possible to understand nature not only as an object of manipulation,

but as a reality from which it is possible to learn. Natural systems display patterns of cooperation, self-regulation, and dynamic balance that offer references for rethinking human action. Nature ceases to be merely a resource and can be understood as a domain of learning, where principles of interdependence become visible.

Re-enchantment, in this sense, does not imply abandoning rationality, but expanding its scope. Contemporary science, far from confirming an inert Earth, reveals a dynamic, integrated, and relational planet. Nature ceases to be seen exclusively as a mechanism and is understood as a complex system in constant interaction.

Reconnection with the Earth: Ethical and Existential Dimension of the Environmental Crisis

If re-enchantment implies a reconfiguration of perception, reconnection requires a transformation of experience. The environmental crisis cannot be attributed to a lack of scientific data, nor to the absence of technology or legal frameworks. We have detailed information about climate change, biodiversity loss, and ecosystem degradation. We have significant technological advances and increasingly sophisticated regulatory instruments. Yet the crisis persists.

What proves insufficient is not technical knowledge, but the quality of our relationship with the Earth.

Suzuki (1997), a Canadian geneticist and science communicator, argues that the ecological crisis has a spiritual dimension, in the sense that it involves a rupture in how humanity perceives itself within the systems that sustain it. Environmental degradation reflects a crisis of values and perception: we have come to see ourselves as separate from the web of life.

In this context, ecopsychology emerges, developed by Roszak (1992), which investigates the interdependence between psychological health and connection with the natural world. Roszak argues that modern alienation from nature produces not only ecological impacts but also inner fragmentation. External separation is reflected in an internal split.

Macy (1991) deepens this perspective by proposing the expansion of the "self" into an "ecological self." For her, sustainable environmental action does not arise solely from rational arguments, but from the experience of belonging. When the individual recognizes themselves as part of a broader community of life, responsibility emerges as a natural consequence of that identification.

Cornell (1998), from the perspective of experiential environmental education, shows that the bond with nature is strengthened through direct experience, mindfulness, and wonder. Emotional connection often precedes ethical commitment. Information alone does not necessarily generate care; experience can.

Kimmerer (2013), a botanist who integrates scientific knowledge and Indigenous traditions, proposes an ethic of reciprocity. In her view, recognizing the intrinsic value of living beings implies responding with gratitude and responsibility. The relationship with the Earth is not unilateral; it is relational.

These perspectives converge on a fundamental idea: the transformation required is not exclusively cognitive. Instrumental rationality, although indispensable, is not sufficient to reverse the crisis. Speaking of connection "through the heart" does not mean rejecting reason but recognizing that ethical decisions are also grounded in affective dispositions such as care, reverence, and a sense of belonging.

If the environmental crisis expresses a relational rupture, reconnection addresses its causes. We do not lack laws, we do not lack technologies, we do not lack scientific data. What is lacking is the reconstruction of the bond of kinship with the Earth, the restoration of a relationship of reciprocity that recognizes our insertion in the web of life.

Environmental regeneration, in this sense, also depends on an inner regeneration. Transforming the way we conceive nature requires transforming the values and virtues that guide our actions. Reconnection does not replace science; it complements it by providing ethical orientation.

Conclusion

The path developed throughout this work allows us to understand that the environmental crisis does not constitute merely a technical problem or an inevitable consequence of industrial development. It is, more deeply, a crisis in the way human beings have conceived nature and their own place in the world.

Ancient cosmologies understood the Earth as a living, integrated, and meaningful whole. The modern transformation, by consolidating the mechanistic paradigm, enabled decisive scientific advances, but also contributed to fragmenting reality and reducing nature to an object of analysis and exploitation. This relational rupture affected not only ecosystems, but also the horizon of values that guide human action.

However, contemporary science has begun to reveal the limits of a strictly mechanistic understanding. The Gaia hypothesis, the development of Earth System Science, the biology of symbiosis, and systems thinking show that life operates through networks of interdependence and emergent processes. Nature appears as a complex, dynamic, and relational system. In this sense, one may speak of re-enchantment—not as a return to myth, but as an expansion of scientific understanding of reality.

Nevertheless, the expansion of knowledge alone does not guarantee the transformation of our practices. We possess scientific data, advanced technologies, and increasingly sophisticated regulatory frameworks. What remains insufficient is the quality of our relationship with the Earth. The environmental crisis reveals a crisis of values and virtues, a rupture in the sense of belonging that binds us to the natural world.

Reconnection, understood as the reconstruction of this bond, points to the root of the problem. It implies recognizing our insertion within the web of life and assuming the responsibility that arises from that belonging. The transformation required does not demand abandoning science but integrating it into an ethic of reciprocity and care.

Thus, the philosophical root of the environmental crisis also illuminates the direction of its possible overcoming. By rethinking our conception of nature and revising the values that guide our actions, it becomes possible to rebuild the relationship between humanity and the Earth on more conscious, responsible, and sustainable foundations

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Arguments in favour of an aesthetic education of the human being according to Friedrich Schiller

How can philosophy and modern brain research contribute to this?

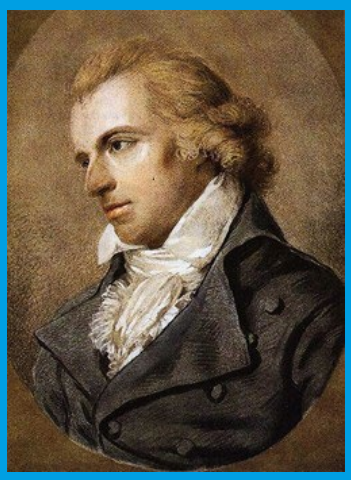
Walter Krejci - Alemania

Introduction

Schiller's letters on the aesthetic education of mankind were written between 1793 and 1795, that is, shortly after the French Revolution of 1789. Friedrich Schiller (1759 - 1805), like other German intellectuals, was initially sympathetic to the ideals of liberty, equality and fraternity. However, the terror of the following years deeply disappointed him. He realised that political freedom without the moral and aesthetic education of human beings leads to violence and chaos.

Therefore, the aim must be to guide human beings towards calm, moderation, humanity and harmony, and thereby towards true inner freedom.

He wrote down his reflections in a series of letters to the Danish prince Frederick Christian of Augustenburg. These were published in 1795, compiled in the journal 'Die Horen'. The outcome of his philosophical reflections was summarised as follows: **human beings can attain true freedom only through beauty.**



Friedrich Schiller (Fuente: Wikipedia)

In the 20th century, and even more so in the 21st, humanity has cast aside a great many social conventions and norms, so that today we can almost speak of ethical arbitrariness, from the highest political level down to interpersonal relationships in everyday life. For this reason, the need for a moral education - or, better still, in Schiller's sense, an 'aesthetic' education - of human beings is becoming increasingly urgent to ensure free, just and peaceful coexistence.

The modern brain researcher Gerald Hüther emphasises, much like Schiller, that successful education must not be limited to the mere transmission of knowledge. Rather, spaces are needed where human beings can create and 'experiment playfully', so that perception, creativity, sensuality and reflection together lead to an **'inner formation'.**

The crisis of modernity

Already in Schiller's time, there was a huge **advance in science and technology,** alongside major changes in politics and in the way people lived and worked. Since then, this change has accelerated enormously and creates tensions for both the individual and society as a whole. Reason has become the measure of all things.

However, as Schiller already observed, much has been left behind. Humanity has first tamed nature, then increasingly violated it and, finally, as can be seen today on a global scale, has in many cases destroyed it. Not least due to migration to ever-larger cities, humans have distanced themselves from nature both externally and internally, with few exceptions and isolated counter-movements. **The acceleration of life** has led to an increasingly superficial and ruthless relationship between people. Digital friends are rarely true friends.

The extensive division of labour has turned the individual into a small cog in the machine, who no longer has an overall view and feels increasingly isolated and devoid of meaning.

Human beings have lost their unity with themselves, with others, with nature and with the whole; they have become a 'fragment', as Schiller puts it. Despite great cultural achievements in general, the individual is affected by harshness, fanaticism and political confusion.

One sign of humanity's inner crisis is the rise in mental illnesses, compounded by current crises (such as COVID-19) as additional causes. In 2021, 1.1 billion people worldwide suffered from a mental disorder, primarily anxiety and depression (source: WHO). Since the beginning of the 21st century, the advent of digital technologies has further exacerbated performance pressure and stress (for example, due to constant availability, surveillance, etc.).

Over 200 years ago, Schiller wondered how one could cure **inner impoverishment and the fragmentation of the human being.** His answer is that a holistic, inner and outer, 'aesthetic' education of the human being is needed, encompassing the senses, the feelings and the spirit. He seeks a way for the human being to become 'fully human' again: harmonious, free, alive.

Schiller's view of the human being: nature, reason, instinct

Schiller describes human beings as governed by two basic instincts: the 'material instinct' and the 'formal instinct'. The former represents the need for life, experience, sensuality, pleasure and change. Without it, there would be practically no life. However, if human beings were subject exclusively to the material instinct, they would be mere playthings of circumstance; in short, slaves to instinct.

The formal instinct, by contrast, leads human beings to seek order, stability, moral form and reason. It lifts human beings out of passivity, but it can also suffocate them if everything was subjected solely to reason.

According to Schiller, human beings are initially torn between two poles: between life and law, between feeling and duty. Therefore, a force is needed to balance both instincts in a healthy way.

Schiller sees the solution in the 'play instinct'. This gives form to life and life to form; in other words, it offers a way of harmoniously combining sensuality and reason. Freed from

mere pleasure or mere duty, human beings naturally follow beauty. Through the experience of beauty, they feel both sensual and spiritually free.

And so, he finally formulates his central thesis: **'Human beings are only fully human when they play'.**

The play instinct: beauty and freedom

According to Schiller, when playing, human beings are both sensual and rational. They are free and yet act according to an inner order that brings them joy.

According to Schiller, beauty expresses this **harmony between the sensual and the spiritual.** In the 'aesthetic state', we are not determined by necessity or duty, but by free activity. Therefore, beauty is not a luxury but rather humanises human beings. It reconciles them with themselves and with others.

Schiller emphasises that beauty is more than something pleasant (material impulse) or useful (reason). In the aesthetic state, the whole human being is addressed; here we are truly free.

Beauty is, therefore, the path to ennobling the human being. This aesthetic state signifies the utmost freedom; it creates openness and harmony. It is, therefore, the prerequisite for any further development, and hence for moral action. Schiller explains on several occasions: if human beings were determined solely by reason, they would lose their vitality. If feelings and instincts were to take the upper hand, order and freedom would be lost.

For him, play is a symbol of true freedom, because it has no purpose, yet it is meaningful. When playing, we experience a freedom that is dominated neither by duty nor by instincts.

The modern brain researcher Gerald Hüther (born 1951) presents, in this context, the findings of his field's research regarding play: using nuclear magnetic resonance imaging, it could be demonstrated that the activity of nerve cell connections in the amygdala region decreases during play. This almond-shaped region of the brain is particularly active during states of anxiety.

At the same time, play activates various neural networks. Particularly in complex games, new connections are formed that give rise to creative ideas. Furthermore, when successful moves are made, a surge occurs in the midbrain that is perceived as joy, pleasure and enthusiasm. Therefore, according to certain findings in neurobiology, playing makes us smarter and enhances our zest for life.

Together with the philosopher Christoph Quarch, Hüther urges us through a book with the same title: 'Save the game!'.

The two authors recall the millennia-old tradition of play, for example in ancient Greece, where even the annual calendar was organised around various games (e.g. Olympia, Delphi).

They then highlight the liberating and unifying power of play and show how it is today threatened by commercialisation and outside interests. Unfortunately, people often just function, rather than live.

From a purely philosophical perspective, one could summarise: Life is a game.

But is that true? In any case, from a subjective point of view, for the individual, there are constant changes, positive and negative surprises, unforeseen events and uncertainties.

In fact, this popular wisdom was the subject of heated debate amongst scientists. For a long time, the idea of 'determinism' prevailed - that is, the notion that events follow clearly defined physical rules, and so the world is nothing more than a complex clockwork mechanism. Today, quantum physics challenges this idea, positing that events are inherently probabilistic (the Copenhagen interpretation), meaning that only probabilities can be calculated.

