

FRATERNITAS

VOLUME 1, NUMBER 3: JUL-2025 TO OCT-2025. ISSN: 3085-7988

SPECIAL “FREEMASONRY & SCIENCE”

INTERSECTIONS BETWEEN
SCIENCE, FAITH, SPIRITUALITY
AND FREEMASONRY (Dos Santos).

PURE FREEMASONRY: The
Freemason on the Way to
Cosmic Consciousness (Lufiego).

FREEMASONRY, ART AND SCIENCE:
An avant-garde methodical praxis,
meeting place of an extensive
conversation (Sfriso).

THE SQUARE, THE COMPASS,
AND THE BRAIN: an analysis of
masonic ritualistics in the light
of neuroscience (Cruz).

EVOLVING INTELLIGENCES:
FORGING LEADERS FOR
SOCIETY 5.0 (Franz).



FRATERNITAS

The FRATERNITAS Journal is a technical-scientific and historical-cultural periodical, linked to the Inter-American Masonic Confederation – CMI, of a multidisciplinary nature, with Freemasonry as the object of studies and research. Its format is electronic, and its periodicity is quarterly.

FRATERNITAS publishes articles, essays and reviews submitted preferably by Masonic scholars, researchers and professors, having as its main requirement, in addition to adherence to the field, the presentation of content developed by methods, based on evidence and references, and of analytical quality.

Editorial Board

Lito Luis Porto Porto
Rubens Ricardo Franz
Lictor Enrique Reyna

Scientific Council

Gérard Icart
Ulises Torres Hamdal
Miguel Guzmán-Stein
Manuel Torres Palo
João Oliveira e Silva
Kennyo Mahmud Ismail

Catalog Data

ISSN: 3085-7988
Volume 01, Number 03
Jul-2025 to Oct-2025.

Periodicity

Quarterly, as described below:

- Nov-Dec-Jan-Feb: published in March
- Mar-Apr-May-Jun: published in July
- Jul-Aug-Sep-Oct: published in November

Portal:

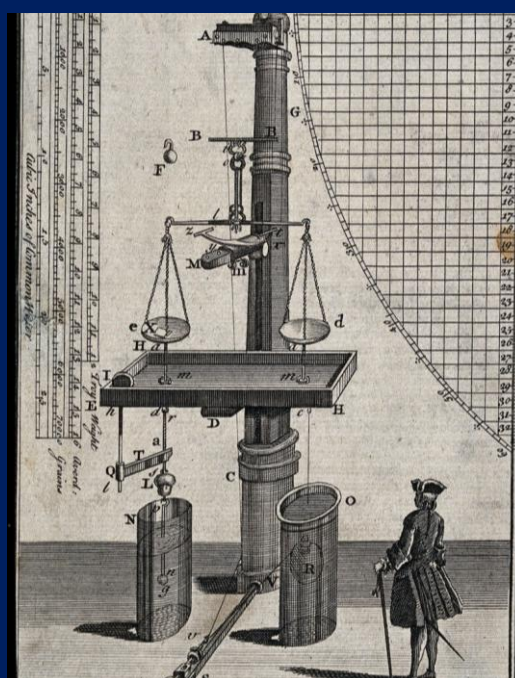
cmi1947.org/fraternitas

Corporate Author:

Inter-American Masonic Confederation – CMI
Rua dos Ilhéus, 38 – Ed. Aplub, 1st floor – Downtown
Florianópolis - SC, 88010-560
E-mail: sgp@cmi1947.org

Notice:

Cover image:



Engraving illustrating an 18th-century hydrostatic balance, used to calculate the relative density of liquids and solids.

Source: Wellcome Collection 47015i.

The articles published are the responsibility of their authors and do not necessarily express the point of view of the *Fraternitas* journal. It is not necessary to request prior authorization to reproduce part of the content published in this journal, as long as the author and source are duly cited.



Summary

INTERSECTIONS BETWEEN SCIENCE, FAITH, SPIRITUALITY AND FREEMASONRY (Dos Santos)	05
PURE FREEMASONRY: The Freemason on the Way to Cosmic Consciousness (Lufiego).....	09
FREEMASONRY, ART AND SCIENCE: An avant-garde methodical praxis, meeting place of an extensive conversation (Sfriso)	15
THE SQUARE, THE COMPASS, AND THE BRAIN: an analysis of masonic ritualistics in the light of neuroscience (Cruz)	25
EVOLVING INTELLIGENCES: FORGING LEADERS FOR SOCIETY 5.0 (Franz)	35

Editorial

Brothers and Readers,

Freemasonry is a meeting space between knowledge and inner search. From the beginning, great leaders, scientists and illustrious names in the arts, recognized in the Order a symbolic method that dialogues with knowledge. Today, in the face of Society 5.0, marked by artificial intelligence, neurosciences and biotechnology, we are called to reaffirm Freemasonry as a living laboratory of awareness and transformation.

The square and compass, symbols of precision, find an echo in the discoveries of neuroscience and in technologies that expand human perception. The ritual reveals itself as a practice capable of modifying neural networks and opening doors to expanded states of consciousness. Thus, Freemasonry shows itself as an avant-garde praxis, integrating science, spirituality and ethics in the same upward movement.

True Freemasonry continues to be a bridge between the atom and the cosmos, between man and the Great Architect. This edition of Fraternitas offers tools for each Brother to update his work in the light of contemporary knowledge, without betraying Tradition, but revealing its perennial relevance. May these reflections be one more polished stone in the collective construction of the Cosmic Consciousness that we all seek, since the first human gaze was lost in the starry sky.

Happy reading!

Rubens Ricardo Franz
Executive Secretary

INTERSECTIONS BETWEEN SCIENCE, FAITH, SPIRITUALITY AND FREEMASONRY:

An integrative systematic review with a narrative approach

Áureo dos Santos ¹

Abstract:

This article presents an integrative systematic review with a narrative approach, aiming to identify and interpret the epistemological, symbolic, and ethical connections between the concepts of Science, Faith, Spirituality, and Freemasonry. Based on academic and symbolic sources selected between the years 2000 and 2025, the study analyzes theoretical contributions that seek convergence between scientific rationality and the spiritual dimensions of human experience. Particular emphasis is placed on the studies of neuroscientist Andrew Newberg, whose neurotheological approach provides empirical foundations for understanding religious, mystical, and initiatory experiences. Freemasonry, in turn, is presented as a symbolic practice capable of integrating these dimensions through ritual and philosophical means, promoting a pedagogy of self-knowledge and self-improvement. The findings highlight the importance of a transdisciplinary dialogue for building an integrative ethic, with the potential to redefine the boundaries between reason and transcendence, including within the context of Freemasonry.

Keywords: Science. Faith. Spirituality. Freemasonry. Neurotheology. Epistemology.

Resumo:

Este artigo apresenta uma revisão sistemática integrativa com uma abordagem narrativa, com o objetivo de identificar e interpretar os vínculos epistemológicos, simbólicos e éticos entre os conceitos de Ciência, Fé, Espiritualidade e Maçonaria. Baseado em fontes acadêmicas e simbólicas selecionadas entre 2000 e 2025, o estudo analisa contribuições teóricas que buscam a convergência entre a racionalidade científica e as dimensões espirituais da experiência humana. De particular destaque é o trabalho do neurocientista Andrew Newberg, cuja abordagem neuroteológica oferece fundamentos empíricos para a compreensão de experiências religiosas, místicas e iniciáticas. A Maçonaria, por outro lado, é apresentada como uma prática simbólica capaz de integrar essas dimensões de forma ritual e filosófica, promovendo uma pedagogia do autoconhecimento e do autoaperfeiçoamento. Os resultados mostram a importância de um diálogo transdisciplinar para a construção de uma ética integrativa, com potencial para ressignificar as fronteiras entre razão e transcendência, também no contexto maçônico. relação com os ideais iluministas e a proposta de reforma simbólica e moral apresentada por Friedrich Ludwig Schröder. A partir da fundação da Loja Emanuel zur Maienblume e da iniciação de Schröder, analisa-se o processo de construção de uma ritualística coerente com os princípios humanistas e maçônicos do século XVIII.

Palavras-chave: Ciência. Fé. Espiritualidade. Maçonaria. Neuroteologia. Epistemologia.

¹ Member of the Epidemiology Guidance Center of the University of Southern Santa Catarina. Email: aureods@gmail.com

1. Introduction

The polarization between science and faith, so present in modernity, is increasingly questioned by contemporary thinkers who propose syntheses between rational and spiritual knowledge. At the center of this tension is Freemasonry, an initiatory organization that, although not religious, evokes transcendental symbolism and promotes an ethic based on freedom of thought, freedom of expression, freedom of assembly, moral progress, and universal brotherhood. This review seeks to understand how these four concepts — Science, Faith, Spirituality, and Freemasonry — are related in contemporary scientific and philosophical literature, revealing their convergences and implications for a new epistemology of symbolic and spiritual knowledge.

Throughout history, humanity has sought to answer the great existential questions about the origin, purpose, and destiny of life. Science and faith emerge as distinct but complementary responses to these concerns. Spirituality, in turn, occupies a subjective and experiential space that transcends dogma, proposing a path of inner connection and consciousness expansion. Freemasonry, with its symbolic rites, provides fertile ground for the meeting of these forms of knowledge, functioning as a school of virtues and a philosophical laboratory for the integration of the visible and the invisible, the rational and the mystical, the empirical and the symbolic.

Understanding these intersections is especially relevant at a time when ethical, ecological, and social crises challenge traditional models of knowledge and spirituality, including within Freemasonry. The exhaustion of the purely materialist scientific paradigm and the growing demand for integrative practices of care and education reveal the need for transdisciplinary dialogues that unite the rigor of science with ancestral spiritual wisdom. Freemasonry, in this context, reemerges as a symbolic, allegorical, and practical space for the reconfiguration of a new rationality — an expanded rationality that includes mystery, ethics, and transcendence as constitutive parts of the human being.

From this perspective, the present integrative systematic review with a narrative approach aims to elucidate how these fields dialogue, clash, and sometimes harmonize, based on a transdisciplinary and narrative approach.

2. Method

2.1 Type of Study

This is an Integrative Systematic Review with a Narrative approach. This model allows the analysis of theoretical, empirical, and reflective studies, aiming to integrate different perspectives on the subject of study.

2.2 Research Question

How do the concepts of Science, Faith, Spirituality, and Freemasonry relate epistemologically, ethically, and symbolically in contemporary scientific and symbolic literature?

2.3 Methodological Procedures

The search was conducted in Scopus, SciELO, PubMed, Google Scholar, and Masonic literature from the Ancient and Accepted Scottish Rite. Combined descriptors were used: “Science and Faith,” “Spirituality and Freemasonry,” “Neurotheology,” “Andrew Newberg,” “Epistemology and Spirituality,” “Science and Transcendence.” Articles, books, and essays published between 2000 and 2025, written in Portuguese, English, and Spanish, were considered. Selection included sources that addressed at least two of the four central concepts of the study.

Opinion pieces without bibliographic basis and texts of a purely devotional or dogmatic nature were excluded. Data analysis followed a thematic approach with narrative emphasis, which allowed understanding the meanings attributed to the relationships between the studied concepts, their tensions, complementarities, and transdisciplinary potential.

3. Results and Discussion

3.1 Science and Faith: A False Opposition?

Authors such as Ian Barbour (2000) and John Polkinghorne (1998) propose models of dialogue between science and faith, breaking with the idea of antagonism between the fields. In line with these authors, Freemasonry promotes an integrative worldview, in which the G·A·O·T·U· (Great Architect of the Universe) represents a metaphysical conception open to scientific thought. The boundaries between scientific knowledge and the experience of faith thus become permeable, favoring a broader approach to reality. Faith, in this context, is no longer interpreted as the opposite of

reason, but rather as expanded trust—a deep conviction in a greater sense of existence—trust and conviction that also motivate scientific investigation.

3.2 Andrew Newberg and Neurotheology

Andrew Newberg (2001; 2009) stands out as one of the main figures attempting to scientifically understand religious experiences. His neuroimaging studies reveal that spiritual practices such as prayer, meditation, and symbolic rituals activate brain regions responsible for empathy, concentration, and perception of the "expanded self." This provides empirical support for the notion that spirituality and faith are natural dimensions of human experience—not merely cultural constructs. Neurotheology thus offers a new foundation for understanding Masonic experience as a neuro-spiritual practice. These findings also show that the spiritual quest, far from being illusory, has a neurological substrate that drives moral, cognitive, and emotional development.

3.3 Spirituality and Freemasonry: Symbolism and Moral Elevation

Huston (2006) notes that spirituality is conceived in literature as a search for existential meaning and transcendence. In Freemasonry, this search is ritualized through symbols, degrees, and allegories that represent the improvement of the self. Newberg's findings resonate with this practice by showing that symbolic activation of the brain can promote states of fulfillment, integration, and consciousness expansion—central objectives of the initiatory path. The Masonic journey, in this sense, acts as a catalyst for internal processes of enlightenment and self-improvement, reinforcing spirituality as a guiding force for ethical and fraternal action in the profane world.

3.4 Science and Spirituality: The Emergence of an Integrative Paradigm

Authors like Rupert Sheldrake (2012) and Amit Goswami (2004) propose that consciousness should be central in scientific investigation. Freemasonry, by encouraging introspection and self-mastery, had already symbolically anticipated this new epistemology. The rite thus becomes a language for the science of the spirit, whose foundation lies both in tradition and in phenomenological observation. The emergence of a non-reductionist science that recognizes the importance of subjectivity, intuition, and transcendence

contributes to the revaluation of Freemasonry as a space for the integral formation of the self.

3.5 Faith and Freemasonry: Between Freedom and Belief

Although it requires belief in a higher principle, Freemasonry remains averse to dogma. This freedom of belief—linked to ethics and spirituality—finds resonance in Newberg's conclusions, which show that faith, when dissociated from fanaticism, can be a driver of empathy and altruism, reinforcing the practice of universal brotherhood. In this sense, Masonic faith is distinguished by its philosophical and symbolic nature, being grounded in personal experience and the construction of meaning, rather than adherence to absolute truths. This perspective strengthens the role of Freemasonry as a mediator between scientific rationalism and the spiritual dimension of existence.

3.6 Science, Faith, and Spirituality in Masonic Practice

In Masonic practice, science, faith, and spirituality are not separate compartments, but integrated dimensions expressed through symbols, allegories, rituals, and the ongoing pursuit of moral and intellectual improvement. Science is manifested in the rigor with which symbolic knowledge is studied and applied; faith is expressed in the trust in the initiatory process and in the belief in an ordering principle of the universe; and spirituality is experienced in the initiate's inner journey, in their search for wisdom, justice, and truth.

Well-conducted Lodge work promotes states of deep introspection that reflect many of the processes described by Andrew Newberg's spiritual neuroscience, such as ego reduction, increased empathy, the search for meaning, and the sense of connection with a higher purpose. Thus, Masonic practice functions as a practical field of spiritual experience—at once rational and symbolic—capable of harmonizing the powers of intellect, intuition, and feeling.

Through this integration, Freemasonry revives the ideal of total knowledge—that which unites science and consciousness, logic and transcendence—allowing the human being to recognize themselves as a living bridge between heaven and earth, spirit and matter, the visible and the invisible.