In any case, research suggests that we make thousands of decisions every day, and all of them involve opportunities and risks. Faced with uncertainties, Stoic philosophy (Epictetus) advises us to accept this

'game of life', over which we have only very limited influence, and to 'play' our 'part' in it with dignity.

The role of art

Schiller attributes a central role to art in human education. It is much more than a mere decoration of life.

Only beauty, Schiller explains, offers a space in which human beings are neither the object of external ends nor the victim of their own instincts. In the freedom of aesthetic experience, human nature can develop unhindered, as a combination of sensibility and reason. In this context, Schiller postulates a 'disposition towards humanity' that exists despite sometimes adverse circumstances. Human beings respond to goodness and beauty.

Modern studies support this view and increasingly challenge the image of human beings as being selfish, competitive like a 'homo economicus'. Nobel laureate Elinor Ostrom, for example, has investigated the conditions under which people are willing to cooperate and improve their situation collectively (for instance, self-organisation among fishermen to prevent overfishing). For its part, the Max Planck Institute in Leipzig has discovered in a study of three-year-old German children that, in certain tasks, 78 % of them prefer to cooperate rather than solve the problem on their own. According to Schiller, art shapes the character without oppressing the human being, as morality or politics do. A person who has learnt to perceive beauty is receptive to truth and goodness. In this way, Schiller follows in the footsteps of Plato, who also prioritises the idea of beauty as a gateway to the ideas of the true, the just and the good.

In this way, Schiller formulates the ideal of human development: one must act with the aid of art in such a way that the human being is liberated from within. Art reaches and shapes the human being in their entirety. Their instincts are effective, in harmonious balance, but neither one dominates the other.

Refinement thus means for sensuality:

- The human being feels but feels with greater delicacy.
- Human beings desire, but they desire with moderation.
- They react, but they react with nobility.

Refinement in the realm of reason, in turn, means:

- Beauty elevates cold reason to a humaneness.
- It makes reason more 'sensual' through warmth, sympathy and liveliness.
- It transforms rigid duty into a joyful way of taking things seriously.

Beauty, Schiller finally emphasises, is above all a state within us. In this supreme state we feel free and alive at the same time. Aesthetic education is, therefore, education for humanity as such.

Specifically, this has the following implications for art:

- It teaches us to feel free without being selfish.
- It refines our senses and broadens our thinking.
- It teaches us to enjoy beauty, that is, to feel freedom.
- The artists hence must be free from personal caprice, crude sensuality and abstract coldness.
- They must create beauty, guided by ideals, without completely ignoring reality. They must be creators of a higher reality; they must not depend on fashions, the tastes of the masses, politics or external circumstances. They should not be imitators but educators.

The Aesthetic State: Schiller's political vision

As a consequence of his analysis, Schiller develops the vision of an 'aesthetic state'. This would, therefore, be a society in which people were not bound by laws but guided by their cultivated taste and moral sense. Tyranny would no longer be necessary; freedom would become a habit.

Schiller emphasises in his third letter that true freedom - that is inner

freedom - can only be attained through the elevation of humanity, its enlightenment, and its moral and aesthetic education. Only this would guarantee lasting freedom and, with it, social progress. Schiller sums it up finally saying: 'The path to freedom passes through beauty'. The 'aesthetic state' would therefore be the ideal of a community of free and inwardly cultured people, not an external regime, but the result of inner maturation. 'Aesthetic education' is, therefore, a means of leading human beings to integrity, harmony and inner freedom, which form the basis of a human future. Moral education ultimately completes the process. As aresult, in Schiller's conception, a mankind of true moral greatness is possible.

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The History of Truth:
A Human Journey of Struggle, Achievement, and Loss

José David Grimaldi

Abstract

This essay explores the history of truth as a constantly changing human journey. It is divided into 10 crucial stages of human thought, particularly where what was held to be true enters into crisis and must struggle to become the new truth of the moment. We also find that appropriating truth can be a great temptation, but this leads us to great collective efforts to defend the facts in a more objective, unbiased manner. We find that human beings have sought truth externally, within themselves, in the divine, in the material, and this leads to the greatest danger: that truth becomes so relativized that it becomes meaningless.

Introduction

Human beings have always sought to understand themselves and the world in which they live. Reflection on oneself and on the surrounding world has constituted what we call truth. For this reason, truth has been changing. The questions we have asked, the answers we have found, and the methods we have used have helped us explain the origin of the world, guide our lives, and give meaning to our existence.
The answers humanity has discovered have connected it with the workings of matter and have gradually brought it closer to the mystery of the relationship between human beings and that which transcends them—what has been called the spiritual or the sacred.

This accumulated knowledge is what has constituted truth. In each historical period, the search has employed different methodologies and has been used in different ways. Ancient peoples turned to myths and symbols; the Greeks conceived it as being or appearance; the Middle Ages subordinated it to the divine, to its idea of God; the Protestant Reformation broke with medieval rigidity and centered truth on individual conscience; science grounded it in evidence; Descartes in the certainty of thought; the Enlightenment in collective knowledge; and the twentieth century revealed another dimension: the use of truth for political ends.

Today, the limitless flow of information through the internet produces multiple explanations for fundamental questions. This compels us to think of truth not as a fixed definition, but as a shared journey.

This essay traces that history, showing how truth has been sought, protected, used, and transformed. Rather than offering definitive answers, it seeks to present examples and methodologies that invite reflection on the value of what we know—and on what we must overcome to give meaning to our lives.

Egypt, America, and the Origin of the Universe and Humanity

The Egyptians told that in the beginning there was nothing—only an infinite and dark primordial ocean, where everything existed in latency. From those formless waters emerged a mound, and upon it appeared Atum Ra, the creator god. Atum Ra brought himself into existence and then engendered the sky and the earth[1].

Through this narrative, the truth they sought was that the universe does not arise from chance, but from the triumph of order over chaos. Each sunrise was a reminder that this struggle had to be renewed—Ra battling the serpent Apophis—and that chaos could return if human beings forgot their duty to maintain balance. Beneath this story of chaos and order lies another: that of matter and spirit.
Matter and spirit point to the idea that the true nature of the universe resides

in the immaterial and in its material reflection.

In a similar way, though now focusing on the human being, the Maya narrated in the Popol Vuh, their sacred book, the process of humanity's creation. The gods made several attempts to create humankind: first from mud, then from wood, until finally they formed it from maize. In this account, one perceives that the gods were seeking a being closer to themselves—less selfish, more akin to their own substance—until they ultimately succeeded.

The truth they sought was that of human origin and humanity's place in the cosmos: to understand that the human being is not an accident, but part of a design in which matter and spirit sustain one another.

But what do these narratives tell us? That in different corners of the world, separated by oceans and centuries, human beings arrived at the same intuition: **truth was not attained through a purely logical idea, but through a shared symbol preserved within a timeless story.** A narrative that protects reality beneath the veil of myth.

Myth, then, was not mere fantasy. It was a story revealed through images and symbols—symbols that describe themselves while simultaneously connecting with a metaphysical reality.

And therein lies its strength: myths are timeless. Although they were told thousands of years ago, they remain relevant because they do not describe a particular event, but a truth that transcends time and geography. Chaos, order, matter, spirit, and the origin of humanity—these questions are still alive, and that is why myth continues to speak to us.

Moreover, myth was also a methodology: a way of encoding truth and transmitting it from generation to generation. Through narrative, ancient people condensed their deepest intuitions about the world. It was a way of thinking the unspeakable, of organizing experience, and of opening the path to other forms of knowledge.

Myth preserves truth in an intact form. It also contains within it the seed of philosophy, science, and religion. For this reason, rather than being merely a remnant of the past or a non-scientific form of thought, myth is a mirror in which the present continues to seek understanding.

Greece, Parmenides and Aristotle: Two Paths, Essence and Matter

Among the Presocratic philosophers who studied the universe from a rational perspective, Parmenides of Elea stands out. He composed a poem in which he journeys to the dwelling of the goddess of Truth. There, he is revealed a fundamental truth: the nature of Being—eternal, indivisible, and unchanging. He discovers that nothing that changes can be truly real, for what is real cannot cease to be.

The truth Parmenides arrived at was metaphysical: an absolute principle—Being—that transcends matter and constitutes the spiritual essence of all things. For him, change and multiplicity belonged to the realm of opinion, to a deceptive illusion.

Yet, despite opening the door to philosophy properly, his thought left a fissure for further inquiry. For although change was deemed illusory, human perception revealed change as the most immediate and evident reality. This tension opened the path toward the study of matter.

Indeed, centuries later, Aristotle inherited this impulse and directed it toward a different horizon. He observed that the world does change seeds grow, animals perish, the stars move. Building upon the concept of Being, he sought to uncover the essence of matter—its characteristics—in other words, he sought to understand how it can be known.

Thus, the truth Aristotle pursued was that of rational order within the material world. He developed logic and syllogism as tools for correct reasoning and for demonstrating truth step by step. He did not deny change; he organized it.

Greece thus bequeathed us two paths that still accompany us. That of Parmenides: truth as immutable, eternal, metaphysical Being—introducing us to the realm of essence. And that of Aristotle: truth grounded in the existence of matter, now approached through rigorous thought that explains the movement of the world. Two distinct perspectives, yet united by the same aspiration: not to settle for appearances, to go beyond opinion, and to reach what is real.

Greek philosophy marked a decisive turning point: truth no longer depended on myths or religious symbols, but on reason. With Parmenides, the possibility emerged of thinking about the eternal and the absolute— a metaphysical principle that sustains all reality. With Aristotle, the first scientific methodology was developed to distinguish truth from falsehood in a changing world. This represents the triumph and evolution of reason.

From Parmenides, thought progresses

to Plato, who speaks of the world of ideas and the world of the sensible. He strives to demonstrate what is truly real, while also establishing the existence of material truth. It will be Aristotle, however, who, through reason and by means of logic, demonstrates the order of the sensible world. Since then, all thought has oscillated between these two currents: one that looks toward the immutable, and another that seeks to understand change.

Alexandria, Hypatia: Truth as Free Knowledge

Alexandria, fifth century.

A city of temples, libraries, and political tensions. There, a singular woman shone: Hypatia. A mathematician, astronomer, and philosopher of science, daughter of the scholar Theon, initiated in the school of Philae, she led the Neoplatonic school and taught pagans, Jews, and Christians alike.

Hypatia's path was that of scientific truth. She sought to understand the nature of the universe through the comprehension of its laws. In her lessons, this mathematician would trace perfect circles in the sand, reveal the harmony of the stars, and, as a culmination, attempt to understand the truths of the soul starting from scientific knowledge.

The truth Hypatia pursued was that of free and universal knowledge: the union of science and philosophy to reveal that the universe possessed an order intelligible to the human mind.

But such a truth was dangerous in a divided world. In 415, the patriarch Cyril accused her of being an enemy of Christianity. A mob dragged her through the streets and murdered her. With her death, not only did a woman fall, but also a symbol: the last strong voice of a tradition that had integrated myth, reason, and contemplation.

Can truth be destroyed when the one who embodies it is killed? Hypatia reminds us that truth may be silenced but not eliminated. It survives in memory, in the trace it leaves in her disciples, in the inspiration that endures across centuries.

Her fate also announces a shift of era. With her, the beacon of ancient knowledge is extinguished, and a new age emerges in which truth will be claimed by faith. Greek philosophy will take refuge in monasteries and Christian schools, where ancient texts will be preserved and reinterpreted. The Middle Ages will inherit fragments of that knowledge but will place them at the service of a new horizon: that of divine revelation.

Europe, the Middle Ages: Revealed and Guarded Truth

With the fall of the Roman Empire, Europe entered a turbulent age: cities in ruins, migrating peoples, and new structures of power. During this scenario, Christianity became the dominant spiritual and cultural force. Truth was no longer sought in the stars or in the immutable Being of the philosophers; it came to be claimed as a divine gift.

Saint Augustine, one of the Church Fathers, expressed this with striking clarity: "You have made us for yourself, O Lord, and our heart is restless until it rests in you." For him, the truth he sought was that of revelation—something that could only be found in God and accessed by the soul through inner illumination.

Centuries later, Thomas Aquinas, the great master of Scholasticism, sought to build a bridge. Inspired by Aristotle, he argued that human reason could collaborate with faith. The truth he pursued was that of harmony between faith and reason: what is natural can be demonstrated through philosophy; what is supernatural is revealed through theology.

Meanwhile, the Jewish tradition explored another path: the Kabbalah. Through symbols, letters, and numbers, it sought a hidden meaning within the mystical dimension of Scripture. The truth pursued by the Kabbalists was that of the secret and the mysterious—a truth aimed at encountering God, understanding the universe, and comprehending human existence itself. Their goal was to know God to live in harmony with His laws.

The Middle Ages thus left us with a complex image: truth was not singular, but rather a network of paths. Some found it in faith, others in reason, and still others hidden. Yet in every case, truth was conceived as something transcendent—above the human being, dependent on the divine.

And so, while Hypatia had defended a free and open

knowledge, the Middle Ages shifted the center of gravity upward. Truth came to be guarded by monasteries, councils, and theological schools. The human being could aspire to it but always subordinated to the mystery of God.

Wittenberg, Luther: Truth as Conscience

Wittenberg, 1517.

Martin Luther, an Augustinian monk, looks on with indignation as indulgences are sold— forgiveness turned into currency. The Church, which was meant to guard the faith, seemed more like a marketplace than a temple.

Driven by this conviction, Luther nailed his Ninety-Five Theses to the door of the church. **The truth he sought was that of individual conscience as a sacred space where the human being can hear God.** No longer was it the authority of the pope or the priest that defined salvation, but the inner fidelity to the Word, read and embraced personally.

At the Diet of Worms, he expressed it without hesitation: "My conscience is captive to the Word of God… Here I stand; I can do no other." He was excommunicated and persecuted, yet he opened an irreversible path: truth was no longer monopolized by institutions but relocated within each individual.

Of course, this freedom brought division. The unity of Christendom fractured into multiple churches and doctrines. Yet at the same time, a new principle was planted: that truth can stand against power, even in solitude.

And this principle would soon extend beyond the religious sphere. A century later, another man would confront ecclesiastical authority from a different domain: science. Galileo Galilei, telescope in hand, would show that the Earth is not the center of the universe. His struggle would be different, but its root was the same: truth must be defended with fidelity, even when it contradicts authority.

Thus, from Luther to Galileo, the search for truth followed a continuous path: from inner conscience to empirical evidence. Both challenged the same institution, both risked everything, and both remind us that truth is never simply given, it must always be won.

Poland, Pisa: Copernicus, Galileo, and the Truth of Heliocentrism

Poland, Pisa—mid-sixteenth to early seventeenth century.

In 1543, Copernicus proposed the heliocentric theory. **Its truth lays in a radical inversion: it is not the Sun that revolves around the Earth, but the Earth that revolves around the Sun.** He died that same year. His theory threatened the geocentric truth upheld by the Church, yet it remained a truth that could not yet be proven.

Then came Galileo Galilei, who was not only a thinker but also a craftsman of knowledge. He spent long nights polishing lenses, correcting imperfections, assembling wooden tubes. His workshop was humble, yet within it a revolution was taking shape.

In 1609, through one of his telescopes, he saw what no one had seen before: mountains on the Moon, spots on the Sun, and four small moons orbiting Jupiter. Direct observation as a method of knowledge revealed that the Moon was neither perfect nor immutable. It also confirmed that the Earth moved around the Sun, unsettling the authority of the Church. The heavens were in motion, and the Earth was merely another planet.

The truth Galileo pursued was that of empirical and mathematical evidence: what anyone could verify with their own eyes and measure with numbers. Tradition and dogma were no longer sufficient; truth had to be demonstrated through facts.

But this truth brought him into direct conflict with power. In 1615, in a letter to the Grand Duchess Christina of Lorraine, he argued that the Bible teaches "how to go to heaven, not how the heavens go." It was a bold claim. In 1633, the Inquisition forced him to kneel and recant heliocentrism. The scene was humiliating. And yet, in a whisper, it is said that he murmured: Eppur si muove—"and yet it moves."

Where, then, did truth remain? Galileo teaches us that it does not always prevail in the moment, but it endures over time. Evidence, even when silenced, ultimately finds its way. His struggle marks a decisive shift: truth would no longer depend on individual conscience, as in Luther, but on shared proof—on what can be observed and verified by all.

This was Galileo's great legacy: to show that scientific truth, even when persecuted, possesses the force of the visible. A humble truth, made of lenses and calculations, yet more powerful than any decree.

But one question remained unresolved:

if the senses can deceive and authority can lie, where can the human being find firm ground? Galileo had shown that observable facts could uphold truth against power, but it was not enough to look at the heavens. It was necessary to find within the human being an indestructible point from which all knowledge could be rebuilt.

That step would be taken by a French philosopher, withdrawn into a cold room, armed not with telescopes but with doubt. His name: René Descartes. And with him, truth would move from the heavens into the interior of the subject.

The Netherlands, Descartes: Truth as Inner Certainty

Winter of 1619. The Netherlands.

René Descartes withdraws into a closed room, barely warmed by a stove. Outside, the Thirty Years' War tears Europe apart; inside, he wages another battle: that of the mind against doubt.

He doubts everything: the senses, which deceive; books, which repeat dogmas; even mathematics, which could be the illusions of a malicious genius. During this storm, he discovers an indestructible point: I think, therefore I am.

The truth Descartes sought was that of absolute certainty—a firm foundation from which the entire structure of knowledge could be rebuilt. He no longer trusted external authorities, nor even the heavens as Galileo had observed them, but rather the clarity and distinctness of ideas emerging within thought itself.

From this certainty emerged a method: to divide each problem into simple parts, to proceed in an orderly manner, and to accept only what is evident. Inspired by geometry, this method promised to extend to all fields of knowledge.

Doubt, which seemed the enemy of truth, became its ally. By distrusting everything, Descartes arrived at the one thing that could not be denied: the existence of the subject of thinking.

But this revolution came at a cost. By locating truth within the "self," he opened the door to the risk of confining it within subjectivity. From that moment on, truth became a task of the individual: firm, yet also solitary.

His legacy marks the beginning of philosophical modernity: certainty no longer comes from above or from outside, but from within. And yet, this very certainty would later prove insufficient, as Enlightenment thinkers would demand that truth not remain a purely personal discovery, but become a collective project accessible to all.

France, the Enlightenment: Truth for All

Eighteenth century. Europe breathes new air: cafés where debates unfold, academies where ideas are contested, salons where thought circulates freely. In the midst of this intellectual ferment, two men—Denis Diderot and Jean d'Alembert—conceive a monumental project.

Their ambition was to gather all human knowledge into a single work: the Encyclopédie. Not only science and philosophy, but also the arts, crafts, and practical knowledge. The truth they sought was that of knowledge made accessible to all—one that would break the monopoly of religious and political elites, particularly those of the nobility and the clergy. Their vision was grounded in the experience of the rising bourgeoisie.

The project was not without obstacles: censorship, confiscations, persecution. Diderot was even imprisoned for his writing. Yet he persisted, convinced that ignorance was the great enemy. The Encyclopédie, more than a book, was a manifesto: reason must illuminate everyone, and knowledge must be public and collective.

With the Enlightenment, truth became a social enterprise. It was no longer enough for an individual to attain certainty within, as in Descartes, nor for a scientist to demonstrate isolated facts, as in Galileo. Now truth had to be organized, transmitted, and placed in the hands of the community.

This impulse would prove decisive. The shared knowledge of the Encyclopédie anticipated political and social revolutions: the idea that truth could liberate entire peoples. Yet it also planted a risk: by systematizing knowledge within a single framework, reason itself could become a new dogma.

Enlightenment thus leaves us with a double legacy: confidence in education and in collective reason as paths toward truth, and the warning that even light can blind if it leaves no room for diversity. A tension that opens the way to the challenges of the twentieth century, where truth would no longer be threatened by ignorance, but by organized manipulation.

Germany, Hannah Arendt: Truth in Exile

Germany, twentieth century, 1930s.

Nazism rises. Violence looms over the Jewish population. A young philosopher is forced to flee to save her life. Her name is Hannah Arendt.

Exiled first in France and later in the United States, she transforms that experience of persecution into the foundation of her thought. From close range, she witnesses how totalitarian regimes manipulate truth: they fabricate narratives, erase facts, and turn falsehood into a norm.

Arendt distinguishes two paths in the search for truth:

- Rational truth, proper to philosophy and science, which is demonstrated through arguments or mathematical formulas.
- Factual truth, proper to political life, which rests on events that have occurred in the world and can be verified by anyone. And in this domain, opposing political groups—left and right alike—tend toward the same temptation: the manipulation of truth. Thus, the historical narratives of people often fracture into competing versions, those of the right, those of the left, and a third emerging from scholarly inquiry[2].

The truth Arendt sought—and defended most passionately—was that of shared facts, for they constitute the foundation of all political coexistence. Without a common ground of facts, opinions dissolve into propaganda, and politics degenerates into manipulation.

Her reflection is therefore radical: it is not enough to possess brilliant theories or to conduct experiments in laboratories. If a society loses the ability to distinguish between truth and falsehood in the events of everyday life—who governed, what wars were fought, which victims existed, then truth disappears from the public sphere.

Her warning is clear: organized lying does not merely conceal truth, it destroys it. For if there is no longer confidence that facts are facts, politics becomes a theater of fiction where anything is permissible. And in such a world, freedom itself is endangered.

Arendt's voice reminds us that there are many forms of truth—metaphysical, rational, scientific, spiritual—but all require a minimal foundation: that we can trust in a shared world of facts. Without that common ground, no other search for truth is possible.

Contemporaneity: Plural Truth

The twenty-first century places us in an unprecedented scenario: immediate information, infinite data, and diverse voices circulating simultaneously. Never has humanity had such access to knowledge—yet never before has it been so exposed to confusion.

In this context, the truth that the South Korean philosopher Byung-Chul Han warns against is that of extreme relativism, where little can be firmly sustained. He argues that the excess of information does not guarantee the discovery of truth; rather, it disperses and dilutes it. Multiple interpretations arise around the same issue, making it increasingly difficult to distinguish between truth, falsehood, and illusion. Data proliferates without verification, leading to widespread confusion.
At the same time, other voices interpret this situation in a more positive light. The American philosopher Martha Nussbaum defends the idea that diversity, rather than dividing, can unite. She seeks a different kind of truth—one rooted in intercultural openness, arguing that perspectives from different cultures and traditions can enrich dialogue on shared questions.

We thus live within tensions:

- On the one hand, a crisis of confidence in a single, unified truth.
- On the other hand, the possibility of a shared journey, in which each perspective contributes a fragment of light.

Contemporary truth is no longer a fixed point, but a dynamic process. It requires intellectual honesty, openness to others, and critical capacity to avoid falling into manipulation—and, above all, a commitment to dialogue.

The great challenge is not to confuse plurality with indifference. The existence of many truths does not mean that all are equally valid. Arendt's legacy reminds us that without shared facts, coexistence collapses. Nussbaum's contribution insists that diversity can broaden our perspective. And Han's warning urges us to safeguard truth in the face of saturation.

The lesson of our time is clear: truth is a collective journey, a horizon in constant construction. It is no longer about finding a final definition, but about sustaining the commitment to seek it together—amid diversity and uncertainty.

Conclusion

The history of truth has not been a straight line, but a succession of turning points. In each era, human beings have sought a secure foundation: the myths of creation to give meaning to origins; the eternal Being of Parmenides; the logic of Aristotle; the revelation of the Middle Ages; the conscience of Luther; the theory of Copernicus; the evidence of Galileo; the certainty of Descartes; the collective reason of the Enlightenment; the defense of shared facts in Arendt; and contemporary plurality.