4. Conclusion

The integrative systematic review with a narrative approach demonstrated that science, faith, spirituality, and Freemasonry are not isolated domains but interconnected, with meeting points grounded in ethical, symbolic, and epistemological principles. Andrew Newberg's contribution strengthens this integration and interaction by showing, through neuroscience, that spiritual practices — such as those found in Freemasonry — have concrete effects on brain structure and function.

Based on the contributions of Andrew Newberg's neurotheology and the integrative models of authors like Ian Barbour, Rupert Sheldrake, and Amit Goswami, it becomes evident that spirituality is not antagonistic to scientific knowledge but rather complementary. Recognizing spirituality as a structuring dimension of human consciousness challenges the fragmented paradigm of modernity and proposes a new inclusive rationality.

Freemasonry emerges as a space of reconciliation between reason and transcendence, faith and freedom, tradition and modernity. This study points to the need for interdisciplinary investigations that recognize the role of the symbolic

and the spiritual in the construction of knowledge and contemporary ethics in personal, social, and Masonic life.

References

- BARBOUR, I. G. *When Science Meets Religion: Enemies, Strangers, or Partners?* HarperOne, 2000.
- NEWBERG, A.; D'AQUILI, E.; RAUSE, V. *Why God Won't Go Away: Brain Science and the Biology of Belief*. Ballantine Books, 2001.
- NEWBERG, A.; WALDMAN, M. *How God Changes Your Brain*. Ballantine Books, 2009.
- POLKINGHORNE, J. *Science and Theology: An Introduction*. Fortress Press, 1998.
- SHELDRAKE, R. *Science Set Free*. Deepak Chopra Books, 2012.
- GOSWAMI, A. *The Physics of the Soul*. Cultrix, 2004.
- HUSTON, T. *What Is Spirituality?* Loyola, 2006.
- SUPREMO CONSELHO DO RITO ESCOCÊS ANTIGO E ACEITO. *Rituals and Manuals from Symbolic to Philosophical Degrees*. Various editions.

PURE FREEMASONRY: The Freemason on the Way to Cosmic Consciousness

Marcelo Garcia Lufiego ¹

Abstract:

In this article, the author discusses themes addressed in his eponymous book, in which he argues that the human being's mission in life is moral and intellectual development. On the one hand, reading, studying, and textual production foster the facilitation of their own processes, enabling the mind and brain to increasingly sophisticate their intellectual and intuitive capacities, making possible the understanding of more subtle lessons of personal and social existence. Added to this is the fact that Masonic practice, in its broadest sense, which includes ritualistic work, the study of doctrines, and, furthermore, the practice of Masonic morality in the world outside the Lodges—the profane world—has the faculty of acting as a catalyst for brain functions, continuously bringing the man-Mason closer to a condition of mental and spiritual fullness, connecting him to the presumed existence of various levels of material and immaterial existence of life and the universe. Beyond the consequent personal experience of the man who allows himself to face this entire phenomenon and which, therefore, enhances his perceptions and choices, it remains inevitable that the path of cosmic consciousness also delivers to society individuals who are more apt to face and overcome the highest challenges of earthly existence, contributing to the happiness and harmony of the human race.

Keywords: Freemasonry; self-awareness; happiness.

Resumo:

Neste artigo, o autor discorre sobre temas abordados em seu livro homônimo, em que defende que o ser humano, especialmente o homem-maçom, tenha como missão de vida o desenvolvimento moral, intelectual e espiritual. A leitura, o estudo e a produção textual fomentam a facilitação dos processos evolutivos dos níveis de autoconsciência, habilitam a mente, o cérebro, a sofisticar cada vez mais suas capacidades intelectuais e intuitivas, tornando possível a compreensão de lições mais sutis da existência pessoal e coexistência social. Some-se a isso que a prática maçônica, no seu sentido mais amplo, que inclui o trabalho ritualístico, o estudo das doutrinas e, além disso, a vivência da moral maçônica no mundo exterior às Lojas, o mundo profano, tem a faculdade de agir como um catalizador das funções cerebrais, aproximando continuamente o homem-maçom de uma condição de plenitude mental e espiritual, conectando-o à presumida existência de vários níveis de existência material e imaterial da vida e do universo. Além da consequente experiência pessoal do homem que se permite vivenciar todo esse fenômeno e que, portanto, potencializa suas percepções e escolhas, resta inevitável que o caminho da consciência cósmica também entregue à sociedade indivíduos mais aptos a enfrentar e vencer os mais complexos desafios da existência terrena, contribuindo para a felicidade e harmonia do gênero humano.

Palavras-chave: Maçonaria; autoconsciência; felicidade.

¹ Bachelor of Legal Sciences and member of the Grand Lodge of Santa Catarina Email: marcelolufiego@yahoo.com.br

In the gigantic Brazil, literature on themes concerning Royal Art has an immense space to occupy and a relevant pedagogical mission to fulfill. The permanent task of the Freemason in knowing and improving himself to play the role of a dedicated and efficient social builder is arduous. Therefore, the sources of study of symbolic science and the means of philosophical reflection on the Masonic system of morality are fundamental to its correct preparation. Masonic literature, as a source of knowledge and mental exercise, far beyond mere entertainment, which exists, is present and relevant, also performs a very important complementary function to the Instructional System of regular Freemasonry. It is, therefore, in this direction that we write.

Reading, study, research and literary production are the fuel of the intellect; philosophical reflection and deep meditation in a silent environment, with the mind free from any noise and restlessness, are the fuel of the spirit, capable of making, with the passage of time, that we understand the interconnectedness between all spiritual beings. here on Planet Earth or anywhere else in the Universe. The more we study and research, the greater our ability to concentrate and the more intense the assimilation of relevant information; the more we write, the greater the speed of production and, as a corollary, the amount of text produced. This is exactly what Marcus Tullius Cicero, a hero of the Roman Republic, when discussing rhetoric, one of the *Seven Liberal Arts*, called the "*motus animi continuus*". Furthermore, the reverse is also true: if we do not practice writing, when we have to write any literary composition, no matter how minimal, a short story, a chronicle or a simple poem, the blank sheet will seem like a ghostly abyss, a totally inhospitable and threatening desert, and our writing capacity, an absolutely dry well, a sensation, by the way, widely known and remembered since high school, when the teacher demanded that we produce an "essay", based on a proposed theme, without having first taught us the habit of reading and developed our ability to write on a daily basis. The same principle applies to reading: if we read with the necessary dedication, we will read more and more; the interval between one book and another will be shorter and shorter, until we reach the habit, extremely positive for the activation of neurons, of reading several books at the same time. Conversely, if we do not have the habit of reading, we run the risk of having in our hands, for

example, "*Posthumous Memoirs of Brás Cubas*"¹, one of the main works of world literature, and we are no more than the Machadian greeting "*to the worm that first gnawed the cold flesh of my corpse*", simply closing the precious book to, then, waste time with something else. Reading and study, associated with deep meditation, with the mind, by the fulfillment of duty, calm and without worries, self-control and the constant practice of fraternal love are the ways that allow the Freemason to climb the various levels of self-consciousness, having as a goal the cosmic consciousness or superconsciousness, an extremely difficult condition to be achieved in the earthly sensory experience, which we call "life". Nevertheless, what really matters is to walk towards it, as if it were a beacon of intellectual and spiritual sophistication, continuously conquering the highest levels of self-awareness for personal fulfillment and for the benefit of the construction of the "social edifice".

As we know, the Masonic Order, institutionally and as a sociological phenomenon, has an altruistic, humanistic and humanitarian character, not constituting an end in itself. It exists for the good of Humanity. The mission of pure Freemasonry is mainly aimed at the social segments formed by non-Masons, which we call the "profane world", that is, those who are "outside the temple". People whom we are obliged to help and provide for just needs, regardless of the opinion they have about us, due to the pact we have directly with the Great Architect of the Universe, who is God, the Eternal, in defense of the forces of good, fighting all forms of oppression and suffering, with social improvement and promotion of the civilizing process. An effort that ranges from the donation of a simple food basket, clothes and warm clothes, guidance and referral in the area of good, employment and work opportunities, to the construction of schools and hospitals.

The work in focus, "Pure Freemasonry – The Freemason on the Way to Cosmic Consciousness", is composed of four parts, didactically presented to the reading public, preferably Masonic. The first part addresses the origins and structuring of universal Freemasonry in an allegorical way, as well as presents a historical view, with factual foundation, of the formation of Freemasonry in Brazil; the second focuses on the "initiatory path"; the third, which lends its name to the subtitle of the book, brings a study on "Cosmic Consciousness"; and in the fourth

¹ Work by Machado de Assis.

and last part, the social mission of the Masonic Order is discussed.

In the work, the approach to the origins and formation of Freemasonry presents the reader with an allegorical text.² A rereading of old and fantastic allegories written in poetic prose about the origins and structuring of geometry, which is pure Freemasonry. This is what the most wise masters of the Craft taught, whose footprints remained indelible forever on the banks of the gigantic Nile, water serpent, paradise of crocodiles, sap of life in Egypt. Allegories consecrated and contained in historical legal-Masonic systems, old brochures, long-lived manuscripts, statutes and constitutions of the Confraternity of Freemasons, initially selected and operative, later accepted and speculative. Builders of temples, monasteries, palaces and stupendous Gothic cathedrals, stone books that transmit esoteric messages to the eyes of the initiates in the august mysteries of the Royal Art. Monumental churches, as never seen before, with very high towers pointed to infinity and splendid ogival arches that, at the same time, witnessed and still testify today to the greatness and insignificance of man. Buildings that cradled the dreams of disciplined operative workers, who were replaced by exemplary social builders over the centuries, dedicated day in and day out to the hard work of metaphysical construction of castles to virtue and esoteric excavations of dungeons to vice. Operative freemasons, who could move along medieval paths from one construction site to another; initiated in the guild of builders, who engraved their very personal mark on the stone, signing their grandiose works. Master, companions and apprentices, disciples of Euclid, Vitruvius and Villard de Honnecourt.

The medieval European legal ordinances - *old charges* - produced by operative Freemasonry, after governing the Royal Art in guilds or craft corporations, entered the history of literature as masterpieces of the allegorical literary style, due to the legendary stories contained in them about the emergence and structuring of Freemasonry in the world. In addition, they influenced the content of ordinances that emerged later, which they also addressed in their preambles, maintaining the allegorical style, the origins and relevance of the Masonic Order in the civilizing process of Humanity,

such as the Dumfries Manuscript and the famous Anderson Constitutions, which came to light in the Modern Age. These precious and very interesting *old cartoons* deserve special attention from the Freemason and the reader in general, since the literary beauty of those texts goes beyond the specialized or corporate interest. Above all, medieval or modern, for their poetic-allegorical beauty, attention and study must be directed mainly to the two classical *Gothic Constitutions*, detached from the set of "Ancient Ordinances": the Halliwell Manuscript, called "Regius", fourteenth century, and the "Cooke Manuscript", fifteenth century, masterpieces of the Masonic literary style, addressed to the delight of superior intellects and to the regulation of the work of hands calloused by thinning of the roughness of the physical stone and, later, from modern times, metaphysics.

The truth is that oral tradition, for a long time the only means of transmitting knowledge of the *craft of construction*, from the master to the companions and from these to the apprentices, was absolutely not exempt from alterations or distortions harmful to the good progress of the work. Thus, the *ancient ordinations*, especially from the Statutes of Bologna of 1248,³ recorded in writing the deontology of the freemasons, aiming at the preservation of the Masonic operative principles in their purity. Underly, they also performed the function of protecting the *Craft* from unfair competition from groups of builders uninitiated in the august mysteries of the Royal Art. These historical ordinations contained, in addition to rules applied to the professional practice, rules of etiquette with the aim of improving the social behavior of the members of the confraternity and, in allegorical style, in poetic prose, introductory texts on the origins and social prominence of the Masonic Order. These allegorical "poems" are sometimes misunderstood by Masons of the present, since they see in those stupendous "*pieces of architecture*" only fanciful sayings, without any historicity, as if this were a defect, as if the authors of these magnificent literary works did not have the minimum historical knowledge, while, in fact, they are faced with allegories that - like all allegory - say one thing, the fantastic stories, to mean another, the long-lived and noble origins of Freemasonry and the very relevant importance of the Order in the civilizing process. An excellent source of study to understand

² With the characteristics inherent to allegorical language and not to historical narratives.

³ The writer Jean Ferré presents the researcher with an excellent approach to the *Statutes of Bologna* and other

medieval and modern ordinances in the work "The history of Freemasonry (1248 -1782)".

the differences between historical narratives, which depend on factual veracity for credibility, and allegorical narratives, which must be interpreted in the light of the canons of symbolic science, which dispense with factual veracity, remaining focused on the moral message to be transmitted, are the works of Albert Mackey.⁴ In this sense, the Freemason intellectual Avelino Lombardi Júnior teaches that "it should be noted that the accounts prior to the Middle Ages, the operative builders and *the old cartoons* should not be understood as a literal reconstruction of historical facts", clarifying to the reader of the work in question the nature of the text, concluding that the allegorical form of its presentation is the "symbolic expression of an archetypal tradition, that anchors the initiatory teaching and transcends the merely factual dimension."⁵

The second part of the book, still in symbolic language, producing an allegorical text, which protects the arcana and Masonic principles that cannot be published, due only and solely to the initiatory nature they have, because from the moral point of view there is nothing in the Masonic doctrine that cannot and should not be made public, addresses the initiatory process with the symbolic death of the profane man and his rebirth as a Mason-man. The *initiation*, which in Brazil we call the Magna Session of Initiation, is only the initial moment of a long journey of ascension of the Freemason to the highest levels of self-consciousness, which, in the book, we call "initiatory path".

In short, there are three stages of the initiatory path, that is, the endless journey of acquiring knowledge and wisdom, which begins from the glimpse of the first beam of true light (when the chords of the *Symphony of Destiny*⁶ by Beethoven sound louder in our ears, penetrating deep into the soul) and it is directed towards the cosmic glare, which, by opening the portals of the higher levels of self-consciousness, can lead the spiritual being to the apotheosis of the superconsciousness, which is the consciousness of the cosmos: a mental and spiritual evolutionary stage that unveils to the human being the intrinsic dimension of the universal order, revealing that man, at the same time, he is within the Universe and has the Universe within him.

The first stage: from the restlessness of the mind, under the weight of obscure and disconnected thoughts, from the mental chaos (de)constructed

over the years, to the psychic restructuring, which begins in the most complete darkness and then intensifies in the clarity of the light with the withdrawal of material blindfolds, marked by the fullness of *the passage of the glory of the world*. It is in this unforgettable moment, consequent for the rest of his life, that the Freemason has an incipient glimpse of the true light, with the first experience of *symbolic death* of the profane-man and immediate *initiatory rebirth* of the psyche, now raised to a higher level of self-consciousness in the face of the *previous status*, from which the man-Mason emerges vibrant.