As we follow this path, we discover that truth seems to emerge from a single point—a myth, a principle, a certainty—but soon expands, multiplies, and becomes relativized. Each era contributes to its own perspective, its own way of sustaining what is true. What was once considered absolute certainty becomes, at another time, a step toward new understandings.

And yet, amid this diversity, something remains truth is never indifferent. It is struggle, risk, and effort. Hypatia defended it with her life, Luther with his conscience, Galileo with his telescope, Arendt with her exile. Truth demands courage, because it always involves confronting forces that seek to impose something else.

What we learn is that truth should not be sought to possess it as an immobile treasure, but to illuminate the lives of those who reflect and of the community that shares that discovery. The value of truth lies in the path it opens, in the clarity it brings, in the orientation it offers.

For this reason, this essay has chosen specific moments in history: because in each of them truth was redefined, and with it the world became more intelligible. Truth is not an eternal absolute to which we gain access once and for all; it is a human journey, marked by struggles, achievements, and losses.

And perhaps the greatest lesson is this: truth is always a shared search. It changes with time, takes shape in individuals, is renewed in institutions, and is tested in exile. It does not reside in the past or the future, but in each present effort to ask ourselves—honestly—what is true and what allows us to live with meaning.

Notes

1. This is the moment that modern physics called the Big Bang.

2. In El Salvador, the 1932 massacre presents three main narratives: first, that of the dictatorial government; second, the leftist narrative that seeks to dismantle militarism; and third, the one that emerges after the end of the civil war in 1992, when there is an effort to reinterpret the events of 1932 in a more objective way.

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The Four Paths to Reality: An Antidote to Post-Reality

Léonard Berardi

Post-truth has given rise to what might be called 'post-reality': no longer merely a distortion of facts, but a fabrication of reality ex nihilo, shaped by algorithms. In the face of this danger, the four paths to reality—science, systemic approach, the symbolic and the holistic—appear as an essential antidote.

Taken in isolation, each risks falling into its own excesses and being subsequently exploited: the reductionism of science, the insularity of systems theory, the superstition of the symbolic, and the confusion of the holistic. These fragmentations of reality leave the door open to fantasy and the manipulation of reality.

On the other hand, underpinned by a culture of thought, these approaches complement and balance one another, enabling a more accurate and profound understanding of the world.

From post-truth to post-reality

Hannah Arendt warned us when she stated:

'Where everyone lies about everything, the result is not that people believe the lies, but that nobody believes anything anymore.'[1]

Since the emergence, in the 2000s, of the term 'post-truth' – meaning that 'the truth is no longer the truth' but rather the truth that suits us – we have witnessed a shift in which objective facts matter less than emotions, beliefs and opinions. *"Lying is no longer a slip-up, but a tool of government"* [2]. It is nothing less than twisting reality to make it fit with prevailing ideologies.

Science, which had previously been dominant, is increasingly weakened, as it is subject to pressure from those in power who seek to reshape a reality that is inconvenient, such as denying global warming.

Post-truth has thus given rise to **'post-reality'**. Fuelled by a constant stream of fake news, this post-reality, through sheer repetition, shapes people's minds and is eventually accepted by the vast majority of the public. This dynamic of 'derealisation' is not merely a reduction of reality, but a genuine distortion of its objective nature in favour of beliefs and opinions.

As the economist Michaël Lainé puts it: *"If truth is not the point of reference for power, this implies arbitrariness and the destruction of thought"* [3]. Indeed, thought reveals that discourse does not conform to the facts, which makes it the enemy of a pure project of domination.

Thus, the culture of thought, in its quest for truth to grasp reality, becomes the enemy of these new demiurges whose sole ambition is to subject reality to their desire for power and supremacy.

Spiritual resistance through thought

Alain Finkielkraut, in his book *La Défaite de la pensée* (1987), had already denounced the trend of 'all-cultural' *, which sounded the death knell for the universalist ambitions of humanist culture. Eighteen years later, the retreat of international institutions, the rise of authoritarian regimes and the decline of democracies are plunging us into a chaotic world.

Today, the culture of thought and education in critical thinking constitute nothing less than a movement of spiritual resistance in the face of this contamination of reality by the virus of post-truth.

This resistance begins by regaining access to reality through a more holistic approach to thinking which incorporates, as Luc Bigé points out, *'the four paths to understanding the world'* [4]

These four approaches – scientific, systemic, symbolic and holistic – together form a powerful antidote to post-reality. However, when taken in isolation, they are more vulnerable to the onslaught of post-truth.

Let us examine these four approaches in detail: their characteristics, their strengths and, above all, their vulnerabilities when they are isolated from one another:

1. Scientific Knowledge

Modern science, particularly since Karl Popper, is based on the principle of falsifiability. A theory is scientific if it can be tested by experiment, called into question, or even contradicted by observations. It must be open to being contradicted by facts. It is this ability to submit to the test of reality that constitutes its strength and integrity.

It emphasises facts, figures, processes and measurable data. The scientific approach uses rigorous methods and tools, seeking to provide solutions based on objective evidence. It formulates a hypothesis, designs a test to put it to the test, and accepts the verdict of reality, even if it contradicts intuition.

This approach is useful for evidence-based decision-making, where it is necessary to minimise uncertainties through the use of factual data. Driven by the Enlightenment, seeking above all to establish universal truths based on observable facts, independent of beliefs, it has dominated the modern world to this day.

Deviance: when science without consciousness becomes blind

Isolated from other approaches, lacking an ethical framework or a holistic vision, this approach can easily be exploited and fall into deviations such as materialism, positivism, reductionism (the belief that only what is measurable exists) and the omnipotence of reason. Transhumanism, by reducing the meaning of life to an increase in its duration, is its most contemporary expression.

2. Systemic Knowledge

The systemic approach takes into account the interconnections and interactions between the various elements of a system. It allows us to view the organisation as a whole, where each part influences and is influenced by the others. It helps us to understand the relational dynamics and cross-influences within an organisation.

It accounts for the emergent phenomena characteristic of complex systems and the uncertainties inherent in living systems. The 'butterfly effect' is a good illustration of this. It identifies feedback loops, leverage effects and interdependencies, as in the case of meteorology and ecology. The aim is to gain a holistic view to understand how changes in one area affect the whole.

This approach is relevant for managing complex environments where multiple actors or factors simultaneously influence outcomes.

Science itself has had to rethink its pursuit of objectivity by incorporating the systemic dimension. In quantum physics, the quest for objectivity has been called into question since the discovery that the observer's consciousness influences the experiment. The **observer-observation-observed** triad is an interconnected whole, pointing to a more subjective, systemic and holistic dimension.

Deviance: when systems theory becomes communitarianism

The deviation from the systemic dimension is communitarianism, where collective identity takes precedence over individual identity. This is reminiscent of the excesses of Romanticism, with its exaltation of the 'we' that excludes the other. This deviation is exacerbated today in an unstable world where communitarianism offers a form of protection that people seek to safeguard at the expense of truth.

Globalisation has greatly increased individuals' uncertainty about their identity and their future. The instinctive reaction is to reclaim a fragment of identity and certainty through the social codes and norms specific to a group to which one belongs.

Thus, narratives of identity and morality (whether religious, political or social), such as wokism, provide interpretative frameworks that alleviate uncertainty. The same is true of recommendation algorithms (YouTube, TikTok, etc.), which confine each individual to a cognitive micro-universe. Everyone barricades themselves behind walls of micro-certainties, reassuring yet alienating cognitive spaces, to draw a clear distinction between the inside and the outside. We are witnessing a war of micro-systems that are inward-looking, fragmented and self-referential, fighting for their existence at the expense of a lucid search for truth. It is the reign of subjectivism and cynicism. It is particularly at this stage that science can be instrumentalised to conform to the reality desired by these collective identities. It then becomes 'pseudo-science', cloaking itself in the garb of rigour without adhering to its rules. It asserts without proving, reinforces without challenging, and resists any refutation by retreating into justifications, often emotional or ideological. The refusal to acknowledge global warming for economic reasons is a striking example of this. On the contrary, scientific knowledge, through its pursuit of objectivity, provides a solid foundation for systemic knowledge, preventing beliefs from taking precedence. The fact that we are a single human race genetically is thus crucial for uniting us beyond our differences and combating all forms of racism.

3. Symbolic Knowledge

This knowledge focuses on meanings, representations and what gives meaning to human life. It is based on culture, shared values, symbols and narratives that shape the behaviour of individuals within a collective. It addresses the invisible yet powerful dimension of social dynamics.

As Luc Bigé puts it: *"Symbolic thought sees what lies behind what appears; it perceives what lies behind form to reveal its hidden meaning. This is where the great myths of humanity are rooted, sources of inspiration for people of all persuasions (scientists, poets, mystics...)"* [5].

The fire at Notre-Dame in Paris had a global impact and stirred emotions far beyond the objective event itself. On a different note, the Olympic flame drew huge crowds, even if it meant waiting an hour or two in the street.

Symbolic analysis thus enables us to decode beliefs, myths, and what gives meaning to and influences people's behaviour. It is useful for understanding culture and values, and for making decisions that take into account the cultural framework, what is important, and what is sacred or not. To disregard this dimension is to deprive oneself of a dimension of meaning, which exposes one to reactions that are sometimes violent and irrational.

It is this dimension that enables the systemic dimension to shift from the horizontal to the vertical, giving meaning to all the parts and infusing it with an inspiration that guides its actions. Systemics, illuminated by the symbolic, directs relationships towards openness, the whole of humanity, meaning and transcendence. The symbol then becomes a living archetype, a sign of a profound human unity.

It is this dimension that can provide science with an ethical framework, a meaning that directs the applications of research towards the common good.

Deviance: When the symbol becomes manipulation

The deviance of the symbolic occurs

when it is manipulated, transformed into superstition or ideology. History offers tragic examples of this: the swastika or the hammer and sickle transformed archetypes of unity or labour into political weapons and signs of domination. Closer to us, advertising uses symbols without restraint to attract consumers. It does not sell a product for what it is, but for the needs and emotions it evokes.

4. Holistic Knowledge

Holistic knowledge combines the other three approaches to provide an overall view. It seeks to integrate the various dimensions (scientific, systemic and symbolic) by going beyond these individual approaches to bring them together, thereby offering a holistic and unified vision. It constitutes a practical approach that integrates the part into the whole and the whole into the part, humanity into the universe, and the macrocosm into the microcosm.

Thus, the holistic approach allows us to address facts, interactions and meanings simultaneously by integrating them into the whole. It aims to offer a comprehensive vision, taking into account the full complexity of a situation within a larger whole, rather than focusing solely on a single dimension.

Moreover, as Luc Bigé puts it: *'All knowledge is a birth into something greater, into a metamorphosis'. The individual 'steps through the looking glass' and comes into direct contact with the archetypes, the forces that organise the world. This is the realm of initiation, of meditation, of contemplation'* [6].

Thus, this knowledge surpasses the others, for it offers the possibility of delving deeply into the dimension of reality to perceive its unity beyond its diversity. In doing so, through this experience, *"it transforms the being in order to connect it more effectively to the other levels of reality"*.[7]

It comes close, as Bergson explained so well in his work The Two Sources of Morality and Religion, to a **mystical experience** that allows for an expansion of consciousness and the experience of openness. This is what we might call **metaphysics**, a philosophical domain distinct from science and pseudoscience. Metaphysics seeks to understand the fundamental nature of reality beyond what is accessible to empirical observation. It explores the primary dimensions of being, time, space and cause. It does not seek empirical proof, but rather a **profound intelligibility**. It questions what science cannot grasp through its instruments: 'Why is there something rather than nothing? What is the meaning of the universe? What is the nature of the soul?'

A holistic approach is therefore necessary for solving complex problems, as is the case today, where it is essential to take into account technical, human, relational and symbolic aspects simultaneously, whilst integrating them into a global vision where everything is interconnected and forms an interdependent whole.

The **principle of the 7th generation,** found in many First Nations cultures of North America, is a good example of how this dimension is gradually finding its way into our modern world. This principle states that every decision taken today must be assessed in terms of its consequences for the next seven generations of living beings. The idea is not to act solely for one's own benefit, but to ensure a viable and sustainable world for our distant descendants.

Deviance: when the quest for unity becomes uniformity

The holistic drift would be the dissolution of the individual into 'the whole' to the point of losing their identity and responsibility, where the whole becomes a pretext for crushing differences. The quest for unity is thus perverted in favour of uniformity, which erases divisions and nullifies the need for commitment. In the face of ecological or social crises, certain holistic stances championed by the New Age movement might say: 'Don't worry, the Earth regulates itself'. The pursuit of religious syncretism is another example of this.

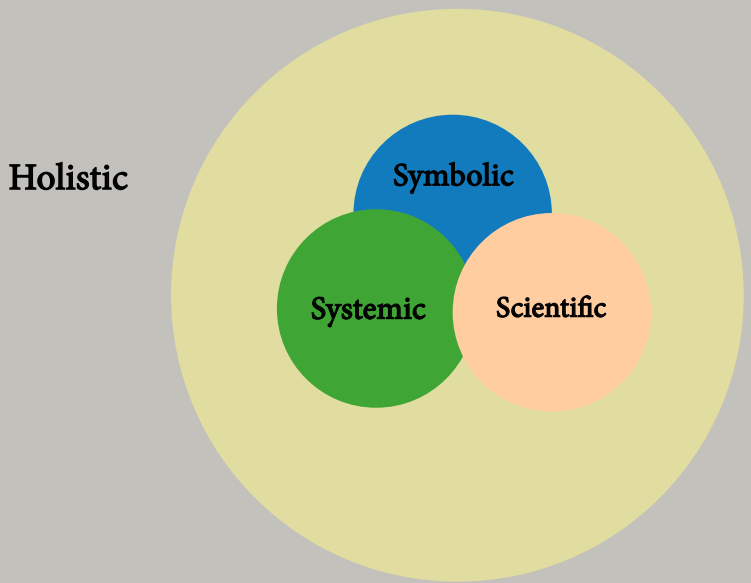
It is therefore essential to understand where the isolation of each quadrant leads, in order to grasp that only their alliance opens a path towards a more accurate understanding of reality and protects us from post-reality. Combined, their interaction provides a true compass for navigating the complexity of our times.

Thus, the scientific approach provides a foundation for our perception of reality; the systemic approach connects us to an understanding of relationships that leads to interdependence and responsibility; the symbolic approach provides meaning and direction and fosters a sense of transcendence; and the holistic approach provides purpose, namely the quest for unity in diversity.

Cultivating such a global and integrative way of thinking becomes an act of spiritual resistance, a

means of countering the spread of post-truth with the power of an expanded and enlightened consciousness, in order to grasp a truer reality.

This is the challenge of today



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1. Hannah Arendt, The Crisis of Culture, Folio, 1989
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7. Ibid

The Limits of Science

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Our Western civilization, which, thanks to globalization, has come to dominate humanity, is characterized by its reliance on scientific knowledge as a fundamental pillar: we are essentially a techno-scientific society.

Thus, the validity or appropriateness of any decision or piece of knowledge is assessed in light of science. If one wishes to highlight the importance of something, one insists that it is "backed by science"; conversely, there is no more decisive way to reject something than by labeling it "pseudoscientific."

On many occasions, this preponderance of science degenerates into scientism, a term that has two definitions in the RAE dictionary, both of which are relevant to us:

1) Theory according to which the only valid knowledge is that acquired through positive sciences.

2) Tendency to give excessive value to scientific or supposedly scientific notions.

Scientism leads to an exclusionary attitude toward any other form of knowledge that is not considered as such. As with any reductionist attitude, this results in an impoverishment of culture and, consequently, of the human being.

Scientism and denialism applied to science are two extremes of the same reality - the scientific fact - that arise when the limits of science are unknown, leading respectively to the extreme of failing to recognize those limits or casting a veil of total distrust over them.

As one can imagine, in a techno-scientific society like ours, the effects of scientism and denialism are devastating, which is why it is necessary to clarify the limits of science.

The philosophy of science is the branch of philosophy concerned with studying and defining how scientific knowledge is developed, and from this discipline, different types of limits can be defined.

The first boundary of science is the paradigm within which it operates, that is, the set of theories whose foundational principles are generally accepted by the scientific community and which provide the framework and methods for advancing knowledge. Therefore, everything that falls outside the paradigm falls outside the realm of science. Thus, if the current scientific paradigm is materialist, that is, if it recognizes no reality other than the material, any non-material approach falls outside the realm of science.

There are two positions regarding the paradigm:

- to recognize that there are other forms of knowledge outside of it that cannot be addressed through the scientific method, which would be the most inclusive approach, and
- to believe that there is nothing outside of it that can be considered real knowledge - an attitude that leads to scientism.

Paradigms are not immovable, and the history of science is characterized by the fact that paradigms change as science advances, as Thomas Kuhn demonstrated.[1] Therefore, it is natural for the scientific paradigm to evolve and adapt to new discoveries.

Currently, two types of limits are recognized: those that can be overcome and those that cannot be overcome (for the moment) and constrain science. In this sense, Alfredo Marcos conducts a comparative analysis between the ideas of the philosopher of science Nicholas Rescher and those of the philosopher Hans Georg Gadamer.[2]

According to Marcos, Nicholas Rescher proposes four types of limits: constitutive, theoretical, practical, and those attributed to fallibility.

Constitutive limits are defined by the paradigm itself, that is, within these limits lies everything that can be investigated by science, which, given the current paradigm, is positive reality, that is, the one that is perceptible through the senses and verifiable through the appropriate measurements.

Within the bounds of the constitutive limits, that is, the reality that is susceptible to scientific investigation, there are theoretical limits, or, put another way, what is "theoretically possible to investigate." In this case, it is the scientific theory itself that imposes a limitation, at least as long as that theory remains valid. For example, there is a theoretical impossibility in determining whether life is random or teleological. In fact, Rescher argues that theoretical limits are not really limits but rather the challenges inherent in science itself. However, while these theoretical limits are resolved through scientific progress, they do impose constraints on science.

Another type of limits is practical limits, that is, those unrelated to science itself. For example, limits on economic resources, personnel, instruments, or technological development. These limits can be overcome.

A particular type of limit I believe should be considered separately, which Rescher defines as practical, are ethical limits, because they cannot be exceeded in many cases, especially when it comes to timeless ethics. For example, numerous medical studies involving human beings meet ethical limits that cannot be crossed. Rescher believes that these moral restrictions change over time (hence he classifies them as practical limits), which is not true for those limits pertaining to human dignity.

Finally, Rescher discusses the limits associated with human failure, which are inherent in any human activity subject to error.

Returning to the question raised at the beginning about scientism, we might ask, Is science sufficient to shape the human way of life? In other words, can we base the development of our lives only on scientific knowledge?

Alfredo Marcos seeks the answer to this question in the humanist philosopher Hans Georg Gadamer, who answers this question negatively and sets another limit to science: the capacity to create civilization. On its own, science cannot shape a civilization, since this requires the intervention of other forms of human knowledge and activity. In other words, to give meaning to everyday life and for the full development of a society, science alone is not enough. It cannot take on the task of elevating a culture to the highest levels of civilization. Science alone is not enough to fully develop the human being. Science is only one part of human action.

Marcos highlights from Gadamer's approach that the trend towards scientism in our society has led to expecting everything from science, and since this cannot be done, it has generated discomfort. This is what Gadamer calls the shadow of nihilism, which manifests as anxiety, lack of hope, and lack of meaning in life. "Gadamer identifies modern voluntarism and relativism as pathological symptoms, which lead to moral subjectivism and aesthetic irrationalism. Alongside these, we have fragmentation and specialization, individualism, a lack of solidarity, the breakdown of a sense of community, and others such as consumerism or historicism."

Gadamer proposes to recover practical wisdom to counteract the shadow of nihilism, that is, to live according to inner values, and virtues.

The square-based pyramid is a geometric figure that has traditionally been used as a model to describe the elements that make up a civilization and the type of relationship between them. Thus, classical philosophy posits that each face of the pyramid represents science, art, social development, and religious experience, respectively. From the base, each face appears to be opposed to the others; however, as one ascends each face toward the apex, the positions gradually converge until they achieve the unity of the pyramid, with philosophy serving as the vertical axis that keeps the pyramid upright.

In conclusion, science is essential for human beings and society, but it requires the development of other areas of knowledge and activity. Thus, together, they can give meaning and substance to human life, enabling us to realize our full potential as human beings. Philosophy provides the tools that help facilitate this process.

Notes

1. Thomas Kuhn (2006), The Structure of Scientific Revolutions. Fondo de Cultura Económica de España S. L. (First edition 1962).

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MITIFICATION OF SCIENCE

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Human beings move swinging in multiple mental, emotional and material representations of ourselves and the universe; different interpretations and positions, between objective and subjective, particular and collective, that lead us in the search for that elusive, but always present, "who I am", "what is the universe", "what is life". Thus, we find multiple positions that can be in some way: Religious, Scientific, Artistic or Political, and all of them, in a certain way valid and indispensable, because they correspond to agreements of perception of what we consider real. These visions or positions influence each other, are contrasted, are limited; and sometimes, as in the case that motivates this writing, they are confused.

It is therefore possible to find certain confusions between views, such as the superficial position and widespread ignorance of the concept that Science implies; for as we shall see, it is not exaggerated when it is stated that science is socially experienced as a form of religion. Of course, the focus here is not on the actual work of scientists, but rather on the irrational cult of science that is being built up by an increasingly noisy and distracted society.

In this position, three images can be clearly distinguished, which will be like the dogmas of the current denaturation and mythification of Science: the first is the one that professes Science as **INFALLIBLE**, or at least absolutely objective and progressive; the second professes it as **NEUTRAL**, in the sense of a false eclecticism, which would be rather a softness and aseptic indifference of ideologies of any kind; and the third, sister of the second, proclaims it as **AUTONOMOUS**, in the sense that its internal logical factors are the only ones relevant to understanding the essence of science and the development of its "unique truth", relegating everything else to a relative falsehood.

These beliefs are born of a hasty, reductionist conception and of taking for granted the concept of Science, being on the contrary - science - something that must be permanently built and rebuilt, something that is not, and will not be finished or finished.

MAIN MYTHS OF SCIENCE

"SCIENCE IS INFALLIBLE":

The myth of the Infallibility of science refers to a "safe" scientific knowledge of "unlimited scope", where scientific truth appears as definitive truth; which differs substantially from the concept of "proven", or "tested", which refers more to a process of construction and reconstruction, and not to one of completion. Scientific knowledge is presented to us in this mythification, as a "total", "totalizing" knowledge, outside of which there is nothing else that is worthy of being called knowledge, since it is apparently "safe", "certain" and "without doubt" (only for what is not scientific). We see how in this new myth, scientific predictions appear as a form of Oracle, if science says that, in such circumstances, such a thing will happen, such a thing must happen, or if on the contrary we want to be sure of what will happen, all we have to do is ask science.

This idea is supported by the paradigm in crisis of Scientific Determinism, a position that, among other paradoxes, raised the possibility of a reversible time or infinitely calculable movement, both towards the past and towards the future. Thus, for example, according to this re-evaluated paradigm, the entire movement of the Earth's orbit could be calculated, both in the past and in the future, depending only

on the accuracy of the recording of the variables in an instant; and also for any other movement. But a new paradigm arises and implicitly brings an "irreversibility of time". The creative possibility and unpredictable transformation that every moment has. This is the so-called and little understood, **Chaos Theory**, a paradigm that brings with it the theoretical and practical impossibility of predicting absolute times and spaces.

Science began to rethink the vision it had of the Cause-Effect relationship; this is the aforementioned problem of reversibility, because for this "myth", Causes would have no temporal difference with Effects, because in theory, every effect could be the cause of its "cause" and every cause could be the effect of its "effect". That is, the roles could be reversed theoretically and with them the arrow of time.

Among the most notable consequences of the myth of infallibility, we find the invalidation of the historicity of science, as experience and learning. For if we look, science has really evolved according to errors, setbacks, changes, reconciliations and revolutions; where certainly, the belief in its infallibility is a consequence of not learning from its own history. On the other hand, this myth turns science into a mere attitude, attributing to it a distorted character of "certainty". Taking into account that science - in itself - has no means to provide certainties, since scientific knowledge always entails a material and temporal sustenance condemned to change, transformation and death.