The second stage: from the organized psyche, that is, from the mind free of self-formed noises and restlessness, to the fastidiousness of spirituality full of inner peace, with the gradual mastery of the canons that govern symbolic science, as well as with the progressive assimilation of the arcana and mysteries that make up the doctrine of the Royal Art. For almost all active Masons, this is a lifelong process of mental, intellectual and spiritual progression, embodied in the gradual ascent of the individual being, who intrepidly climbs the steps of Jacob's Ladder, that is, the levels of self-awareness, with the goal of the holy chalice, which symbolizes full charity. For all, the process will be marked by the permanent tour of the Symbolic Degrees. For many, it will also be marked by the optional turn through the Philosophical Degrees of the rite in which they were initiated, and for some, a few, in fact, also by the turn of the Philosophical Degrees from other just and perfect Masonic rites. Masonic rites are codes that transmit the initiatory communicative act. The codes may differ in their peripheral characters, but they maintain the same core and convey the same content, the immutable essence of the Royal Art. It is in this context, true and magnificent experience of life, that the Mason, progressing on the initiatory path, climbs the various sublevels of self-consciousness, developing serenity, acquiring wisdom, practicing tolerance in the molds of the highest charity, symbolized by the hand that holds the cup of life, and experiencing impersonal love, factors that, in the realization of the greater mission of the Masonic Order, they allow the formation of a competent and active social builder for the good of Humanity, especially in favor of those who have not crossed the threshold between the profane world

⁴ With emphasis on the Book *"The Symbolism of Freemasonry"*.

⁵ Pure Freemasonry – The Freemason on the Way to Cosmic Consciousness", p. 38, 1st. Edition, 2025.

⁶ Symphony No. 5.

and the initiatory portals of geometry, which, as we have seen allegorically, is the purest Freemasonry.

The third and final stage: from the highest levels of self-awareness and spirituality to cosmic consciousness, when the edges of the Rough Stone are already carved in such a way that we become receptive to the flash of superconsciousness, even making it unnecessary to wear the *Apron*, because the work is finished, and to this must be added the ineffable factors, which reveal the true and definitive light and which do not depend on our will or preparation; in fact, as is common, they may never come. What is certain is that they will not be revealed if we are not prepared. To those who are prepared to go through the transcendental experience of assumption into cosmic consciousness, which few have gone through, including the Canadian psychiatrist Richard Maurice Bucke⁷ – considering his testimony as true – to expect, being prepared, that this will happen, in itself, is already something great, and it is enough to make one experience the anteroom of the plenitude of human existence in the earthly sensory experience.

In the third and main part of the book, we address the correlation between Masonic philosophy, the essence of knowledge that substantiates the Royal Art, and the evolution of human consciousness. Conscience is not synonymous with rationality, although it does not exclude it; the high levels of consciousness referred to throughout the work do not correspond to what Carl Jung⁸ calls it the "advanced consciousness of civilized man", which, in the understanding of the master of psychology, instead of bringing man closer to cosmic consciousness, limits the human capacity to access numinous symbols to the extent that it hinders the assimilation of what comes from instinct or the unconscious. We also consider consciousness as synonymous with clairvoyance, spirituality, in addition to intellectuality, in which rationality, intuition and emanations from the unconscious are complementary and concomitant. The book develops a kind of *cartography of the consciousness* of the mason-man along the initiatory path. The evolutionary path of perfecting the levels of self-awareness takes the Freemason who understands and experiences the arcana of the Royal Art closer

and closer to the superconsciousness or consciousness of the cosmos, the source of all life. How *Vedanta*⁹ teaches and quantum physics begins to explain, we are matter, consciousness and energy. The initiatory path, in the earthly sensory experience, is a fabulous journey, full of discoveries and epiphanies, which stimulate self-knowledge, which lead to intellectual sophistication with the development of mental capacities, increasing spiritual improvement. As a corollary of this, the understanding of our connection with the admirable and omnipresent cosmic energies is strengthened. The notion of interconnectivity with distant points in the Universe, with spiritual beings similar to us, is taking shape and becoming a reality in our feelings. The initiatory path allows us to perceive that, spiritually, we are connected with the spirit of the Universe, and materially, with everything that exists in it. Everything is the vibration of subatomic particles, including the soul. The repeated study of symbolic science, the observance of Masonic moral precepts over time, the ritualistic practice with dedication and geometrical precision, which in a very subtle way perfects the intellect, allow the dedicated and studious Mason an extraordinary understanding of the relations between the part and the whole, and the implications of this in our lives.

When we speculate about the connection of consciousness with something greater, universal, we can infer that the brain is just a box for receiving and decoding cosmic energetic waves. Why is it so easy to accept that man, a simple creature, has developed wave receivers, such as the very traditional radio, and it is so difficult to accept that the Creator, nature, as the reader wishes, who can do everything in the realm of Creation, has developed his "wave receiver device", which we call the brain? In addition, this speculation is fully consistent with the belief in the eternity of the soul and brings us closer to the possibility that the so-called succession of reincarnations is indeed a common phenomenon, although mysterious, and that it can happen, taking the human spirit beyond this world, in the infinite planets scattered throughout the cosmos in which there are spiritual beings compatible with us. If outer space is infinite, if the celestial bodies are countless, if the Universe itself can be a small particle in the chain of "worlds" that make up the hypothetical

⁷ Author of the book "Cosmic Consciousness", a Brazilian publication of 1996 by *Ancient and Mystical Order Rosae Crucis*.

⁸ Carl G. Jung, author of the works "Man and his Symbols" & "The Archetypes and the Collective Unconscious".

⁹ A purely metaphysical doctrine, developed in ancient India, based on general and immutable spiritual laws, which deals with knowledge, the state of full self-realization or cosmic consciousness.

"Multiverse", if time is eternal, it would be a lot of arrogance on our part, attacking the best intelligences, the assertion that life is an exclusive phenomenon of Planet Earth and that everything ends in a mere biological cycle. The wise man says: "In the search for truth, we must pay attention to what the prophets and the great incarnations of divine truth say, because their words are the keys that open what is inside each one of us and, thus, we will realize that the truth is universal and within everyone's reach."¹⁰

The fourth part of the work is dedicated to the construction of the social edifice, to human happiness, as the main extrinsic mission of the Masonic Order. The *raison d'être* of Freemasonry is the consolidation of human societies structured on the healthy principles of civil liberty, equality of opportunities and fraternity embodied in fraternal and impersonal love, considering all wars as execrable fratricidal events, all bellicose conflicts as a regrettable loss of opportunity for understanding, as a vexatious testimony of incompetence in the management of differences between men and between social and national groups. The Masonic Order believes, and works in this direction, that free will, that is, the possibility that each human being can make his own judgments, is a fundamental right of man; To this end, he also knows that hearts need to be well-structured, morally well-formed, as much as intellects need to have solid and diversified knowledge, in spite of which, in the process of specialization of knowledge, it is better to know a lot of a little than to know a little of a lot. The objective of the Masonic Order is to elevate Humanity to levels in which human beings are unhappy as little as possible, even because the institution, also being realistic, knows that permanent happiness is not in the plans of the Great Architect of the Universe for the earthly human experience, which is nothing more than a fabulous rite of passage for the spiritual improvement of man, and that called "life". This denomination, it should be noted in passing, is

intuitive and absolutely incomplete, because the earthly sensitive experience is a moment of time in the process of spiritual life of each one of us; a process that extends to eternity and towards infinity. Therefore, on Earth, our main mission, as social builders, is to make Humanity less unhappy by love, equality, tolerance, always so lacking in interpersonal and international relations, and by the other means revealed to Masons daily by the chancelleries of the *Masonic Lodges*. "*Raising Temples to virtue and digging dungeons to vice*" is the classic allegory that synthesizes the Masonic system of morality, placed at the service of all, Masons and profanes.

Bibliography:

- ASSIS, Joaquim Machado de. *Memórias Póstumas de Brás Cubas*. São Paulo, SP, Brasil: Maquinaria Editorial, 2025.
- BUCKE, Richard Maurice. *Consciência Cósmica*. Jaboticabal, SP, Brasil: Editora Anna Ruggieri, 2023.
- FERRÉ, Jean. *A História da Franco-Maçonaria (1248-1782)*. São Paulo, SP, Brasil: Madras Editora, 2000.
- JUNG, Carl Gustav. et al. *O Homem e seus Símbolos*. Rio de Janeiro, RJ, Brasil: Harper Collins Editora, 2016.
- JUNG, Carl Gustav. et al. *Os arquétipos e o inconsciente coletivo*. Petrópolis, RJ, Brasil: Editora Vozes, 2014.
- LUFIEGO, Marcelo Garcia. *A Pura Maçonaria – O Maçom a Caminho da Consciência Cósmica*. Joinville, SC, Brasil: Manuscritos Editora, 2025.
- MACKEY, Albert Gallatin. *The Symbolism of Freemasonry Illustrating and Explaining Its Science and Philosophy, Its Legends, Myths and Symbols*. Praga, República Checa: Editora e-artnow, 2020.
- VASSAL, Pierre-Gérard. *Curso Completo de Maçonaria - História Geral da Iniciação*. 1ª edição. São Paulo, SP, Brasil: Madras Editora, 2020.
- YOGANANDA, Paramahansa. *Onde Existe Luz*. Rio de Janeiro, RJ, Brasil: Editora Self-Realization Fellowship, 2016.
- YOGANANDA, Paramahansa. *A Eterna Busca do Homem*. Rio de Janeiro, RJ, Brasil: Editora Self-Realization Fellowship, 1998.

¹⁰ Paramahansa Yogananda, author of the works: "Where There Is Light" & "The Eternal Search of Man", among others.

MASONRY, ART AND SCIENCE: An avant-garde methodical praxis, meeting place of an extensive conversation

Sebastián Sfriso ¹

Abstract:

There is sufficient evidence that Freemasonry is born with an avant-garde spirit that interweaves scientific, artistic and technical knowledge with an eminently practical will to constitute itself as a social actor. This paper aims to point out some milestones of this journey, from the first of the texts considered as part of the canonical Masonic corpus, the Regius Manuscript (circa 1390) to the first draft of Anderson's Constitutions (1723), as well as the rest of the texts known as Old Charges, and the unavoidable link between the emergence of the so-called speculative Freemasonry with the Royal Society and a new paradigm of the time. We propose to think about the existence of a specifically Masonic method that contemplates science and art as distinct yet concurrent paths in the human search for truth and the creation of meaning. A reflection on translation understood as interpretation proposes to rethink the metaphorical complex of the Masonic tradition with an engineering gaze; that is, a concrete praxis that works on things and whose processes and results are measurable in terms of reasonableness rather than truth/falsity. This gaze shares common roots with the concept and tradition of all the avant-gardes. Emphasizing the initiatory character that distinguishes Freemasonry, and the concept of fraternity as the cornerstone of Masonic social agency, as a political concept, we propose to raise the urgency of rethinking (translating, interpreting) the Masonic cultural tradition, its status and its role in the contemporary world.

Palavras-chave: Freemasonry, method, science, art, praxis, avant-garde, engineering, tradition, fraternity, hermeneutics, translation, freethought, politics, poesis, techné, episteme, doxa, emergence, global challenges, cosmopolitanism, new technologies, climate change, citizenship building, secularism, initiatory traditions, truth, verisimilitude, reasonableness, paradigm, grand narratives, meaning, social peace, cosmopolitanism, culture, sacred.

Resumo:

Há evidências suficientes de que a Maçonaria nasceu com um espírito vanguardista que entrelaça o conhecimento científico, artístico e técnico com uma vontade eminentemente prática de se constituir como um ator social. Este artigo tem como objetivo destacar alguns marcos nessa jornada, desde o primeiro dos textos considerados como parte do corpus maçônico canônico, o Manuscrito Regius (cerca de 1390), até a primeira edição da Constituição de Anderson (1723), como o restante dos textos conhecidos como as Antigas Obrigações, bem como a ligação inevitável entre o surgimento da chamada Maçonaria especulativa e a Royal Society. Propomos pensar na existência de um método especificamente maçônico que contempla ciência e arte como caminhos diferentes e concorrentes da busca humana pela verdade e da criação do significado. Uma reflexão sobre a tradução entendida como interpretação propõe repensar o complexo metafórico da tradição maçônica com uma perspectiva de engenharia; ou seja, uma práxis concreta que trabalha sobre as coisas e cujos processos e resultados são mensuráveis em termos de razoabilidade, e não de verdade/falsidade. Essa visão compartilha raízes comuns com o conceito e a tradição de todas as vanguardas, enfatizando o caráter iniciático que distingue a Maçonaria e o conceito de fraternidade como pedra angular da agência social maçônica, como conceito político, propomos elevar a urgência de repensar (traduzir, interpretar) a tradição cultural maçônica, seu status e seu papel no mundo contemporâneo.

Palavras-chave: Maçonaria, método, ciência, arte, práxis, vanguarda, engenharia, tradição, fraternidade, hermenêutica, tradução, livre-pensamento, política, poesis, techné, episteme, doxa, emergência, desafios globais, cosmopolitismo, novas tecnologias, mudanças climáticas, construção da cidadania, secularismo, tradições iniciáticas, verdade, verossimilhança, razoabilidade, paradigma, grandes narrativas, significado, paz social, cosmopolitismo, cultura, sagrado.

¹ Secretary of Culture of the Grand Lodge of Argentina of Free and Accepted Masons of Argentina. Director of the House of Culture of the Grand Lodge. Founding President of the Carlos Mallmann Civil Association. Former president of the Córdoba branch and former first vice-president of the Instituto Laico de Estudios Contemporáneos de Argentina. Scientific literary translator from German, Spanish, French, English, Italian and Spanish. Email: sebastiansfriso@gmail.com

1. Text, context, intertext, and more

It is healthy and always happy to approach a text aspiring to the full understanding of its enunciation. This is true both for the relations of a text with the texts with which it explicitly or implicitly dialogues and for the cultural, linguistic, historical and epistemic conditions of its emergence in a cultural tradition. In Julia Kristeva's words: " (...) every text is constructed as a mosaic of citations, every text is the absorption and transformation of another text. [...] the construction of any text is a mosaic of quotations, it is the absorption and transformation of another text"¹ (Kristeva, 1969).

The terms on which we propose to reflect; art, science and Freemasonry, have been mutating in meaning over time, and this progressive diachronic modification has its synchronic correlate: today, a unanimous agreement on the meaning of these terms is far from being a reality. In the absence of a universally shared conception of the first meaning, there is even less consensus on the crossovers, overlaps, dialogues and influences between these practices or disciplines. Methodological caution must be exercised if we aspire to more than mere opinion.

But there is no reason for discouragement; a provisional approach clearly points out a vast series of milestones that show the indubitable link between Freemasonry, art and science that allows us to move forward along this centuries-old path, full of wonder, whose emergence has contributed and continues to contribute to define our culture.

In times marked by the cult of a vertiginous speed, of performance as an almost exclusive index of success, of an astonishing disregard for the notion of truth (Frankfurt, 2005), it is perhaps auspicious to refresh ourselves in the sources from which the knowledge that humanity has cemented with patience, *corsi e ricorsi* (in the words of Giambattista Vico) and tenacity sprang.

Docta Ignorantia has a long lineage that we could trace back to the Platonic writings, but it is thanks to Nicholas of Cusa when, in the Renaissance, the concept is installed (CUSA, 1440) as a state of mind marked by intellectual honesty and serenity in the inescapable human search for meaning: "Thus, *la docta ignorantia*, is already equivalent since Socrates to a state of openness of the soul in front of knowledge: more than a possession, sapient ignorance is a 'disposition'" (Ferrater Mora, 2009).

This *disposition* is undoubtedly one of the distinctive features of the Masonic tradition, and at the same time the source of numerous attacks, vituperations and persecutions that Freemasonry faced for centuries and whose intensity, as well as incomprehension, persists, although with a *light* and somewhat caricatured appearance.

An era that emits unmistakable signs of detachment from the truth, of growing intolerance towards the always healthy dispute of ideas and exchanges of points of view, of frank incomprehension (if not violent contempt) for artistic expressions, summons us to rethink the contemporary terms of the debates on the destinies of our societies.

2. Masonic culture: outline of a method

Perhaps a happy way to overcome many obstacles is to renounce the totalizing and, in a certain totalitarian way, pretension of trying to circumscribe each field to try to grasp it in Oncina (2010) concepts and, instead, begin to reconcile ourselves with the simple facts: there is a Masonic culture; it exists, it is there, it has a history, it has recognizable identity traits, it has an associated aesthetic, a praxis, equally recognizable, and it seems to have a common denominator of purposes and objectives. The same is true for science and for art.

*Our doubts are traitors / And make us lose the good we oft might win / By fearing to attempt*² (Shakespeare, 1993).

Not to go too far back we can say that, at least from Descartes until the middle of the twentieth century, we have made a cult of doubt. This *disposition*, which can perhaps be useful in specific disciplines, entails, if we make of it a fetish, the risk of engulfing us in thoughts ever more distant from the world and, what is worse, of taking away all enthusiasm for life and for action.

There is a point prior to any specific praxis in which the Mason, the scientist, the artist does not hesitate. If someone were to ask us if Freemasonry exists, a reasonable answer would be: "I will answer you when I return from the Tenida, after the Agape". There is a *vital* freshness in that answer, and no little truth. Something similar could be answered by a scientist about his laboratory or by an artist about his atelier. We find here an interesting point in common.

¹ Traduzido pelo autor.

² Traduzido pelo autor.

After all, science goes on without most scientists knowing either its origins or its history, with the sole exception of epistemologists who are usually philosophers and not scientists, or of some brilliant popularizers who, in order to be so, have had to embark on the field of the arts (literature, painting, music, etc.) to make theoretical knowledge accessible to the lay public.

Something similar happens in the arts: although it is true that the artistic profession involves working on techniques, schools, trends, styles, this does not reach the point where the artist must be interested in the origin of art or in a theoretical definition. There are great poets who completely ignore the study of semiotics and even grammar, great painters who are completely self-taught and have never come across a text by Winckelmann and whose artistic production is in no way diminished by this.

3. The method, a place of crossroads and encounters

The iniciatic character of Freemasonry is not something that needs to be demonstrated; it is there for all to see. Freemasonry is an iniciatic society and although it is not necessary to prove it, it is urgent to rethink what this means in the 21st century.

Over the centuries, practices and constructions of meaning have taken such divergent paths that it is impossible to speak of a Masonic philosophy that can encompass them all. However, there are common traits, shared practices, long-accepted methods that do allow us to speak of a common methodological denominator. There is an enormous richness in thinking of Freemasonry as a method and in hypothesizing the existence of a Masonic method. Herein lies the beauty, the challenge and also the origin of all muddle.

The word method has an origin that is worth dwelling on. In Greek it meant something like "pursuit of something or someone" and soon adopts the sense of "search, investigation"; later it is almost synonymous with "scientific work" (ROBINSON, 1953). Aristotle himself uses the term as a synonym for science. The word μέθοδος is composed of the words μετά, to go after something, to go beyond, to pursue, and ὁδός, way or path. The resonances for Freemasonry are vibrant: initiation marks the moment when we abandon the "lost steps", without an apparent prefixed course, to begin a path, a quest that involves going beyond. It is wonderful that we

embark on this path without knowing precisely what the quest consists of or what this beyond is all about.

The term ὁδός, path, reappears in another resonant word: period. A περίοδος is a path, ὁδός, around, περί, something; it is also the course of the revolution of the stars (BAILLY, 2015). A path that consists in a circular gait, in a progressive and spiraling going beyond in search of a meaning that escapes us and that nevertheless is being built through a common, recurrent and cyclical practice. This instance does constitute something common to all expressions of Freemasonry and allows us to outline traits that define a Masonic culture and that are significant for its intersection with science and art.

4. Ce pluriel est bien singulier

We are approaching with deliberate slowness (KÖLER, 2018) to the heart of the matter, in an effort to avoid both seemingly apodictic but unsupported sentences and meaningless verbiage on the other hand.

Perhaps it is time to ask ourselves if it is legitimate to speak of Freemasonry, science and art in the singular. Theoretical development invites us to accept the plural in the last two cases; not only is there no unanimity about what science or art are, but there is also no agreement on a univocal term that encompasses all the disciplines or crafts that aspire to that name.

The progressive diversification, specialization and growing compartmentalization that science has seen, especially in the 19th and 20th centuries, as a result of the exponential proliferation of knowledge, discoveries and techniques, added to the different epistemological theories that accompanied this disaggregation of disciplines, justify the plural.

An analogous and almost parallel path has occurred with art; the different schools, the successive isms, the avant-gardes (that have felt the need to justify their own artistic practice with textual reflections, manifestos, which in many cases invoke technical or scientific knowledge) as well as the multiplication of esthetic theories, literary criticism, hermeneutics, etc., also make it difficult to reasonably refer to art in the singular.

The proliferation of rites, the progressive sedimentation of "uses and customs", the emergence of different rituals, the appearance of different Masonic bodies, whose founding myths are invoked in different documents (and in turn also modulated, once again, by "uses and customs") have

so tightened the bowstring that, as occurs with art and science, it might be appropriate to speak in the plural in Freemasonry as well.

Arts, sciences, Freemasonry; this plural is very singular, but, again, there is no reason to be discouraged; we are challenged to accept the invitation to think about the status and role of Freemasonry (or Freemasons) in the 21st century.

5. Unraveling the core

Every science, every art, every craft has a method *sensu stricto*, transmissible in words of natural language; it may be more or less clear, more or less apodictic, more or less interpretable, but it is there, as a course to follow to carry out processes, procedures, practices in a true, beautiful, correct or effective way. In this aspect, every method is more or less linear. The singularity of the Masonic method is that it is not.

To speak of a symbolic method could almost be tantamount to enunciating an oxymoron, in any case it is an enormous complication. Of all the signs, the symbol is by definition and by far the most ambiguous, polyvalent, indeterminate, multifaceted, ductile, open. But Masonic praxis takes these characteristics of the symbol to the limit of hermeneutic desperation. At times we lose patience, we begin to look for conceptual anchors, linguistic delimitations, interpretations, translations, in an attempt to cling to a concept that has a certain stability.

And it is right there when the uniqueness of the Masonic method loses all its *raison d'être*. When referring to the intricate plexus of symbols that cadences our initiatory journey, the phrase "this means this" names the end of Masonic thought. The controversies, even brutal, between different Masonic "sides": theists, deists, agnostics, atheists, secularists, religious, esoteric, political (followed by a long etcetera) arise from the discomfort of inhabiting the method that Freemasonry proposes to us since its beginnings.

The word "inhabit" does not appear here by chance, and it is possible to think that the resolution of this discomfort (which is often an impossibility) is not to be sought in other methods but in Masonic thought itself. But, would not the expression "Masonic method" imply an insurmountable *contradictio in adiecto*?

"Whoever says that logic is dry and boring, lacks all interest in and understanding of pure theory." This sentence of Külpe, quoted in Romero and Pucciarelli (1941) may be a good start. Freemasonry does not renounce rational thought; on the contrary, it battles in its defense while incorporating, from its beginnings, much more than rational thought. Since it is not the purpose of this work, it is suggested to consult the meticulous work of Benimeli, a profuse research of more than six hundred pages on Masonic bibliography (FERRER BENIMELI, 1974).

6. The origins in muted

The grouping of lodges in England in the 18th century is a sufficiently documented fact to hold on to but, at the same time, it only proves that there was Masonry before (CORBIÈRE, 2011).

How much earlier, with what characteristics, to what extent, with what practices, are questions that have given rise to an unmanageable jumble of more or less convoluted and often antithetical hypotheses.

Elementary honesty leads us to recognize that we know very little about the origins of Freemasonry. Fortunately, this does not prevent Freemasonry from continuing to exist.

The fact that more than three hundred years ago, very reasonable people, of very different origins and interests, participated in this tradition would be enough to encourage us in our purpose.

Without sinking into the critical thicket, long cemented in our intellectual tradition, we can establish traits, brushstrokes, characteristics that, without any pretension of totality, let us glimpse the contemporaneity of the emergence of Freemasonry and its close relationship with science and art; more or less clear traits on which most of us could agree.

But let us take a leap into the past, an acrobatic leap.

Forgive me if the translation is not entirely literal, does not respect the original punctuation and is localized in the rioplatense variety of Spanish. There is a position and also a theoretical explanation in this regard, which I have formulated in another paper.³ In essence, it is a matter of rescuing the spirit of the text rather than its mere literality, and to do so by explicitly recognizing the place from which someone translates something. The quoted fragment corresponds to lines 557 to 575 of *A Study*

³ Translation understood more as un-velation than as adequatio. Done for someone by someone. (...) More attentive to listen than to say. (...) "Undoubtedly, the question is: who

translates, how does one proceed with the text? (...) "Who decides on the accuracy of a translation? SFRISO, S. Note on the Spanish translation in HEIDEGGER, M. (2008).

and an Interpretation of *The Regius Manuscript. The Earliest Masonic Document* (HUNTER, 1952).

Grammar is the first science, certainly,
Dialectic, the second, so have I pleasure,
Rhetoric, the third, without denial,
Music is the fourth, as I say to you,
Astronomy is the fifth, by my snout,
Arithmetic the sixth, without a doubt,
Geometry the seventh makes an end,
For it is both meek and courteous.
Grammar truly is the root
For whoever will learn in the book;
But art passes it in degree
Even as the fruit does the root of the tree;
Rhetoric measures with adorned speech at intervals,
And music, it is a sweet song;
Astronomy enumerates, my dear brother,
Arithmetic shows one thing that is another,
Geometry is the seventh science,
That can divide surely falsehood from truth.
These are the seven sciences.

This fragment of the first of the *Old Charges* simply exempts us from further analysis, more or less brainy, on the original convergence of artistic, scientific, technical and practical knowledge that has marked the Masonic *modus masonicus* from its beginnings.

In the words of the brilliant scientist and thinker Carlos Mallmann: "Art and science are two sides of the same coin, united through creativity".

I think I understand that here the word "creativity" implies a pragmatic disposition for concrete action.

Carlos Mallmann, a pioneer of nuclear energy in Argentina, participated in the MMLA mathematical model that was proposed as an alternative to the MIT Model III. The latter work was the one adopted at the time by the Club of Rome (QUIROGA & SMART, 2015).

Decades later, on the fiftieth anniversary of the *Limits to Growth* report, the Club of Rome presented the book *The Earth for All* AA. VV. (2024), a vision revisited.

During the presentation of the book, at the Museum of Contemporary Art of Buenos Aires (MACBA), the need to establish a dialogue between science and art was raised as a desirable way to make elites, decision makers in different public and private, local and national spheres, take dimension and awareness of the challenges.

The presentation was preceded by a *performance* by the artists of *Meadows, our beauty*.

As we can read in the review about the presentation:

Environmental issues cannot be addressed in isolation, but require a holistic approach that recognizes their influence on all aspects of our existence. Therefore, beyond the academic and technical sphere, it is also important to value and promote artistic expression as a tool to raise awareness and connect with society" (...) Art in its various forms is a channel that facilitates empathy and communication of the complexities and urgencies of the environmental crisis, thus inspiring actions and significant changes towards a more sustainable future (Clube de Roma, 2024).

From this meeting emerged the seminar: Art and Environment: Necessary Dialogues organized by the Argentine Chapter of the Club of Rome. Between August and September 2024 we had an authentically Masonic occasion (not because the speakers were all Masons, rather we were a small minority) at the Museum of Contemporary Art of Buenos Aires (MACBA) to bring together the dispersed: artists, scientists, thinkers, thinkers to discuss the emergence of a new ethos. We were able to feel the *emotion of meaning*, or of its search, or of its construction. In dialogue.

The presentation of the seminar, whose complete audiovisual record will be available online very soon, read:

This seminar, co-produced between MACBA and the Club of Rome Argentina, invites you to explore a path where art, science and ecology intertwine to rethink our place on the planet. An in-depth exploration of the relationship between art, ecology and systems thinking, with a focus on the search for innovative solutions to today's environmental challenges.

Through analysis of the work of pioneers such as Nicolás García Urriburu, intersected with the latest research in the field of climate science and biomimicry, participants will gain a comprehensive understanding of how art can catalyze social change and transition in process. We will dive into the archaeology of ecological thinking up to the present day. We will discover how artists, scientists and thinkers are reimagining our link to the Earth from ecosystem restoration and solar energy, to the emergence of a new ethos that determines praxis and hexis (CLUB DE ROMA – MACBA, 2024).

From the 14th to the 21st century tradition remains immutable, except immutable as Heraclitus' river: the avant-garde.

7. Avant-garde, agency and production

The past generation was a generation of orators; may the present one be of authentic producers, of men of action, of social work. And of action in many senses. Literature, coming out of the shadows of fantasy, will take body and reality, it will be a form of action; it will no longer be; an amusement of some individuals or of a few lazy ones; but the voice of the people speaking to the people.

These words of Jules Michelet, pronounced at the Collège de France in 1848 (DE MICHELI, 2005) are relevant to understand what we understand by avant-garde, in general, and especially when referring to the Masonic tradition, and they acquire an even more important value because of the social context in which they were pronounced.

If anything characterizes the avant-garde is its aspiration to exert an authentic production that generates an impact on the socio-cultural context in which they arise. Preeminence is not only in forms but in things (DE SANCTIS, 1940). Forms are no

longer considered as ideas (technically they never are) but as things. The avant-garde action is sustained on the things themselves, as things. With a precise intention: action.

Freemasonry has adopted a complex metaphorical system of a rather architectural character. However, we can think that a correct translation that makes its contemporary sense accessible would be the word *engineering*.

Engineering draws on a wealth of scientific knowledge and the methods of the basic sciences. But what defines it is the production of something, of a concrete thing, and its realization processes and results are evaluated not according to the criteria of formal logic (true/false) but rather as the execution of a series of reasonable processes and the performance of a reasonable job.

The engineering gaze (thus understood, as a translation) corresponds to the poet Arthur Rimbaud's demand: we are obliged to be modern. We will soon see that even that is not enough; in fact, we have the obligation to be contemporary.

A concrete, effective production, of social impact, of contemporary spirit could almost define *tout court* (almost like a phenomenal epoché of all the *Old Charges* and those to come) both the method and the role as well as the reason for the existence of this marvelous initiatory society. The use of the word marvelous is not random.

As mentioned earlier, there is an avant-garde tradition that characterizes, if not defines, Freemasonry. Another apparent oxymoron. Let Freemasonry get by.

The challenge of always being contemporary was enunciated by many thinkers, from Nietzsche to this part: "From Nietzsche comes to us a first, provisional indication to orient our search for an answer. In a note from his courses at the Collège de France, Roland Barthes summarizes it as follows: "The contemporary is the untimely" (AGAMBEN, 2011).

The truth is that we are not contemporaries of most of our contemporaries. Certainly, we are not contemporary of a great number of people who inhabit cultural paradigms long since defunct.