"SCIENCE IS NEUTRAL":

The second Myth, that of Neutrality, rather than a myth is a consequence of human obscurantism, visible in two dimensions: The Ontological, in the sense that scientific knowledge is independent and indifferent, of any metaphysical or philosophical question; and the Axiological, in the sense that science is neither good nor bad, but depends on the use that is given to it; thus, even the so-called "social" sciences would not imply or suppose a certain form of action, but like the others, would limit themselves to providing technical means for previously given "ends". However, it is curious to see how these misnamed ends are only an idealization of the same technique, that is, of the same "means". In this myth, amorality would be a feature of mythologized science.

On the other hand, the position of Neutrality assumes two prejudices about the nature of science:

1. Science deals with facts and only facts, that is, the laws of Nature, are only empirical generalizations. Here empirical is understood as everything proven solely and exclusively by material means. There would be no analogical arguments in this. There would be no warnings or overtaking of the imagination. Nor could there be strange coincidences or synchronicities with other systems of thought. They would not be valid under this perspective, axioms of other civilizations that came to similar approaches by different paths. Life and its metaphysical elements would be something incompatible with the crude fingers of this mythical science.

2. Facts are independent of interpretations and theories; thus, about a fact or set of facts, various interpretations and theories could be expected, but these interpretations would not affect the factual fact itself. It is interesting to see how the greatest advances in science have not only been made in a "laboratory" or "experiment", but also and, above all, in the moments before and after this work.

We then see, among the facts, norms and values, an insurmountable abyss. From the facts one cannot pass to any kind of ethical principles. And on the contrary, the values and norms of men would not affect - in any way - the "objectivity" of the experimental data. Under the mythologized science, amorality would still be his bitter companion.

It is not strange that it has been science that has lately played a main role in this historical game of marches and counter-marches, now in relation to technological development; even if we consider that the scientific knowledge seen in this myth, as the only "real" one, is a fragmentation of a so-called "objectivity" into multiple rational and mechanical singularities, but that in the first and last instance, they are not conceived to integrate and capture a sense of "Wholeness" of the world, of Life and of man.

Thus, man, lamely supported by science and its favorite daughter, technique (or technology), he has contributed to a "demystification" of the world, and now unconscious of his actions, he has believed that he can satiate his "hunger for totality", for Myth, or Unity, in science itself.

He has encountered the "myth" again, but now he has lowered it below his own feet. He has made it matter by matter itself (Materialism). On the contrary, it is evident that myth corresponds to an imaginal dimension inherent to human beings,

and however much it is denied, it will always open its space; even if, to do so and despite ourselves, as in this case, it has used human voids, imbalances and amnesia. It is here that our role as philosophers begins, in giving Science the right value, according to its nature. This involves placing it within a complex social sphere, in which different roles are played, as mentioned at the beginning.

"SCIENCE IS AUTONOMOUS":

To say that science is Autonomous is like giving a value to it as an "object", as a thing, forgetting that it is precisely science that studies objects. Likewise, to say that science is neutral is to strip it of all its mechanisms of valuations, contrasts and theorizations, which are ultimately science itself. There are no facts visible to man, without their respective theoretical representations in the mind of the observer. There are no answers if there are no questions. There are no observations without interpretations. There is no possible science without rules and values, much less if there are principles that direct it, that verticalize it, that make it more Good, more Beautiful, more Just. The methodology of science is above all a normative, ideological and values system, since a good part of the rules of the scientific method are strictly rules and moral values, such as: sincerity, constancy, submission to test, coherence, healthy prudence, risk, renewing adventure overcoming prejudices.

As for ontology or transcendent issues, scientific language, in one way or another, assumes postulates of entities that ultimately lead to ontological issues, such as when talking about the mystery of time or black holes, or the Big Bang, or

Chaos, or Causality, or Fractals, or infinity, or emptiness, or so many other, misnamed, "things".

That is why the science of entry cannot be indifferent to Ontology, or Philosophy, or Metaphysics. This would be to affirm that science not only speaks of appearances and forms, but of the totality, of myth, and as we have seen, Science and Myth are complementary opposites. A scientific statement always assumes that there is "something" behind the phenomena, but whatever that "something" is, unfortunately it cannot be seen only with the "eye of science". Seeing it like this would be flat, linear, mechanical and it certainly takes "two eyes" to see the depth. We need both Myth and Science.

Finally, we say that science is a process, and that as such it is subject to time. As we have seen, it does not deal with objectivity or absolute time; it is not and will not be a finished product. It is temporary, fallible to time; according to this, it will always be moving from theory to theory, from paradigm to paradigm, from question to question; but not for this reason, it means that the questions posed were totally answered, but rather replaced by others more specific, but at the same time more complex; there are questions that exist since Man is Man, and will exist until Man is more than Man.

Perhaps science holds pleasant surprises for us. And with all those men and women who dare not only to dream, but to shape a new and better world, we embark on the courageous search for truth, wherever it may be found.

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From the Art of Memory to the Extended Mind: Giordano Bruno and Cognitive Autonomy in the Digital

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Abstract

This monograph analyses the evolution of the art of memory (ars memoriae) from its roots in classical rhetoric to its culmination in the system of Giordano Bruno, contrasting this tradition with findings from contemporary neurobiology and with cognitive challenges of the digital age. The study traces the transformation of memory, which went from being a pragmatic tool for eloquence in antiquity to an ethical discipline in the Middle Ages and a mental tool of integral transformation in the Renaissance. It examines how Bruno's principles (the spatial architecture of loci and the affective charge of agent images) can dialogue with the role of the hippocampus and amygdala in consolidating emotional memories. Finally, the phenomenon of "digital amnesia" and the "AI Effect" is addressed, proposing an integrative model that claims the symbolic imagination as a resource of resistance and cognitive autonomy against the externalization of knowledge in technological systems.

Keywords: Art of memory, Giordano Bruno, Symbolic imagination, Neuroscience, Digital amnesia, Artificial intelligence.

Introducción

The art of memory, or ars memoriae, represents one of the most enigmatic and persistent intellectual traditions of Western culture. Its historical trajectory reveals a profound metamorphosis: born in classical antiquity as a pragmatic tool in the service of rhetoric, it was transmuted during the Middle Ages into a discipline of an ethical and devotional nature, culminating in the Renaissance as the nucleus of a complex occult philosophy. This evolution was not merely a succession of techniques, but a reflection of changes in the conception of the human psyche and its relationship to the cosmos.

This monograph postulates that the mnemonic system of Giordano Bruno (1548-1600) can be read as one of the most elaborate developments of this tradition. Far from being a mere artifice for data retention, Bruno's art stands as a mental tool: an operational method for the integral restructuring of the psyche and the spiritual transformation of the individual through the use of imagination. In a contemporary context where human memory faces an unprecedented outsourcing to digital devices and Artificial Intelligence agents, the Brunian model acquires critical relevance. The analysis is structured in the exploration of its historical foundations, the symbolic architecture of the mind in Giordano Bruno and, finally, a bridge with current neurobiology to recover the imagination as the foundation of our identity.

1. Roots of Memory: Ancient and Medieval Influences

In everyday use, memory is often reduced to a utilitarian skill: remembering a list, passing an exam, not forgetting an appointment. However, its roots in the West are broader: they relate to the formation of the self, to the way meaning is organized, and to the way a culture defines what is worth remembering.

1.1. Greek Roots

Before the Romans turned it into a practical tool, Greek thinkers saw it as the key to understanding reality itself, associating it with **Mnemosyne**[1]. The philosopher Plato,

for example, taught that learning was not discovering something new, but remembering. For him, our souls were immortal and, before they were born, they had contemplated the perfect Ideas: Beauty, Justice and Truth. Knowledge, according to his doctrine of anamnesis[2] (reminiscence), was the slow process of remembering those pure Forms that we had forgotten when incarnating.

His disciple, Aristotle, preferred to lower the concept to earth. While Plato searched for the origin of the soul, Aristotle focused on how our mind works on a day-to-day basis. In his treatise On Memory and Reminiscence (350 BC/1978), he offers the first detailed analysis we retain on the subject, distinguishing between the simple act of retaining an image (mneme) and the conscious effort to retrieve a memory (anamnesis). It is also in this work that we find the first explicit discussion that has come to us about how memories can be connected to each other by association, a concept that would become fundamental for the functioning of all future mnemonic techniques.

1.2. Classical art in Rome

Later the classical art of memory was codified in Latin rhetorical treatises, mainly in the anonymous "Rhetorica ad Herennium", in Cicero's "De oratore" and Quintilian's Institutio oratoria.[3] According to Cicero in De oratore (II, lxxxvi, 351-354), the technique of the art of memory was discovered by the poet Simonides of Ceos, after surviving the collapse of a banquet hall, Simonides was able to identify the unrecognizable bodies of the other guests by remembering the exact place that each one occupied at the table. From this experience, he extracted the two principles of art:

- Locations: An orderly sequence of familiar places (such as the rooms of a house) that functions as a mental "filing cabinet."
- Images: Shocking mental figures that represent the content to be remembered and that are "stored" in said places.

For the Romans, the purpose of the art of memory was not only philosophical, but eminently practical: to serve as a tool of rhetoric, essential for speakers to be able to memorize long speeches accurately.

The anonymous author of the Ad Herennium insists that, to be effective, images must not be common, but "imagines agents": active, vivid and emotionally charged figures either for their beauty or ugliness or their drama.

This detail, as the historian Yates (2005) underlines, demonstrates that classical memory was not a simple mental exercise. Its effectiveness was based on appealing to emotions; the memory was anchored more strongly through a strong affective impact. In this way, art did not operate as a purely cognitive process, but fundamentally emotional.

1.3. Adaptation in the Middle Ages

With the fall of the Roman Empire and the disappearance of public discourse, the art of memory lost its original function. It was preserved and adapted in medieval monasteries and universities, where its purpose changed: it ceased to be a tool for public rhetoric and became a discipline for the perfection of the soul.

This change was driven by a historical confusion over the authorship of two rhetorical texts, both attributed to Cicero, an unquestioned intellectual authority for the time.

Cicero's De inventione (c. 84 BC/1997), an authentic work by Cicero, defined Prudence (understood as practical wisdom) as one of the four cardinal virtues and established that memory was one of its three components, along with intelligence and foresight. Ad Herennium (Pseudo-Cicero, c. 86-82 BC/1997), a practical manual on the art of memory, was erroneously attributed to Cicero and circulated as his "Second Rhetoric."

For medieval thought, the conclusion was: if Cicero affirmed that memory is part of the virtue of Prudence and also offered a method for training it, then practicing the art of memory was a moral duty.

This idea was systematized by theologians such as Albertus Magnus and, definitively, by Thomas Aquinas. In his Summa Theologica (Aquinas, ca. 1265-1274/2001), Aquinas justified the use of art by relying on the Aristotelian principle that the human understanding needs sensory images to access abstract concepts. Thus, he recommended using "bodily likenesses" (vivid images) to recall "spiritual intentions" (virtues and sins).

In this way, classical art was "baptized." The image agents of the Ad Herennium were morally dualized: beautiful images came to represent virtues, while grotesque ones were used as reminders of vices and their eternal consequences. The technique,

formerly pagan, was transformed into a tool for meditation and Christian moral edification.

1.4. Parallel development with Ramon Llull

Parallel to the scholastic[4] transformation of classical art, a system with an entirely different approach emerged in the 13th century: the Ars Combinatoria of the Majorcan mystic Ramon Llull (Llull, ca. 1308/2004). His method was not based on mental architecture, but was, in essence, a logical machine.

Llull's apparatus consisted of figures with rotating concentric circles[5], on which letters were written to represent the fundamental attributes of God (Goodness, Greatness, Eternity, etc.). As the wheels rotated, the letters combined, generating new statements about reality and allowing the exploration of all possible relationships between divine principles.