We are truly contemporary when our *disposition* is focused on a future that is already always a present. An *avenir* that is arriving. Seeing, thinking and acting with agility and in a reasonable manner, with an awareness alert to our inevitable finiteness. But if as individuals we have to die with a fleetingness that makes the "spark between two

swims" fade, the perspective and the disposition to work change completely when we think of the beautiful metaphor of Bernard of Chartres, so dear to Isaac Newton, who was so linked to the study of the initiatory societies, to the Royal Society and to Freemasonry: "we are dwarfs standing on the shoulders of giants". The idea, repeated by Newton, Umberto Eco and so many others according to which, even if we are small, we can see further because we are standing on the monumental shoulders of the tradition of knowledge that precedes us, could be a formidable image of the chain of union in a diachronic sense, and it is clearly a metaphor that describes scientific and technological progress, and enriches artistic work.

It is all a matter of time. It is inevitable to quote the beginning of *The Magic Mountain* (MANN, 2005), that monumental work in which the Italian Mason Ludovico Settembrini and the German Jesuit Leo Naphta dispute "the soul" of the young Hans Castorp; a very extensive work, full of intertextualities and of a depth that marvels that it is not sufficiently known among Masons. Referring to the train journey that will lead Castorp, the text reads:

Two days of travel take a man - and with all the more reason the young man whose weak roots have not yet deepened in existence - away from his daily universe, from all that he considered his duties, interests, concerns and hopes (...) The space that spinning and fleeing interposes itself between him and his point of origin, develops forces that are believed to be reserved to time. Hour after hour, space creates interior transformations very similar to those provoked by time, but which, in some way, surpass them.

8. The untranslatable fraternity

CAIN: (...) I will not enter the tabernacle.

No, sir. The shed is private.

ABEL: Deprived of light. Not even a window, not even a banner.

CAIN: Less insecurity. There's always a thief. The relics must be protected. The tabernacle.

ABEL: The toco protects, the bundle.

CAIN: The capital. So what? So what? Sacred the capital. Relic (...)

ABEL: Don't come to me with a day off, you spend your Sunday making a couplet with rubble. Rubble with rubble.

CAIN: Frame! I measure and mark. And I delimit. One's and the other's. Yours and mine. This is not working, this is honoring Tatita: I mark my own. Divine property. You, on the other hand, sacrilegiously (...)

ABEL: Property... You can't take the word out of your mouth.

CAIN: Now you are a kabbalist too. Stop studying me the terms and leave the land until nightfall. To wander around the lot like a bull beetle. We never understood each other, the two of us.

ABEL: We should. Because that's the first law. We are brothers.

CAIN: I do not violate property. You have to respect the medianera. Sacred privacy (...) I'm one of those, free thinker.

ABEL: The border is vacant! The whole lot is vacant. You and I alone in an endless lot.

CAIN: Am I a ratter to jump over the boundary wall?

ABEL: If you built the wall...

CAIN: Don't confuse me with paradox.

ABEL: Who's going to tell you anything.

CAIN: Something belongs to someone.

ABEL: Everything belongs to nobody.

As I transcribe this fragment from the play *Terrenal* (Kartun, 2014) I wonder how comprehensible it will be for a non-rioplatense reader. The text has no didascalia, but when Cain says "I delimit what belongs to one and what belongs to the other", the actor waves his right arm forcefully, like a barrier that goes up and down at high speed, as if saying: "stop, up to here".

Fraternity is incomprehensible; in principle, brothers kill each other: Cain and Abel, Romulus and Remus, the list is long.

To inhabit fraternity is as arduous as to inhabit the symbolic method. One wants one's own, one's own, one's private.

In this work, Cain disputes with Abel over a wall that separates an endless wasteland from an equally limitless one: the very nothingness of meaninglessness.

Just as we need to cling to symbols in concepts, it seems an ancestral tendency to delimit; in both cases to possess. Concept means exactly that in its origins: to take, to grasp (Corominas & Pascual, 1992).

What Cain does, in a blind gesture of greed, is to establish *Landmarks* that only delimit something in his equally limited head. He inhabits the most infertile wasteland and lives the most feverish fantasy that leads to the death of *the other*.

I had the joy of discussing with Barbara Cassin my German version of a text by Heidegger. I did not know at the time that it would be my turn to translate from French the foreword that Cassin wrote together with Alan Badiou:

"(...) Heidegger is certainly a great philosopher, who at the same time was a most ordinary Nazi. That's how it is... Let philosophy manage! (...)" (Cassin & Badiou, 2008).

I knew a brother who was an ardent supporter of Mackey's *Landmarks* (the man who wrote that *his Landmarks* were unmodifiable. He did not say they were because they were *his*, but in the absence of proof to the contrary it would seem to be the case). One day, our brother, who at every Tenida looked as if he had just come from tea with Pythagoras, was hit by a car; an accident that caused him multiple fractures. When he was able to return, he presented himself to the lodge on crutches, fervently ascribed to another set of *Landmarks* and, above all, much more reasonable. To paraphrase Cassin and Badiou: there is a Masonic clericalism. That's the way it is. Let Freemasonry manage! (Sfriso, 2013). Except that it is up to us to fix it.

Régis Debray devoted a passionate essay to the Fraternity in which he points out not only the misunderstanding of the third of the terms of the triad of the Republic of France, in 1848, but its progressive and silent disappearance from public discourse. There is less and less talk of fraternity in favor of liberty and equality, which continue to have their chorus of followers.

Here too art, science and Freemasonry can shake hands in a common purpose, which was

embodied centuries ago in the motto of the *Royal Society*, the great majority of whose members also congregated to give birth to the first speculative Freemasonry: *Nullius in Verba*; that is, *according to the word of no one* or better translated: the logos belongs to no one; this means lay: belonging to the people, to the community, just as clergy comes from the Greek κληρος, lot, lot, land, inheritance.

Fraternity is unaffordable and too often not practiced because it presupposes understanding that, in a contemporary world in which the so-called grand narratives (god, state, sovereign, etc.) have fallen, people are called to *build a reasonable* sense both intellectually and existentially. It is the aspiration to a common filiation, but without a Great Father or a Great Mother and, hopefully, without a Great Thing. This Masonic aspiration sustains the whole scaffolding, which would otherwise be completely incomprehensible. A kind of immanent transcendence, towards the other, with whom we walk the path of life and with whom we aspire to give meaning to our existence.

The arts and sciences know no frontiers; neither does technology, nor do tsunamis or forest fires. Fraternity is one of the most utopian and beautiful *political* and existential aspirations. In Debray's words: "Une vie à la première personne du singulier est un vie mutilée" [A life in the first person singular is a mutilated life].⁴

9. Sacrifice

Everything is a matter of time, and that of this work is running out, even with the bittersweet taste that very little came to be said.

We do not intend only to remember an exceptional man, philanthropist, intellectual, architect of the National Union, but above all to keep his spirit alive through concrete action, inspired by the path he traced for us: that of commitment to our fellow citizens (...) with the tools to meet the challenges of a future in permanent transformation (...) may these texts, which speak of the past, leave you with a strong appetite for the future (Lázaro, 2021).

⁴ Translation by me.

These words of our Grand Master are comforting in many ways: firstly, because they say many truths in a tight way: I can think of no better definition to define the contemporary spirit we were talking about than this *appetite for the future*, then because they are pronounced by an engineer, the first to reach the presidency of Argentine Freemasonry, who is also the youngest Grand Master in our history. Clearly, Lazaro, who is an engineer, says *mutatis mutandi* the same thing that, alluding to Heidegger and others, we said about translation: it is the spirit that we have to keep alive, not mere literality. Here again, the avant-garde. Those were years of pandemic. Argentine Freemasonry did not stop (and I would even say that it intensified) its work (enactment of the environmental education law, seminars on digital culture, training of trainers throughout the country, panels on mental health, and a long and varied etc.). And Lázaro's words were no metaphor; they were written on the 150th anniversary of the death of José Roque Pérez, our first Grand Master, who died when he made the heroic decision to remain in the south of the city of Buenos Aires during the yellow fever epidemic that decimated the city and changed its physiognomy forever. While Roque Perez coordinated the assistance of the sick, another enormous Mason, another avant-gardist, another Grand Master, Domingo Faustino Sarmiento scattered libraries, railroads, astronomical observatories, schools and science academies throughout the Republic.

Lázaro alludes to an enormous vanguard of Argentine Freemasonry, long centenary, and he does it in a context of vanguard of Argentine Freemasonry in the XXI century.

The fact that our institution has managed to maintain such feverish activity, four years ago as well as 150 years ago, shows, once again, that there is an *avant-garde tradition*, even if it sounds like an oxymoron. And that its spirit is, as in the case of the sciences and the arts: of concrete work, of social agency and of looking to the future.

I almost feel that I am coming full circle if I say that Lazaro's words were made possible by the fact that, some thirty years ago, a group of Masons decided to get together, after the long period of dictatorships and weak democracies from 1930 to 1983, to do again what we Masons periodically do: gather the dispersed to revive the symbolic spirit that rests on the most misunderstood and yet the firmest stone. Perhaps not curiously, this group of Masons decided to give their space the name of *Fraternity*. Borges

would say that it is a group of men who decided to be reasonable.

I would like to end with a statement, followed by a question, and full of beauty. It corresponds to the *Alexandria Quartet* (Durrell, 2012): "Somewhere, in the heart of existence, there is an order and a coherence that we could surprise if we were more loving, more patient or more attentive: will we have time?"

Freemasonry, stubborn, optimistic and avant-garde by tradition will answer with a big Yes.

In the words of our Grand Master, may we, standing on the shoulders of giants, keep alive the joyful flame of concrete work for a kinder, more patient, more just, more attentive society. More fraternal.

May this appetite for a committed future keep us in dialogue in that methodical praxis of vanguard, meeting place of an extensive conversation, as the subtitle of this work says. Thus, to keep us periodical.

References

- AA.VV (2024) La Tierra para todos. Una guía de supervivencia para la humanidad. Un informe para el club de Roma.
- AGAMBEN, Giorgio (2011) Adriana Hidalgo editora.
- BAILLY, Anatole (2015) Dictionnaire Grec-Français. Le Grand Bailly. Hachette.
- CASSIN, Barbara - BADIOU, Alain (2008) Sobre la correlación creativa entre lo Grande y lo Pequeño. En HEIDEGGER, Martin (2008) ¡Alma mía! Manantial.
- CLUB DE ROMA, CAPÍTULO ARGENTINO (2024). "Presentación teatral de La Tierra para todos" en el MACBA". Disponible en: <https://www.clubderoma.org.ar/post/presentaci%C3%B3n-teatral-de-la-tierra-para-todos-en-el-macba>
- CLUB DE ROMA – MACBA (2024). "Arte y Ambiente: diálogos necesarios" Coordinación: Javier J. Vázquez. Dirección artística: Sebastián Sfriso.
- CORBIÈRE, Emilio J. (2011) La Masonería. Política y sociedades secretas. Editorial Sudamericana.
- COROMINAS, Joan - PASCUAL, José (1992) Diccionario crítico etimológico castellano e hispánico. Gredos.
- DEBRAY, Régis (2009) Le moment fraternité. Gallimard.
- DE CUSA, Nicolás Opera omnia. Meiner, Leipzig.
- DE MICHELI, Mario (2005) Le avanguardia artistica del Novecento. Feltrinelli.
- DE SANCTIS, Francesco, (1940) Opere complete. Corcese.
- Durrell, Lawrence. (2012) Cuarteto de Alejandría. Edhasa.
- FERRER BENIMELI, José A. (1974) Bibliografía de la masonería. Fundación Universitaria Española.

FERRATER MORA, José (2009) Diccionario de filosofía. Nueva edición actualizada por la Cátedra Ferrater Mora. Ariel.

FRANKFURT, Harry G. (2005) On bullshit. Princeton, N.J. : Princeton University Press.

HEIDEGGER, Martin (2008). Manantial.

HUNTER, Frederick M. 33° (1952) A Study and an Interpretation of The Regius Manuscript. The Earliest Masonic Document. The Beginnings of Anglo-Saxon Masonry and Masonic History as an Ever-widening Road to Freedom. Published Under the Authority of The Grand Lodge of A.F.&A.M. of Oregon by Research Lodge of Oregon, No. 198, A.F.&A.M. and McKenzie River Lodge No. 195, A.F.&A.M.

KARTUN, Mauricio (2014) Terrenal. Pequeño misterio ácrata. Atuel.

KÖLER, Andrea (2018) El tiempo regalado. Un ensayo sobre la espera. Libros del asteroide.

KRISTEVA, Julia (1969) Le mot, le dialogue et le roman. Seuil.

LÁZARO, Pablo (2021) Archivo de la Gran Logia de Argentina.

MANN, Thomas (2005) La montaña mágica. Edhasa.

ONCINA, Fasutino (2010) Palabras, conceptos, ideas. Estudios sobre historia conceptual. Herder.

ROBINSON, Richard (1953). Platos Earlier Dialectic. Oxford University Press.

QUIROGA, Juan - SMART, Ángeles (2015). "Fundación Bariloche: vigencia del Modelo Mundial Latinoamericano (1970) cuatro décadas después" presentado en las IX Jornadas Latinoamericanas de Estudios Sociales de la Ciencia y la Tecnología.

ROMERO, F. - PUCCIARELLI, E. (1941) Lógica. Espasa – Calpe Argentina.

SHAKESPEARE, William (1993) Measure for Measure. En The Yale Shakespeare, The Complete Works. Barnes & Noble, Inc, by arrangement with Yale University Press.

SFRISO, Sebastián (2013) Clericalismo masónico. Ponencia presentada en el XIV Congreso Nacional del Simbolismo. Archivo de la Gran Logia de Argentina.

THE SQUARE, THE COMPASS, AND THE BRAIN: An analysis of masonic ritualistics in the light of neuroscience

Jorjan de J. Cruz ¹

Abstract:

This paper examines Masonic rituals from the perspective of contemporary neuroscience, aiming to understand how ritual — as a symbolic, sensory, and moral language — affects the cognitive, emotional, and ethical mechanisms of the human brain. Drawing on an interdisciplinary framework that integrates neuroscience, philosophy, and the anthropology, it argues that Masonic rituals engages complex neural networks related to attention, memory, empathy, and moral decision-making. Each ritual element — silence, gesture, light, music, and symbol — is reinterpreted as an intentional cognitive stimulus capable of create mental states of focus, coherence, and transcendence. Findings suggest that ritualistic repetition enhances synaptic plasticity, turning ethical behavior into automatic habit; that collective synchrony triggers endorphin and oxytocin release, strengthening fraternal bonds; and that symbolic learning operates through the neural mechanism of prediction error and discovery. In dialogue with philosophers such as Aristotle, William James, Durkheim, and Victor Turner, the study reveals a convergence between moral philosophy and brain biology: virtue may be, indeed, a habit — and that habit has a neural basis. Freemasonry thus appears not merely as a spiritual tradition, but as a sophisticated form of neuroethical education, harmonizing reason and emotion, science and transcendence, in the continuous process of shaping the integral human being.

Keywords: Freemasonry; Neuroscience; Ritual; Philosophy; Ethics; Empathy; Brain plasticity.

Resumo:

Este artigo investiga a ritualística maçônica sob a ótica da neurociência contemporânea, buscando compreender de que modo, enquanto linguagem simbólica, sensorial e moral, atua sobre os mecanismos cognitivos, emocionais e éticos do cérebro humano. Partindo de uma abordagem interdisciplinar que integra neurociência, filosofia e antropologia, demonstra que os rituais maçônicos mobilizam redes neurais complexas ligadas à atenção, memória, empatia e tomada de decisão moral. Cada elemento ritualístico, o silêncio, o gesto, a luz, a música e o símbolo, é reinterpretado como estímulo cognitivo intencional, capaz de gerar estados mentais de foco, coerência e transcendência. Mostra também que a repetição ritualística favorece a plasticidade sináptica, transformando comportamentos éticos em hábitos automáticos; que a sincronia coletiva promove liberação de endorfinas e oxitocina, fortalecendo vínculos fraternos; e que o aprendizado simbólico se estrutura pelo mecanismo neurobiológico do erro e da descoberta. Ao dialogar com pensadores como Aristóteles, William James, Durkheim e Victor Turner, o estudo revela a convergência entre filosofia moral e biologia da mente: a virtude pode ser, de fato, um hábito — e esse hábito tem base neural. Assim, a Maçonaria surge não apenas como tradição espiritual, mas como sofisticada pedagogia neuro-ética, capaz de harmonizar razão e emoção, ciência e transcendência, no processo contínuo de lapidação do homem integral.

Palavras-chave: Maçonaria; Neurociência; Ritual; Filosofia; Ética; Empatia; Plasticidade cerebral.

¹ Physician specializing in Gynecology with emphasis on Minimally Invasive Surgery and Gynecological Endoscopy. Specialist in Urogynecology and Reconstructive Pelvic Surgery from UNIFESP. Master's degree in Principles of Surgery from HUEM/FEMPAR. Email: jorjancruz@gmail.com

Introduction

We, Freemasons, know that the strength of a Rite is not only in what is said, but in what is lived. The question is, why does this work so well? What happens in the brain when we enter the Temple, when we synchronize ourselves with the Order, or when a symbol stimulates us intellectually? Neuroscience, this continuously expanding map of the mind, offers useful keys to interpret and try to understand such effects without desecrating their meaning. It is not a matter of reducing the Traditional (or even Sacred) to the synaptic level, but of understanding how the synaptic can contribute to them. There is a fascinating point in observing Masonic rituals in the light of Neuroscience: they are not just inherited traditions or mere theatrical reenactments but can be considered true "cognitive devices" built up over centuries. When we talk about ritualistic, we are dealing with a phenomenon that simultaneously touches emotion, attention, memory, language, perception of space, and even our body physiology. Thus, analyzing them from a neuroscientific perspective does not mean emptying them of their group, spiritual or symbolic dimension, but recognizing that their effectiveness also depends on human mechanisms common to all, the same mechanisms that brain science has been unveiling.

First, there is a practical argument: understanding how ritualistic act on the mind can make ritual experience even richer. It is important to know that silence in the Temple is not just a formality, but a trigger of attention that organizes the neural networks and helps to value every detail and in the same way, understand that the rhythmic repetition of words and gestures favors the consolidation of memories and gives awareness to the process of Masonic teaching. Neuroscience, in this sense, works as a great lens that magnifies the details and shows us how much each gesture is loaded with neuropedagogical function. Secondly, there is philosophical motivation. Freemasonry, since the origin of its speculative phase, has sought to integrate diverse knowledge: science, philosophy, morality and spirituality. Looking at rituals through the lens of Neuroscience is, in a way, to continue this tradition of dialogue, recognizing that man is at the same time body, mind and spirit and that the study of the brain can illuminate the symbolic dimension, without reducing it. Such a perspective prevents science from becoming a dogma or the rite from becoming superstition, since both mutually enrich each other. Finally, there is a human and existential

reason. Masonic rituals are lived experiences. They transform us not only because they contain ethical messages, but because they move us entirely. When we engage in a Session, our nervous system responds: it releases substances, adjusts attention, and records memories. To ignore this aspect would be like analyzing a symphony only by its score, without hearing it or feeling the emotions it awakens in us. Neuroscience invites us to listen to the cerebral symphony that echoes in us as we live our ritualistic practice.

Therefore, the reason for looking at Masonic ritualistic through the lens of Neuroscience is threefold: practical (to enrich the experience), philosophical (to dialogue between knowledge and understand it) and existential (to understand the depth of what we live). This approach does not take away from the sacredness of the rite; on the contrary, it reveals how it is rooted in our physiological condition, showing that tradition and science can together throw even more light on the wonderful mystery of being an Initiate. The purpose of this article is to go through some of the cognitive and neurobiological mechanisms that help explain why Masonic ritualistic is so effective in character formation, fraternal cohesion and the transmission of values.

The Rite and the Symbol from the Perspective of the Brain

Masonic ritualism is, above all, a language. And like all languages, it acts on the brain through sensory, symbolic, and emotional codes. When we analyze a ritual from a neuroscientific perspective, we realize that each word, gesture, and spatial arrangement has the potential to activate specific neural networks, promoting attention, memory stimulation, learning, and inner transformation. A ritual is nothing more than a codified pedagogical activity and the brain is the great interpreter.

A symbol, in the Masonic tradition, is an instrument for intellectual enhancement and teaching or moral stimulation. In cognitive neuroscience, it can be understood as a multisemantic stimulus, that is, a signal capable of simultaneously activating multiple brain areas, connecting memory, emotion, and sensory perception (Kandel; Schwartz; Jessell, 2013). When seeing a compass and a square, for example, the brain does not only process the geometric shape: it activates the hippocampus (contextual memory), the inferior temporal cortex (object recognition), the

medial prefrontal cortex (attribution of moral value) and the limbic system (emotional response) (Ledoux, 2003). That is why a Masonic symbol is not meaningless, but has an emotional and neurosensory value, producing an experience of meaning that transcends the rational. This convergence between cognition and emotion explains why teaching through symbols is more effective than merely expository teaching. According to Damasio (2010), symbols generate somatic markers: physiological patterns that associate ideas with emotions. Thus, when the freemason sees Columns B and J, for example, he does not just remember a concept; he feels something (even if he does not perceive it), and this feeling reinforces a memory and the behavior corresponding to it, and the ritualistic, by incorporating visual, tactile and auditory symbols (signs, touches and words), creates an environment of continuous stimulation, which in Neuropedagogy is known as multisensory learning.

Research shows that the more senses are involved, the stronger the synaptic connections and the longer lasting the memory they consolidate (Hams, 2008). So, the whole Masonic symbolic ensemble does not convey information only in words, but in embodied metaphors (what George Lakoff and Mark Johnson called *embodied metaphors*) (Lakoff; Johnson, 1980). In short, the brain does not understand it only as an abstract idea: it stages it internally, activating motor and sensory circuits as if it were performing the action. When the learner hears that he must "cut his rough stone", the brain activates areas of the motor and somatosensory cortex, simulating in his imagination the physical experience of striking the stone, even without doing so. This neural simulation creates a bridge between concept and action, transforming the concept of symbolic learning into embodied learning. Studies with functional neuro-resonance imaging show that simply imagining a motor act activates brain networks like actual execution (Jeannerod, 1995).

This discovery is in line with Aristotelian philosophy, according to which moral knowledge depends on repeated practice until it becomes a habit (Aristotle, 2009). Freemasonry, by using metaphors from construction, incites the initiate to internalize gesture and value simultaneously. Thus, the idea of "roughening the edges" is more than understanding an idea: it is reprogramming neural circuits for self-transformation. In addition, the visual and oral metaphors of rituals function as

cognitive structures for the compression of symbolic meanings. They condense multiple layers of information (historical, ethical, and philosophical) into a single image or action. This compression favors storage and, especially, the retrieval of memory: when evoking a symbol, the brain expands again the set of meanings associated with it, as if opening a compressed file.

From this point of view, Rituals are languages of body and mind in synchrony. Unlike a theoretical class or a reading, they not only convey ideas, but model neurophysiological states. Each posture, displacement, gesture and tone of voice causes adjustments in sensory, motor and autonomic networks, configuring what is perceived as the totality of the experience. The neurosciences of social behavior show that motor learning and symbolic learning share the same neuronal substrates. In particular, the cerebellum and basal ganglia participate in both the acquisition of motor sequences and the internalization of symbolic sequences (Graybiel; Kubota, 2003). This explains why, after years of practice, the Freemason performs the ceremonies and the positions almost automatically, but without losing the symbolic sense, because the ritualistic practice reconfigures the brain through the plasticity that comes from repetition. From a physiological point of view, the body becomes a living copy of the ritual. The autonomic nervous system responds to the environment (reduced light, silence, music) with reduced heart rate, increased respiratory coherence, and activation of neural networks, which induces a state of vigilant calm and focus (Sezer; Sacchet, 2025). This state optimizes attention and receptivity, allowing the initiate to better absorb symbolic lessons.

When a worker enters the Temple, something changes, not only in the external environment, but also in his neurophysiology. The environment becomes more introspective, sounds decrease, light becomes more directed, the body assumes a specific posture. All of this is not mere ceremonial etiquette: it is a practical modality of cognitive engineering. Ritualistics, intuitively, reproduce mechanisms that modern neuroscience identifies as the most effective for fixing attention, generating meaningful emotion, and consolidating memory. In this sense, the Masonic Temple is also an ideal environment from a neuropedagogical point of view: it silences external distractions, stimulates the senses in a controlled way and creates an emotional

field in which symbolic learning is recorded in a lasting way.

Attention is the first portal to learning. Neuroscientifically, it depends on a delicate balance between the noradrenergic (alert) and cholinergic (focus) systems (Aston-Jones; Cohen, 2005). When we enter an environment of solemn silence, the locus ceruleus, the brainstem structure that regulates the release of noradrenaline, adjusts, reducing mental noise and directing cognitive energy to the most relevant stimuli (Sara, 1995). Masonic rituals, with their pauses, specific gestures, and formal language, create events in which the brain recognizes that "this is important" and allocates more neural resources. Magnetic resonance studies show that subtle changes in environment and tone of voice can modulate the activity of the dorsolateral prefrontal cortex and anterior cingulate, regions of attention control (Corbetta; Shulman, 2002).

Silence, in this context, acts as a frame. It is not the absence of sound, but a structured embodiment of attention, as it regulates the cycle between stimulus and pause, allowing the brain to process meaning before receiving new information. Thus, each ritualistic word enters not as noise, but as properly placed information. In practical terms, rituals create a state of continuous induced mindfulness, comparable to what is obtained in meditative practices: reduction in the flow of scattered thoughts, increased coherence and attention in the cerebral cortex, and greater synchronization of alpha and theta brain waves (Tang; Hölzel; Posner, 2015).

If attention opens the door, emotion is the glue that fixes memory. Experiences that are loaded with feeling activate the limbic system, especially the amygdala, which acts as an emotional amplifier of episodic memory. When the amygdala is activated in synchrony with the hippocampus, synaptic connections become more durable, a phenomenon known as long-term potentiation - LTP (McGaugh, 2000). In Masonic rituals, the emotions aroused (reverence, sense of fraternity and belonging) form an ideal setting for learning. Each symbol presented in a context of positive emotional value (i.e., accompanied by meaning) is recorded in a more stable way. This is because the amygdala signals to the hippocampus that that event has value and importance and should be prioritized in long-term storage (Maren, 2004). In addition, emotion modulates neurotransmitters such as dopamine and serotonin, which are responsible for reinforcing

pleasure and a sense of purpose. Dopamine, released in the nucleus accumbens and the prefrontal cortex, is directly linked to intrinsic motivation and the pleasure of understanding (Schultz, 2007). When a brother perceives or learns the hidden meaning of a symbol, this small brain "reward" reinforces the desire to continue studying, and science confirms it: emotionally striking events can be remembered up to 40% more accurately after long periods, compared to neutral information (Cahill; McGaugh, 1998). Therefore, the ritual is not just a protocol to be followed, it is a complete pedagogical theater that teaches by feeling over and over again.

In fact, repeating is the secret of consolidation. The brain needs to revisit information at appropriate intervals to transfer it from working memory (short-term) to long-term memory, a process mediated by the hippocampus and neocortex (Squire; Zola-Morgan, 1991). Each ritualistic session acts as a spaced repetition session, a concept widely studied in neuropedagogy. This technique enhances memory reconsolidation: with each repetition, the mnemonic trace is reactivated and strengthened, becoming more resistant to forgetting (Karpicke; Roediger III, 2007). The Order, by repeating instructions, gestures and words throughout the degrees, intuitively applies to what is known today about neuroplasticity linked to practice. This repetition, far from being just a monotonous act, works as a refinement of synaptic connection. The most used connections become faster and more efficient, while the irrelevant ones are eliminated. This phenomenon is described by Kandel (2009): the repetition of meaningful experiments increases the synthesis of synaptic proteins (neurotransmitters), consolidating specific circuits. The ritual, therefore, is great neuronal gymnastics: the gesture is repeated and, along with it, the value is consolidated.

Like a cleverly placed spice, nothing captures attention quite like the unexpected. But to teach effectively, the element of surprise must be controlled, not chaotic. Neuroscience calls this principle *salience prediction error*, the prediction error that makes the brain readjust its internal models (Redgrave; Gurney, 2006). During an Initiation (or a change of degree), small breaks in expectation awaken the mesolimbic dopaminergic system, which reacts positively to the new meaning. This activation is crucial for learning, as dopamine signals "attention: there is something to discover."

Karl Friston (2010) described this mechanism as the principle of free energy, according to which the brain constantly seeks to reduce the difference between what it expects and what it perceives. Ritual, by introducing gradual "surprises", keeps the brain engaged, curious and in a state of slight creative imbalance, an ideal terrain for intellectual and spiritual growth that teaches by expectation: it does not deliver the secret all at once, but distributes it in fragments, so that each Brother understands the concept to be incorporated continuously and actively. From a neuroscience perspective, this stimulates active learning and intrinsic motivation networks by activating the prefrontal cortex and ventral striatum nucleus (Knutson; Cooper, 2005).

Masonic ritualism is an art of the collective. Although each initiate walks an individual inner path, ritualistic experience is essentially a shared experience. Everyone moves, talks, and engages in unison. This harmony of gestures and intentions also has its functions: it produces measurable effects on the brain and body. Contemporary neuroscience shows that interpersonal synchronization is one of the most powerful ways to create bonding, trust, and a sense of belonging (Cacioppo; Patrick, 2008). The ritual thus transforms isolated individuals into a symbolic organism, the Lodge, where each one is a living cell of a larger body. The first element of this cohesion is rhythm. Executing signals in a coordinated way, repeating gestures or words, all these actions activate the system of mirror neurons, a set of brain cells discovered in the 1990s by Giacomo Rizzolatti and colleagues (Rizzolatti; Craighero, 2004). These neurons, located in the premotor cortex and the inferior parietal lobe, are activated both when we perform an action and when we see another person perform it. In the ritualistic performance in particular, this implicit imitation creates an invisible bridge between the Brothers. The brain of one freemason mirrors that of the other, generating neural consonance, a state of attunement that facilitates empathy, cooperation and non-verbal understanding (Keysers; Gazzola, 2007). In neurophysiological terms, mirror neurons function as a biological foundation for the concept of the sense of fraternity. Research shows that synchronized actions increase the activity of the medial orbitofrontal cortex, a region associated with the perception of social affiliation and collective pleasure (Atzil; Hendler; Feldman, 2014).