Llull's main purpose was to demonstrate the truths of Christianity to Jews and Muslims through a rational method, starting from the attributes of God shared by the three monotheistic religions. His system did not seek to recall facts, but rather the very structure of divine reality.

The importance of this method for the subsequent history of memory is remarkable. Llull introduced the idea that a mnemonic art could not only preserve knowledge but also generate it. As Frances Yates describes it, Llull's Art was a "machine for invention," designed to uncover new truths (Yates, 2005).

Centuries later, Giordano Bruno[6] integrated these two traditions into a unified mnemonic system. His model fused the spatial organization of classical rhetoric with the logical dynamism of Llull's wheels, creating a structure where mental architecture becomes dynamic. In this synthesis, Bruno assigned an archetypal[7] function to images, where each figure

Figure 1. Example of a Lullian wheel
Fuente: Enciclopedia Herder. Creative Commons. Recuperado de: https://encyclopaedia.herdereditorial.com/wiki/Im%C3%A1genes_de_las_ruedas_lulianas

acts as a link between the individual psyche and universal principles. Under this approach, images operate as agents of internal transformation, configuring what the author defined as operative magic[8]. This proposal is presented as a deliberate mental training technique designed to reorganize consciousness and align it with the structure of the universe.

2. The Shadows of Ideas: Bruno's Magical Mnemonics

2.1. The Hermetic-Kabbalistic Context: The Influence of Ficino and Pico

The turn that Bruno introduces in the art of memory starts from a central thesis: the continuity between cosmos and subject. It is not limited to a theoretical approach: it relocates the position of the subject in front of the cosmos. This intellectual turn originated in the fifteenth century with Marsilio Ficino, who, in translating the Corpus Hermeticum, proposed a rereading of reality based on the interconnection between the divine and the natural[9]. As historiography establishes (Yates, 1983), this period represented a reconfiguration of man's position in relation to the cosmos.

Ficino integrated the notion of magia naturalis: a discipline that did not seek supernatural intervention, but the technical manipulation of the spiritus mundi[10]. This "ether" acted as the connecting tissue between the macrocosm (the universe) and the microcosm (the individual)[11]. Through tools such as music and astral images, Ficino sought to harmonize the human psyche with the celestial forces. Subsequently, Giovanni Pico della Mirandola incorporated Kabbalah into this synthesis, offering a structured method for intellectual ascent through the planes of creation (Yates, 1983)[12].

Bruno operated as the heir to these currents, merging hermeticism and the Kabbalah with the dynamic engine of Ramon Llull's Ars. Under this vision, the images of memory change their function: they stop being passive repositories of information to become internal talismans. These act as operative agents that seek to align the mental structure of the individual with the laws that govern the universe (Yates, 2005).

2.2. De Umbris Idearum: A Universe in the Mind

In his work De umbris idearum

(1582), Bruno establishes the Neoplatonic foundation of his system[13]. The author describes reality as an emanation that descends from a primordial Light to its most fragmented reflections: the "shadows" (umbrae). For Bruno, memory constitutes the "scale of nature", the mechanism that allows the soul to reverse this process of descent (Bruno, 2009).

In this proposal, Bruno reverses the Platonic valuation of the images. For Plato, shadows have an inferior status; they are reflections that, if taken as ultimate realities, can lead to error. For Bruno, shadows are our gateway. Since we are fresh and blood beings, we cannot look at the 'light' of truth directly without going blind; we need images and senses as a bridge. As he said, 'the shadow prepares the eye for the light' (Bruno, 2009). Thus, his art requires sensitivity as a symbolic language and a necessary bridge to the intelligible[14].

2.3. Internal Mechanism: Wheels, Images and the Architecture of the Soul

To understand how Bruno put this into practice, one must examine its internal mechanics. The practical aspect of his system integrates the spatial architecture of classical loci with Llull's combinatorial logic. The device consists of a system of five imaginary concentric wheels, divided into segments containing characters and images. These wheels function as a multidimensional map that seeks to represent the metaphysical, celestial, and terrestrial planes of reality.

By rotating these structures, the practitioner generates combinations of images that seek to reveal correspondences between different levels of the cosmos (Yates, 2005).

The system expands the scope of traditional mnemonics to constitute a "symbolic architecture" of the soul (Bruno, 2009). Unlike Ficino's methods, which require external objects, Bruno's device is purely mental. In this framework, imagination (phantasia[15]) is defined as a plastic force capable of reconfiguring the practitioner's internal structure (Clucas, 2002). In the Brunian system, "remembering" becomes an exercise in reintegration where the organization of the mind seeks to emulate the order of the universe.

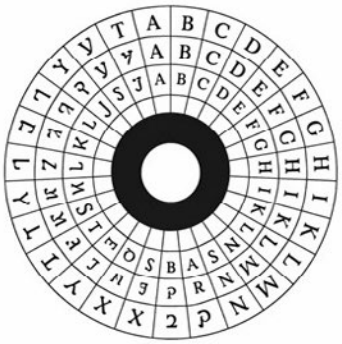

Figure 2. Mnemonic wheel inspired by Giordano Bruno's system.

Created by the author with AI support, based on Bruno (1582/2009) and Yates (2005).

3. The practical philosophy of art: Imagination and ethical transformation

3.1. El Spaccio de la Bestia Trionfante as a Map of Interior Reform

Bruno's application of the art of memory to the ethical dimension is evident in his work, Lo spaccio de la bestia trionfante (1584). More than a literary allegory, the Spaccio functions as a mnemonic device: a guide for moral transformation that uses the mind as its stage. The dialogue narrates how Jupiter, recognizing a crisis of values in the cosmos, decides to renew the firmament, expelling the constellations that personify vices (the "triumphant beast") and replacing them with figures that represent virtues.

Bruno situates this reform in an inner heaven. Jupiter is not a distant god, but rather our own capacity for self-control. Thus, the exercise consists of reorganizing our internal repertoire: displacing images associated with vices and replacing them with figures oriented towards virtues. For Bruno, ethics does not depend on external norms, but on the internal reorganization of the mind until it is harmonized with the universal order (Yates, 1983).

3.2. Imagination as a magical-rhetorical tool

In Giordano Bruno's thought, imagination occupies a central place. Within his cosmology, it is not a secondary faculty, but a space where perception, memory, affect, and meaning are articulated. Bruno describes these operations using the language of links (vincula): internal connections that guide attention and stabilize certain ways of thinking and feeling.

From this perspective, mnemonic images do not function merely as reminders. They can be understood as mental devices: scenes deliberately constructed to fix associations, intensify attention, and "hook" memory through affective charge. Ioan P. Culianu (1987) interprets this mechanism within the tradition of "erotic magic": as a theory and a cultural practice where Eros

(attraction, aversion, desire, interest) acts as a force that creates and sustains psychological bonds. In this interpretation, what is decisive is not the "cosmic accuracy" of the image, but its capacity to organize the subject's internal world: passions, priorities, and habits of thought.

Viewed from today's perspective, this idea can be translated as a practical intuition: the mind is trainable, and internal images (especially when charged with emotion and meaning) can influence how we remember, interpret, and decide. This analogy does not imply that Bruno anticipated neuroscience or that his hermetic explanation is equivalent to biological mechanisms; but it does suggest a functional convergence: sustained mental training can reconfigure cognitive patterns, even if the explanatory languages differ.

4. Contemporary Cartography of Memory: Between Neurobiology and Culture

4.1. The neurobiological perspective: "We are our memory"

Much contemporary research describes memory not as a single "block", but as a set of systems that cooperate with each other. Along these lines, Iván Izquierdo (2002) states that memory plays a central role in the constitution of identity: remembering is not only storing data, but sustaining a continuity of who we are and where we are oriented.

- **Memory systems:** A common distinction separates working memory (linked to the maintenance and manipulation of information during reasoning, with an important role of the prefrontal cortex) and long-term memory. The latter is usually divided into declarative (episodic and semantic) and non-declarative/implicit (skills, habits and forms of conditioning) (Izquierdo, 2002).
- **Synaptic plasticity:** At the biological level, the formation and stabilization of memories depend on coding and consolidation processes associated with synaptic plasticity. Among the most studied mechanisms is long-term potentiation (LTP), by which certain neural connections are strengthened with experience (Izquierdo, 2002).
- **Active forgetting:** It has also been proposed that forgetting is not just a failure or passive decay, but a set of regulated processes that can fulfill adaptive functions, such as reducing interference and maintaining cognitive flexibility. Along these lines, Hardt, Nader and Nadel (2013) discuss forgetting as part of the normal dynamics of memory.
- **Neuroscience provides a framework compatible with the loci method:** the hippocampus is associated with both navigation and episodic/declarative memory, which helps to understand why a strategy that organizes information through places and routes can be effective (Burgess, Maguire, & O'Keefe, 2002). At an applied level, studies with expert memorizers suggest that strategies such as the loci method recruit brain networks linked to spatial cognition to structure abstract information through organized "anchors" (Maguire et al., 2003). This convergence must be understood in functional terms: it does not imply an equivalence between historical models and neurobiological mechanisms, but a compatibility in the way they organize experience and memory.

4.2. The cultural foundation of human memory

While neurobiology explains general conditions and mechanisms, human memory cannot be reduced to the brain alone: remembering is also a situated practice. Contemporary research describes memory as a reconstructive process: we do not retrieve a "recording," but rather reconstruct meaning from fragments, inferences, and prior frameworks, which makes memory susceptible to distortions, omissions, and reinterpretations (Izquierdo, 2002). From this perspective, several elements can be highlighted:

- **Dynamic nature:** each recall is an active act of reconstruction. This does not mean that "everything is invented," but rather that memory is reorganized according to the present context and the meaning that the experience acquires over time (Izquierdo, 2002).
- **The role of culture: reconstruction occurs within shared repertoire:** language, symbols, norms, and narratives. Qi Wang (2001) shows how culture provides interpretive frameworks that structure the encoding and reconstruction of memory, especially autobiographical memory, influencing what is remembered, how it is narrated, and what function memory serves in identity.
- **Encoding filters:** cultural values influence which aspects are considered relevant, how events are interpreted, and what purpose

memory serves (cohesion, belonging, learning, continuity of self) (Wang, 2001).

With this in mind, Bruno's mnemonic system can be read as a culturally situated technique: a historical way of organizing attention, imagination, and memory with the symbolic resources available during the Renaissance (Neoplatonism, Hermeticism, rhetoric). Thus, his ars memoriae does not need to be read today as an 'objective mirror of the cosmos' to engage with current science; it can be interpreted as a cultural technology of inner formation, oriented toward constructing a subjective order (hierarchies of meaning, narrative coherence, habits of contemplation) rather than demonstrating a physical structure of the universe.

4.3. The extended mind, digital amnesia, and the "AI Effect"

Historically, we can describe a shift from cultures heavily reliant on internal memory (orality, mnemonic techniques) to ecosystems where memory increasingly relies on external supports. In the digital age, this phenomenon is often discussed under the concept of the "extended mind": external tools that complement (and sometimes reconfigure) how we remember and think. To organize this discussion, I distinguish three levels:

- **Level 1:** Delegation of Storage (Cognitive Offloading and the Google Effect). This first level consists of delegating data retention to devices and platforms. Within this framework, the phenomenon has been linked to transactive memory: it is not just about knowing "what" to find, but also "where" to find it. Sparrow, Liu, and Wegner (2011) showed that when people expect to access information online later, they tend to remember the content less and the path to locate it better.
- **Level 2:** Delegation of Processing (AI and Processing Delegation as a Hypothesis). Unlike search engines - which primarily outsource storage and access - AI systems also allow for the delegation of tasks such as synthesis, writing, and response generation. At this point, it is important to be cautious: empirical evidence on the long-term cognitive effects of everyday use of generative AI is still limited. However, a reasonable concern can be raised: if delegation becomes systematic, it could reduce the deliberate practice of operations key to deep learning. In this sense, rather than asserting cognitive weakening as a fact, it is more appropriate to understand it as a potential problem of the substitution of processes that previously required active elaboration on the part of the individual.
- **Level 3:** Erosion of autonomy (digital amnesia and the echo of Plato). When externalization ceases to be a support and becomes a habitual substitute, a tension emerges: cognitive autonomy, understood as the capacity to internalize, relate, and evaluate what has been learned. This tension has a precedent in the myth of Theuth and Thamus from the Phaedrus: Plato warns that a writing technology can function as a reminder (hypomnēsis) and, at the same time, produce an appearance of knowledge if it replaces the internal exercise of remembering and judgment (Plato, 1988, 274e–275a). Using this analogy provides us with a framework for distinguishing between external support and internal formation. In the current context, the risk lies not in the existence of external tools, but in the progressive displacement of the elaborative processes that underpin understanding and judgment.

5. The Integrative Model: Towards a vindication of symbolic imagination

5.1 Neuro-imaginative synthesis: Memory and mental simulation

The boundary between memory and imagination is less rigid than we often think: remembering involves reconstructing, and also "simulating," internal scenes to understand and anticipate. In cognitive neuroscience, this continuity is related to the ability to project ourselves (into the past and the future) and recombine elements of previous experiences to create possible scenarios.

Seen from this perspective, the ars memoriae is not simply about "storing" data: it trains a form of elaboration (organizing, associating, making sense of). In the current context (where AI can generate ready-made answers), it is not about "rejecting" automation, but about preserving the internal exercise that sustains understanding and judgment: retrieving, connecting, and explaining in one's own words.

5.2. The mind palace as transparent architecture in the face of opacity

In contrast to the opacity of many AI systems (where the user receives

a result without being able to easily reconstruct the mental process behind it), the memory palace offers an advantage: cognitive traceability. Each association is deliberate, and the user can explain why one idea leads to another.

The model does not propose replacing digital tools, but rather dividing the work: using AI to explore and generate drafts, and reserving the integration, evaluation, and final order for the "internal theater."

5.3. Symbolic imagination as a filter of information

The use of symbolic imagery can be understood today with the help of neuroscience if we consider it in terms of relevance: memory does not function as a simple "file," but as a system that selects and stabilizes what acquires value for the individual. In this process, emotion plays an important role: it can modulate attention and promote the consolidation of memories, partly through the interaction between circuits linked to emotion (such as the amygdala) and episodic memory (such as the hippocampus).

En In an ecosystem saturated with synthetic information (and with the presence of errors, distortions, or fabrications in AI systems), symbolic imagery can regain practical value: not as a guarantee of truth, but as a form of active processing. Here, it is worth clarifying the connection with Culianu (1987): when he describes an "erotic-magical" technique, he is not talking about "verifying data" in the modern sense, but about the logic that links them: images and affects that capture attention, direct interest, and structure internal experience.

Applied to our context, transforming external information into a coherent mental image can function as a "filter" in a modest but useful sense: it forces you to elaborate, prioritize, and connect what you receive with your own frameworks of meaning. This step does not prove something is true, but it can help you notice gaps, inconsistencies, or statements that "don not fit" when you try to integrate them. Thus, internal memory acts as a filter of meaning: it reduces passive reception and reinforces cognitive autonomy based on understanding, not just accumulation. From this framework, it's possible to translate these ideas into concrete ways of working, where the relationship between memory, imagination, and tools becomes operational.

5.4. Archetypes of Integrative Memory: Applications of the Model

Following the above, to translate the proposed model into an operational framework without reducing it to a set of rigid instructions, a series of "archetypes" can be identified. These are understood as ways of relating to memory, imagination, and cognitive tools. Taken together, these modes allow us to identify how, in practice, internal processing is articulated with the use of external tools, as well as different degrees of knowledge appropriation.

5.4.1 The Observer (Santiago Ramón y Cajal)

Santiago Ramón y Cajal was a key neuroscientist in the study of the nervous system and an exceptional draftsman. His famous illustrations were not mere decoration: they were part of his method. By representing structures and connections, Cajal transformed microscopic observations into comprehensible models, integrating detail and meaning (Ramón y Cajal, 1933).

In this archetype, integrative memory relies on visual imagination: learning is not just recording but reconstructing a mental structure that allows one to explain what has been observed.

Practical application: After studying a topic, try representing it with your own diagram or drawing and explain it in your own words.

Sign of autonomy: You can reorganize the content without depending on the original source and justify how you structured it.

5.4.2 The Architect (Niklas Luhmann)

Niklas Luhmann was a sociologist who developed a system of notes (Zettelkasten) for continuous thinking over decades. The key was not to accumulate information, but to build an environment where ideas could connect and generate new lines of thought (Luhmann, 1981; Ahrens, 2017). This archetype represents the "extended" dimension of the internal theater: a well-designed external memory that doesn't replace the mind but accompanies it and makes it more navigable.

Practical application: Record ideas in individual notes that connect with each other, instead of accumulating isolated summaries.

Sign of autonomy: Weeks later, you can revisit your own connections and generate new ideas from them.

5.4.3 The Scenario Designer (Strategic Use)

Some decisions are not resolved with more data, but with better scenarios. This archetype uses imagination as a tool for anticipation: it simulates consequences, identifies risks, and organizes a complex panorama to make more informed decisions. In cognitive terms, this "mental rehearsal" relates to what the literature calls episodic future thinking: constructing possible scenarios by recombining elements of past experiences. Here, the mind palace functions not only as a memory, but also as a map of the system.

Practical Application: When faced with an important decision, construct three scenarios ("Best-case scenario," "Worst-case scenario," and "Most likely-case scenario") and in each one, identify actors, risks, early warning signs, and a minimum reasonable action. You can use the Method of Loci to use places and images that remind you of these scenarios.

Sign of Autonomy: You make decisions with clear criteria and can adjust your course based on what happens.

5.4.4 The Curator (Critical Use of AI)

This archetype assumes that AI can be useful for exploring ideas, summarizing, or proposing drafts, but does not delegate judgment. Their role is to transform AI into a support tool without replacing it: using the output as a starting point and subjecting it to elaboration, comparison, and verification. On this point, several authors have noted that effective collaboration with generative AI systems requires active user participation: formulating questions, verifying, and reworking, rather than passively accepting the results (Mollick, 2024). More than a closed empirical demonstration, this perspective functions as a practical guideline: the value of these tools depends largely on how the user integrates them into their own thought process.

Practical application: The AI system produces a draft, the user formulates it in their own words, the sources are verified, and it is integrated into the map (memory palace or note-taking system).

Sign of autonomy: You can defend the idea without AI and distinguish between what was generated and what was truly understood.

5.4.5 Synthesis

These archetypes do not operate in isolation: they describe different dimensions of the same process. Cognitive autonomy emerges when we are able to alternate between them, consciously integrating internal memory, external tools, and imagination.

5.5 The Return to the Inner Theater

The archetypes described above allow us to understand in a practical way what Bruno's art of memory proposes at a deeper level. Bruno's technique is not just a historical curiosity: it can be read as a reminder that memory is also inner formation. In an environment that facilitates the externalization of more cognitive operations, cultivating elaboration practices (organizing, relating, and verifying what has been learned, and giving it meaning) becomes a concrete form of autonomy. It is not about competing with a machine's storage capacity, but about preserving the space where judgment is constructed: that "inner theater" that transforms information into understanding. From this perspective, remembering is not just about accumulating: it is about inhabiting what we know, integrating it, and making it part of our own mental life.

Conclusions

This monograph allows us to conclude that memory, far from being a passive repository of information, constitutes a central axis in the construction of identity, deep learning, and creativity. The main conclusions can be summarized in the following points:

1. Memory as the architecture of the self. The trajectory from Platonic anamnesis to Giordano Bruno's dynamic model allows us to understand memory not only as retrieval but also as inner formation. In this sense, the mind does not appear as a repository of information but as an active architecture where the imagination organizes associations, hierarchies, and meaning, sustaining the continuity of the self.

2. Functional convergences with contemporary neuroscience. Although Bruno's explanatory framework belongs to a symbolic language characteristic of his time, some of his practices now find a compatible interpretation with cognitive neuroscience. This convergence does not imply equivalence but rather a functional correspondence in the way the mind organizes, encodes, and retrieves experience.

3. Balance in the face of externalization in the digital and AI age. In the contemporary context, characterized by the increasing externalization of knowledge, the Brunian model functions as a counterpoint: not as a rejection of technology, but as a reminder of the value of internal processing. The risk lies not in the tools themselves, but in the habit of substituting them for the processes that underpin understanding and judgment.

4. Towards a Model of Integrative Cognitive Autonomy. The vindication of symbolic imagination allows us to propose an integrative model where internal memory operates as a space for integration: it relates, prioritizes, and gives meaning to what has been learned. The proposed archetypes (from Ramón y Cajal's visualization and conceptual reconstruction to Luhmann's systems of interconnected notes) illustrate that intellectual autonomy depends less on accumulating information than on building meaningful connections and maintaining one's own judgment.

Taken together, Giordano Bruno's art of memory can be read today not as a historical relic, but as a cognitive technology geared toward inner development. In an environment that favors constant externalization, recovering this "inner theater" does not imply rejecting contemporary tools, but rather rebalancing their use: delegating without abdicating, accessing information without ceasing to understand, and remembering not only as accumulation, but as meaningful integration. In this sense, cognitive autonomy does not depend on the quantity of information available, but on the capacity to organize, interpret, and internalize it.

Notes

1. Mnemosyne: In Greek mythology, she is the titan who personifies memory and is considered the mother of the Muses and the key to understanding reality.
2. The doctrine of anamnesis is expounded primarily in Plato's dialogues: Meno (Plato, 385 BC) and Phaedo (Plato, 387 BC). For a discussion in the context of the history of memory, see the work of Frances A. Yates (Yates, 2005).
3. Quintilian: Roman rhetorician and pedagogue of the 1st century AD, recognized for formalizing the training of eloquence as the basis of the classical education system and for being the first professor of rhetoric financed by the Roman State.
4. Scholasticism: The predominant theological and philosophical current in the Middle Ages that used Greco-Latin logic to understand and explain Christian revelation, integrating the thought of authors such as Aristotle into the doctrine of the Church.
5. https://encyclopaedia.herdereditorial.com/wiki/Im%C3%A1genes_de_las_ruedas_lulianas
6. Giordano Bruno (1548-1600): Italian Renaissance philosopher, Dominican friar, and cosmologist. His thought, which fused Hermeticism, Lullian logic, and a vision of the infinite universe, proposed a comprehensive transformation of the human being through the power of inner imagination.

7. Archetypal: This refers to images or symbols that represent universal principles or original models; in Bruno's system, these figures are not just illustrations, but links that connect the human mind with the fundamental structures of reality.
8. Operative magic: A technical term used by contemporary historiography to distinguish Bruno's system, based on action and "wisdom with the power to act", from contemplative or ritual magic.
9. Corpus Hermeticum: A collection of Greek texts from the 2nd and 3rd centuries AD attributed to Hermes Trismegistus. Their rediscovery in the 15th century formed the basis of Renaissance Hermetic thought, proposing that humanity can reclaim its divinity through knowledge (gnosis).
10. Spiritus mundi: An intermediate substance that, in Renaissance thought, acts as the connecting fabric or "bridge" between the human mind and the physical universe.
11. Macrocosm / Microcosm: A concept that postulates a structural correspondence between the universe (the whole) and the human being (the part), suggesting that the laws of one are reflected in the other.
12. Kabbalah: A mystical and symbolic system of Jewish thought that seeks to explain the relationship between an infinite God and the finite universe. During the Renaissance, it was adapted by Christian thinkers as a logical and metaphysical tool for understanding the structure of creation.
13. Neoplatonic: A philosophical tradition that conceives of reality as a series of emanations from a single principle towards the multiple; in this context, knowledge is the path of return to that original unity.
14. Intelligible: A philosophical term that designates that which can only be grasped by the intellect or reason, as opposed to the "sensible," which is that which is perceived by the senses. In Bruno's system, the images of memory are the bridge between these two worlds.
15. Phantasia: In Renaissance psychology, it does not refer to the invention of fictions, but to the mental faculty responsible for receiving, processing, and storing sensory images. For Bruno, it is the indispensable "vehicle" for any intellectual or memory operation.

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