By incorporating common movements and postures, the ritualistic performance transforms the

Lodge into a synchronized neural network, a chorus of minds and bodies vibrating at the same frequency. It is science confirming what Tradition already imagined: that outer harmony produces inner harmony. But this synchrony does not only act on the brain, but also on body chemistry. Rhythmic collective activities raise the levels of endorphins, neurotransmitters linked to pleasure, pain relief and the feeling of social union (Dunbar, 1998). A study conducted by Bronwyn Tarr and Robin Dunbar (University of Oxford) demonstrated that dancing in sync with others significantly increases the pain threshold, an indirect marker of increased endorphins (Tarr; Launay; Dunbar, 2016). In the Temple, coordinated marches and gestures work in the same way: they reduce physiological stress and promote endogenous social well-being. The feeling of belonging to something greater is not only symbolic; it is neurochemistry. The brain releases natural opioids that decrease the feeling of isolation and strengthen the affective bond with the group. These mechanisms explain why ritualistic work is not replaceable by individual reading. There is something that only the body in communion experiences. Ritual, in this sense, is a neurobiological antidote to the loneliness of the present day, as it activates circuits that evolution has shaped for tribal coexistence, but now resignified under the light of Royal Art.

Music plays a dual role: emotional and autonomic. Singing or listening to music in a group stimulates the release of oxytocin, a hormone associated with trust, empathy and bonding (Freeman, 1998). Oxytocin is released by the hypothalamus and acts on the autonomic nervous system, reducing sympathetic activity (linked to stress) and increasing parasympathetic activity (linked to calmness). This generates a feeling of physiological coherence, slower breathing, synchronized heartbeat, and body relaxation (Carter, 2014; Ruiz-Blais; Orini; Chew, 2020). This biological harmony explains the feeling of peace that many Brothers report after a Masonic session. The whole body vibrates with music, and the brain interprets this physiological harmony as social harmony.

Touch, when perceived as full of respect and symbolism, is another powerful component of ritualistics. The touch of the hand, the fraternal hug or the contact during an instruction are gestures that activate tactile receptors capable of releasing oxytocin and dopamine, strengthening bonds and

increasing trust (Morhenn; Park; Piper; Zak, 2008). Social neuroscientists such as Paul Zak and Michael Kosfeld have demonstrated that oxytocin increases the willingness to cooperate and trust, even in contexts of uncertainty (Kosfeld, 2005). This substance acts as a biological mediator of fraternity: the greater the mutual trust, the greater the liberation; and the more oxytocin circulates, the more easily trust is renewed, creating a neurophysiological choreography in favor of fraternity. The body, the brain and the spirit converge to produce the feeling of fraternal unity, which is the heart of Freemasonry.

In the ritualistic pedagogy of Freemasonry, error is not punishment, it is method, and mystery is not a barrier, it is an invitation. From the perspective of neuroscience, both prediction error and cognitive ambiguity are ideal conditions for meaningful learning. The human brain, far from being a machine that only records information, is a system that anticipates, tests and adjusts models of perception of the world to each new experience (Friston, 2010). When something does not live up to expectation (when the ritualistic performance does not go as it should, when the instruction seems enigmatic, or when a symbol resists immediate comprehension) the brain activates circuits of prediction error. This "incongruence" stimulates regions of the anterior cingulate cortex and dorsolateral prefrontal cortex, which are responsible for detecting discrepancies and promoting adaptive learning (Miller; Cohen, 2001). On the neurochemical level, error (when properly received and interpreted) is not a punishment, but a dopaminergic stimulus. The brain's reward system, mediated by dopaminergic neurons in the ventral striatum nucleus and ventral tegmental area, responds not only to the correct answer but also to the informational surprise. Whenever there is a difference between what is expected and what is obtained, dopamine is released, reinforcing learning and motivating the search for new solutions (Schultz; Dayan; Montague, 1997). Ritualistics, by proposing complex tasks and symbols of multiple layers of meaning, keeps the initiate in this state of tonic curiosity, a pleasurable tension between knowing and not knowing. The brain, involved in this process, adjusts its synaptic connections and reinforces attention, memory, and creativity circuits. This dynamic confirms the Aristotelian maxim that "we learn by doing" and by making mistakes: virtue is born from repetition that integrates body and thought.

At the same time, the symbolic enigma works as a catalyst for the imagination. Ritual language, intentionally ambiguous, activates the anterior temporal cortex, the precuneus, and the inferior parietal cortex, regions associated with semantic integration and hypothesis generation (Rapp, 2004). When the initiate tries to understand the hidden meaning of a symbol, he engages neural networks similar to those involved in solving complex creative or mathematical problems. Neuroaesthetics has shown that the experience of deciphering something ambiguous produces an explosion of pleasure and insight mediated by the release of dopamine in the ventral striatum nucleus and the medial orbitofrontal cortex, responsible for the sensation of intellectual reward (Kounios; Beeman, 2014). The veiled symbol keeps the mind moving, and the movement is learning itself. In Masonic life, the initiate is led to live these cognitive micro-impacts continuously. Each degree adds new layers of complexity and new opportunities for creative error and the ritual forces him to reorganize his internal models, reevaluating beliefs, adjusting values, reworking meanings. Neuroscientifically, this process corresponds to experience-dependent plasticity, with the brain reconfiguring itself throughout the initiatory journey.

Philosophy in dialogue with Neuroscience

Freemasonry has always been a space of convergence between philosophy and science. From the dawn of speculative thought, the Freemason has been invited to unite reason and intuition, technique and wisdom, body and spirit. Contemporary neuroscience, by exploring the human mind with increasingly precise instruments, does not break with this tradition, but continues it by other means. The dialogue between moral philosophy and the biology of the mind reveals that what we call virtues are sustained by cognitive mechanisms and Order is, in this sense, a point where ethics, aesthetics and neurophysiology touch.

Aristotle taught that "we are what we repeatedly do; Excellence, therefore, is not an act, but a habit." Modern neuroscience confirms this millennial view. The learning of virtuous behaviors and moral attitudes repeats, at the neural level, the same process of synaptic consolidation seen in any cognitive or motor training (Graybiel, 2008). Every time the individual performs an action consistent with his values, he reinforces connections between the ventromedial prefrontal cortex and the basal

ganglia, which regulate moral decision-making and habitual behavior. Over time, this circuit becomes more efficient, and ethical action becomes a spontaneous event, what Aristotle would call second nature.

Émile Durkheim, at the beginning of the twentieth century, described religious rites as sources of "collective effervescence": moments in which the individual feels part of something greater and, taken by common emotion, renews the sense of social belonging (Durkheim, 2003). Today, neuroscience identifies biological bases for this sensation. During intense ritualistic experiences (of the most varied), there is an increase in dopaminergic and oxytocinic activity, stimulating cohesion and trust among the participants, with the brain networks of the medial prefrontal cortex and the ventral striatum nucleus becoming more synchronized among the members of the group (Launay; Tarr; Dunbar, 2016). In other words, what Durkheim observed sociologically, neuroscience today measures in physiological terms: ritualistic communion generates neural and emotional synchrony, amplifying the sense of unity. The Lodge, seen through this prism, is a space of collective cognitive consonance, where the mind of each Brother is aligned with the symbolic vibration of the group.

William James, in *The Varieties of Religious Experience*, described religiosity not as a doctrinal system, but as a transformative experience (James, 2017). For James, authentic spirituality is not imposed by external authority, but is proven by inner experience, the "feeling touched by something greater". Contemporary neuroscience confirms this experiential dimension: states of intense contemplation, aesthetic ecstasy, or symbolic revelation activate the medial prefrontal cortex, the superior temporal gyrus, and the precuneus, regions associated with heightened self-awareness and the feeling of deep meaning (King, 2019). These states are not hallucinations or simple subjective effects, they are recognizable patterns of neural activity that integrate emotion, memory, and perception. Thus, the feeling described by James gains today a neurobiological translation: it is the mind reaching maximum coherence, the brain functioning in harmony with the sense of experience. The Masonic ritual, when well performed and lived, is precisely that, a living experience of inner integration, where symbol, emotion and reason converge to form a state of lucid and devotional consciousness.

Victor Turner, a twentieth-century anthropologist, described the old tribal rites of passage as experiences of transition between an old and a new identity (liminality), marked by hierarchical ascension and the formation of a perception of equality within the group (Turner, 2013). Neuroscience offers a complementary reading of this phenomenon. During rites of passage, or experiences of intense symbolic transformation, there is a coordinated release of dopamine, endorphins, and serotonin, combined with a temporary reduction in the activity of the right parietal cortex, which delimits the individual self (Azari; Slors, 2007). The result is a sense of dissolution of individuality and fusion with the group. Masonic initiation, in particular, stages this crossing. The neophyte is removed from the profane world (separation), subjected to silence and trials (liminality) and finally reintegrated into fraternity (aggregation). Each phase triggers, in a symbolic and neuropsychological way, processes of deconstruction and identity reconstruction. Turner saw this as a pedagogy of humility and fraternity; Neuroscience sees a process of neural reconfiguration: the brain learns new patterns of empathy and belonging, like a psychic metamorphosis.

The fact is that Philosophy and Neuroscience converge on an essential point: the human being seeks meaning. Ritualistics, by uniting rational discipline and symbolic emotion, offer the brain a structured context where meaning becomes palpable. Viktor Frankl said that man can endure any "how" if he has a "why" and neuroscience confirms that the sense of purpose activates the ventromedial prefrontal cortex and the ventral striatum nucleus, strengthening emotional resilience and well-being (Frankl, 2019). Masonic ritualism, therefore, is not an escape from reason, but its complement. It organizes emotion, guides thought, and anchors human experience in something that transcends the immediate. Philosophy seeks to understand the "why" and neuroscience, the "how" and both, gathered in the Temple of the mind, demonstrate that the sacred and the scientific are not antagonistic, but different languages describing the same phenomenon: man's search for knowing and perfecting himself.

Conclusion

The analysis of Masonic rituals from the perspective of neuroscience reveals that it is more

than a sequence of gestures and words: it is a cognitive, emotional and moral device designed to polish the human mind. Symbols, music, silence, light, and movement are not decorative elements, but carefully organized stimuli that activate brain circuits related to attention, memory, empathy, and moral decision-making. The Temple (or the Lodge room) is not an ordinary space, but a neuro-ethical learning environment, where the brain and the spirit work together to build the good man. Under the gaze of the brain sciences, Freemasonry demonstrates that it has intuited, centuries ago, what neuroscience has only recently proven: the human being learns more deeply when he experiences knowledge, and not when he only listens to it. Each session reproduces the fundamental cycle of learning: focus, emotion, action, reflection and consolidation. Attention is aroused by silence and solemnity; emotion is evoked by the symbol and the music; Memory is enhanced by repetition, and understanding arises at the moment of *insight*, when the brain celebrates the discovery of hidden meaning. This path, from expectation to revelation, is the same biological process that drives creative thinking, lasting learning, and moral transformation.

Neuroscience also confirms that virtue is a form of neural plasticity. The constant practice of good, reflection on duty and the exercise of empathy modify the synaptic connections of the prefrontal cortex and the limbic system, making ethical action more spontaneous and natural. Thus, the Masonic oath is not a mere ritualistic formality: it structures the brain to recognize the coherence between thought, feeling, and action. This union between philosophy and neuroscience shows that the search for Light is, in essence, a journey of neurocognitive self-knowledge. By going through the rite, the Mason experiences the transmutation of the mind: from chaos to order, from ignorance to consciousness, from dispersion to unity. It is the brain learning what the soul has always known—that true knowledge is not just in understanding the world, but in transforming itself with it. Ultimately, the dialogue between ritualistic and neuroscience does not diminish the mystery of Freemasonry; on the contrary, it magnifies it, reveals that the traditional and the scientific are two complementary ways of understanding the same reality: the extraordinary human capacity to make sense of experience and to transform instinct into wisdom.

And thus, the greater purpose of Initiation is fulfilled: the awakening of integral consciousness —

reason, emotion and spirit — as the maximum expression of our evolution process.

References

- ARISTÓTELES. *Ética a Nicômaco*. Tradução de Antônio Pinto de Carvalho. São Paulo: Martins Fontes, 2009.
- ASTON-JONES, G; COHEN, J D. An integrative theory of locus coeruleus–norepinephrine function: adaptive gain and optimal performance. *Annual Review of Neuroscience*, v. 28, p. 403–450, 2005.
- ATZIL, Shir; HENDLER, Talma; FELDMAN, Ruth. The brain basis of social synchrony. *Social cognitive and affective neuroscience*, v. 9, n. 8, p. 1193-1202, 2014.
- AZARI, Nina P.; SLORS, Marc. From brain imaging religious experience to explaining religion: A critique. *Archive for the Psychology of Religion*, v. 29, n. 1, p. 67-86, 2007.
- CACIOPPO, John T.; PATRICK, William. *Loneliness: Human Nature and the Need for Social Connection*. New York: W. W. Norton & Company, 2008.
- CAHILL, L; MCGAUGH, J L. Mechanisms of emotional arousal and lasting declarative memory. *Trends in Neurosciences*, v. 21, n. 7, p. 294–299, 1998.
- CARTER, C. Oxytocin pathways and the evolution of human behavior. *Annual Review of Psychology*, v. 65, p. 17–39, 2014.
- CORBETTA, M; SHULMAN, G L. Control of goal-directed and stimulus-driven attention in the brain. *Nature Reviews Neuroscience*, v. 3, p. 201–215, 2002.
- DAMASIO, António R. *O Erro de Descartes: Emoção, Razão e o Cérebro Humano*. São Paulo: Companhia das Letras, 2010.
- DUNBAR, R. The social brain hypothesis. *Evolutionary Anthropology*, v. 6, n. 5, p. 178–190, 1998.
- DURKHEIM, Émile. *As Formas Elementares da Vida Religiosa*. Tradução de Paulo Neves. São Paulo: Martins Fontes, 2003.
- FRANKL, Viktor E. *Em Busca de Sentido*. São Paulo: Vozes, 2019.
- FREEMAN, W. A neurobiological role of music in social bonding. *MIT Press*. UC Berkeley, 1998. Obtido em <https://escholarship.org/uc/item/9025x8rt>

- FRISTON, K. The free-energy principle: a unified brain theory? *Nature Reviews Neuroscience*, v. 11, p. 127–138, 2010.
- FRISTON, Karl. The free-energy principle: a unified brain theory? *Nature Reviews Neuroscience*, v. 11, n. 2, p. 127–138, 2010.
- GRAYBIEL, AM.; KUBOTA, Y. Understanding corticobasal ganglia networks as part of a habit formation system. In: *Mental and behavioral dysfunction in movement disorders*. Totowa, NJ: Humana Press, 2003. p. 51-57.
- GRAYBIEL, Ann M. Habits, rituals, and the evaluative brain. *Annu Rev Neurosci*, v. 31, n. 1, p. 359–387, 2008.
- HAMS, L; SEITZ, AR. Benefits of multisensory learning. *Trends in Cognitive Sciences*, v. 12, n. 11, p. 411–417, 2008.
- JAMES, William. *As Variedades da Experiência Religiosa*. Tradução de Octavio Mendes Cajado. São Paulo: Companhia das Letras, 2017.
- JEANNEROD, M. Mental imagery in the motor context. *Neuropsychologia*, v. 33, n. 11, p. 1419–1432, 1995.
- KANDEL, ER.; SCHWARTZ, JH.; JESSELL, TM. *Principles of Neural Science*. 5. ed. New York: McGraw-Hill, 2013.
- KANDEL, Eric R. *In Search of Memory: The Emergence of a New Science of Mind*. New York: W. W. Norton, 2009.
- KARPICKE, J D.; ROEDIGER III, H L. Repeated retrieval during learning is the key to long-term retention. *Journal of Memory and Language*, v. 57, n. 2, p. 151–162, 2007.
- KEYSERS, C; GAZZOLA, V. Integrating simulation and theory of mind: from self to social cognition. *Trends in Cognitive Sciences*, v. 11, n. 5, p. 194–196, 2007.
- KING, Marcie L. The neural correlates of well-being: A systematic review of the human neuroimaging and neuropsychological literature. *Cognitive, Affective, & Behavioral Neuroscience*, v. 19, n. 4, p. 779-796, 2019.
- KNUTSON, B; COOPER, J C. Functional magnetic resonance imaging of reward prediction. *Current Opinion in Neurology*, v. 18, n. 4, p. 411–417, 2005.
- KOSFELD, Michael et al. Oxytocin increases trust in humans. *Nature*, v. 435, n. 7042, p. 673–676, 2005.
- KOUNIOS, John; BEEMAN, Mark. The cognitive neuroscience of insight. *Annual Review of Psychology*, v. 65, p. 71–93, 2014.
- LAKOFF, George; JOHNSON, Mark. *Metaphors We Live By*. Chicago: University of Chicago Press, 1980.
- LAUNAY, Jacques; TARR, Bronwyn; DUNBAR, Robin IM. Synchrony as an adaptive mechanism for large-scale human social bonding. *Ethology*, v. 122, n. 10, p. 779-789, 2016.
- LEDoux, J. The emotional brain, fear, and the amygdala. *Cellular and molecular neurobiology*, v. 23, n. 4, p. 727-738, 2003.
- MAREN, Stephen; QUIRK, Gregory J. Neuronal signalling of fear memory. *Nature reviews neuroscience*, v. 5, n. 11, p. 844-852, 2004.
- MCGAUGH, J L. Memory—a century of consolidation. *Science*, v. 287, n. 5451, p. 248–251, 2000.
- MCINTOSH, A. R. (2013). From location to integration: How neural interactions form the basis for human cognition. In *Memory, Consciousness and the Brain* (pp. 346-362). Psychology Press.
- MILLER, Earl K.; COHEN, Jonathan D. An integrative theory of prefrontal cortex function. *Annual Review of Neuroscience*, v. 24, n. 1, p. 167–202, 2001.
- MORHENN, Valerie; PARK, James W.; PIPER, Ethan; ZAK, Paul J. Monetary sacrifice among strangers is mediated by endogenous oxytocin release after physical contact. *Evolution and Human Behavior*, v. 29, n. 6, p. 375–383, 2008.
- RAPP, A. et al. Neural correlates of metaphor processing. *Cognitive brain research*, v. 20, n. 3, p. 395-402, 2004.
- REDGRAVE, P; GURNEY, K. The short-latency dopamine signal: a role in discovering novel actions? *Nature Reviews Neuroscience*, v. 7, n. 12, p. 967–975, 2006.
- RIZZOLATTI, G; CRAIGHERO, L. The mirror-neuron system. *Annu Rev Neurosci*, v. 27, n. 1, p. 169–192, 2004.
- RUIZ-BLAIS, S; ORINI, M; CHEW, E. Heart rate variability synchronizes when non-experts vocalize together. *Frontiers in Physiology*, v. 11, p. 762, 2020.
- SARA, Susan J. Selective attention, memory, and the locus coeruleus. In: *Brain Plasticity, Learning, and Memory*. Boston, MA: Springer US, 1985. p. 211-217.

SCHULTZ, W. Multiple dopamine functions at different time courses. *Annual Review of Neuroscience*, v. 30, p. 259–288, 2007.

SCHULTZ, Wolfram; DAYAN, Peter; MONTAGUE, Read. A neural substrate of prediction and reward. *Science*, v. 275, n. 5306, p. 1593–1599, 1997.

SEZER, Idil; SACCHET, Matthew D. Advanced and long-term meditation and the autonomic nervous system: A review and synthesis. *Neuroscience & Biobehavioral Reviews*, p. 106141, 2025.

SQUIRE, L R.; ZOLA-MORGAN, S. The medial temporal lobe memory system. *Science*, v. 253, p. 1380–1386, 1991. DOI: 10.1126/science.1896849

STICKGOLD, R. Sleep-dependent memory consolidation. *Nature*, v. 437, n. 7063, p. 1272–1278, 2005.

TANG, Yi-Yuan; HÖLZEL, Britta K.; POSNER, Michael I. The neuroscience of mindfulness meditation. *Nature reviews neuroscience*, v. 16, n. 4, p. 213-225, 2015.

TARR, B; LAUNAY, J; DUNBAR, R. Silent disco: dancing in synchrony leads to elevated pain thresholds and social closeness. *Evolution and Human Behavior*, v. 37, n. 5, p. 343-349, 2016.

TURNER, Victor. *O Processo Ritual: Estrutura e Antiestrutura*. Petrópolis: Vozes, 2013.

EVOLVING INTELLIGENCES: FORGING LEADERS FOR SOCIETY 5.0: An integrated journey of diverse human potential, upskilling and reskilling for human development and ethical leadership in the 21st century

Rubens Ricardo Franz ¹

Abstract:

Freemasonry, as a philosophical institution dedicated to the continuous improvement of its members, faces the challenge of optimizing its formative processes in a world marked by accelerated technological and social transformations. Its main mission is to shape leaders for Society 5.0, developing hybrid competencies and interpersonal intelligence to lead inclusively and adaptably in a multigenerational, emotionally complex, and technologically evolving context. This article proposes opening a debate for a renewal in the Masonic leadership training process, in light of rapid technological, social, and generational changes. Considering that Freemasonry, committed to the moral, spiritual, and intellectual development of its members, has the opportunity to personalize learning and make it more effective. The proposal integrates this model with upskilling (improving traditional skills) and reskilling (acquiring emerging skills) strategies, aligning with the human-centric vision of Society 5.0. This approach suggests a hybrid training model that combines traditional methods with digital tools. Grounded in literature and recent institutional discussions such as the Bogotá Declaration (2021), this article proposes strategies and identifies potential benefits, including improvement in the quality of Masonic training, increased member retention, accessibility of knowledge, and measurable formative impacts.

Keywords: Masonic Formation; Upskilling and Reskilling; Society 5.0; Human Development.

Resumo:

A Maçonaria, enquanto instituição filosófica dedicada ao aperfeiçoamento contínuo de seus membros, enfrenta o desafio de otimizar seus processos formativos em um mundo marcado por aceleradas transformações tecnológicas e sociais. Sendo o principal, formar lideranças na Sociedade 5.0, desenvolvendo competências híbridas e inteligência interpessoal para liderar de forma inclusiva e adaptável em um cenário multigeracional, emocionalmente complexo e em constante transformação tecnológica. Este artigo propõe a abertura do debate para uma renovação no processo de formação maçônica para a liderança, diante das rápidas mudanças tecnológicas e sociais, geracionais inclusive. Considerando que a Maçonaria, comprometida com o desenvolvimento moral, espiritual e intelectual de seus membros, tem a oportunidade de personalizar o aprendizado e torná-lo mais eficaz. A proposta integra esse modelo às estratégias de upskilling (aprimoramento de competências tradicionais) e reskilling (aquisição de habilidades emergentes), alinhando-se à visão humano-cêntrica da Sociedade 5.0. Essa abordagem sugere um modelo híbrido de formação, que une os métodos tradicionais às ferramentas digitais. Fundamentada em literatura e em discussões institucionais recentes, como a Declaração de Bogotá (2021), este artigo propõe estratégias com a identificação de benefícios potenciais que incluem: melhoria na qualidade da formação maçônica; aumento na retenção de membros; acessibilidade ao conhecimento e mensuração de impactos formativos.

Palavras-chave: Formação maçônica; *upskilling* e *reskilling*; Sociedade 5.0; aperfeiçoamento humano.

¹ Rubens Ricardo Franz é administrador, consultor e empresário, Grão-Mestre Ad Vitam do Grande Oriente de Santa Catarina e Secretário-Executivo da CMI. E-mail: rubens.ricardo.franz@gmail.com

1. Introduction

Freemasonry, as a philosophical institution dedicated to the improvement of the human being, seeks to form ethical and conscious leaders committed to building a more just society. However, amid the rapid technological, social, and generational transformations of the 21st century, it faces the challenge of updating its formative methods without losing its essence.

In this context, the proposal of Society 5.0 — which values the integration between technology and human well-being — offers a new horizon for Masonic training. With the possibility of personalizing learning and deepening human development in a more complete way.

This article proposes for analysis and debates an integrated approach that combines varied human potentials with upskilling strategies — improving traditional skills — and reskilling — developing new skills. These strategies are articulated with tools of Society 5.0, expanding the possibilities of instruction and initiatory experience, accessible and prepared for contemporary challenges — without renouncing its essential mission: human improvement.

2. Essential Leadership Skills for 2030

We currently coexist with multiple generational profiles: the Silent Generation, Baby Boomers, the Generations X, Y, Z (Dimock, 2019), and Generation Alpha (Botros, 2025)—each characterized by distinct traditional values, whether traditional or focused on stability and hierarchy, digital transition and multigenerational trends require inclusive, adaptable leadership with high interpersonal intelligence.

The transformations predicted for 2030 (Gideon, 2025) are profoundly reshaping leadership profiles that impact the outcome of actions in Masonic Lodges. As automation and artificial intelligence take over technical tasks, human competencies—cognitive and socioemotional—gain value, favoring adaptability, critical thinking, and lifelong learning. In this new scenario, Masonic leaders are expected to combine systemic vision with collective and social awareness, acting not only for efficiency, but for a positive impact on the Initiate and on society.

Key competencies include analytical thinking—essential for interpreting complex contexts, questioning assumptions, and making evidence-based decisions. Strengthening the

capacity for systemic analysis and the ability to lead sustainable transformations.

Curiosity and continuous learning also take center stage. In a world where knowledge quickly becomes obsolete, leaders who embrace openness and promote active learning create innovative and resilient environments.

Socioemotional skills such as resilience, flexibility, and empathy become indispensable. They enable leaders to face crises with balance, transform challenges into collective growth, and build cultures of trust and belonging.

Finally, *technological and human literacy* emerge as a cross-cutting skill. It goes beyond technical mastery, demanding critical understanding of technology and its ethical application. Leaders with this competence integrate artificial and emotional intelligence, guiding teams toward innovative solutions that respect human values and promote collective well-being.

When integrated into leadership training, these competencies prepare individuals to lead with purpose in a constantly evolving world.

3. The Essence of Masonic Formation

Masonic formation is a symbolic and transformative journey beginning at the Entered Apprentice degree, where the initiate is guided toward self-knowledge and inner refinement. Through symbols and allegories, one learns how to “learn to learn,” cultivating humility, discipline, and ethics—essential foundations for integral and socially responsible leadership (GOSC, 2018).

In the Fellowcraft and Master Mason degrees, the process deepens. The Fellowcraft develops analytical and collaborative skills by exploring arts, sciences, and crafts, fostering balance, critical thinking, and social harmony. The Master Mason degree represents spiritual synthesis, evoking resilience, wisdom, and commitment to the light of knowledge. It teaches ethical and philanthropic leadership, preparing initiates to act as transformative agents in society (GOSC, 2018).

Beyond symbolism, Masonic formation includes administrative and associative practices (GOSC, 2018). Freemasons develop organizational and social competencies that strengthen community engagement. In the contemporary context, this training interacts with digital, sustainability, and inclusion challenges in accordance with our principles and values.

By promoting continuous study, mentorship, and collective action, Freemasonry shapes leaders who not only occupy positions but also inspire, educate, and mobilize. They apply ethical principles in daily life—in work, community, and governance—integrating tradition, reflection, and social action.

Grounded in liberty, equality, and fraternity, this initiatory and philosophical structure contributes to strengthening democratic institutions, defending human rights, and cultivating resilient, ethical, and visionary leaders committed to the common good and sustainable human development.

4. Human improvement

In this context, Masonic training, focused on human improvement, in the Symbolic Degrees has an innovative foundation with the potential to develop more complete and conscious leaders.

Understanding human potential is especially valuable in the training of leaders, mobilizing different intelligences to act with empathy, balance, ethical vision, and communication skills. A Masonic leader, in this context, is not limited to ritualistic or administrative knowledge, but develops integrated competencies that favor the building of trusting relationships and the exercise of humanistic leadership.

To this end, it is essential and fundamental to preserve the necessary intervals and time spaces for the correct and adequate training of the Apprentice, Fellow Craft, and Master Mason, allowing each degree to be fully experienced, assimilated, and integrated. It is essential that the Brother deeply understands, for application in his daily life, the meaning and teachings of Initiation, Elevation, and Exaltation, including the Legend of Hiram (or its variants, according to the Rite practiced) and all other symbolic and philosophical elements that make up each degree.

It is not only a matter of valuing the vast accumulated Masonic knowledge, but, above all, of respecting the progressive and sacred nature of the initiatory act and its gradual development. Only in this way can we honor and give true value to the more than three hundred years of history, tradition, and wisdom of our August Order.

5. Integration with Upskilling and Reskilling in Leadership Development

Upskilling (enhancement of existing skills) and *Reskilling* (requalification) emerged as practical responses to automation and are theorized as

essential strategies for lifelong learning (SEBRAE & TOTUS, 2023)—*upskilling* to specialize, *reskilling* to reinvent—becoming, within Society 5.0, the pathway toward ethical, human, and technologically competent leadership.

In a dynamic context shaped by technological and economic transformation, upskilling serves as a strategy for talent development, focused on improving and expanding existing leadership abilities for higher performance. Driven by advances such as AI and automation, it allows individuals to deepen acquired knowledge, becoming more efficient and adaptable without radical career shifts.

Though often used interchangeably, their distinctions are crucial: upskilling emphasizes refinement and vertical growth, while reskilling focuses on reinvention and lateral transitions. In corporate settings, upskilling often occurs through short courses or microlearning, whereas reskilling may require intensive programs or certifications. Both address the digital skills gap.

The importance of upskilling and reskilling in leadership lies in preparing for an uncertain future, where effective masonic leadership depends on strategic vision, empathy, and a multifaceted skills domain. Leaders committed to these practices elevate performance, inspire teams toward growth mindsets, and foster agile, innovative organizations. Studies show that upskilling enhances engagement and performance, meanwhile reskilling helps senior leaders adapt to disruptive change — promoting sustainability and positive impact — making both essential for forming resilient, transformative leaders in the 21st century.

6. Society 5.0 and the Human-Centered Paradigm

Originating in Japan, Society 5.0 represents a new evolutionary stage by placing the human being at the center of technological transformation (Japan's Basic Science and Technology Plan, 2016). It seeks to harmonize advances such as artificial intelligence, the Internet of Things, and big data with human values, promoting inclusion, sustainability, and quality of life.

This human-centered paradigm proposes using technology to solve social problems through collaborative solutions among governments, companies, and communities. The goal is to turn technical progress into social innovation, guided by ethical governance and collective well-being.

In this context, the training of Masonic leaders needs to go beyond technical, ritualistic, and organizational competence. It is necessary to develop a sensitive, ethical, and collaborative leadership, capable of integrating technology with Masonic purpose.

Freemasonry plays a strategic role in this process. By promoting self-knowledge, ethical reflection, and collective action, they contribute to the training of leaders prepared to guide societies towards a more just, resilient, and balanced future.

In summary, Society 5.0 inspires leadership that unites reason and sensitivity, technique and ethics, tradition and innovation—forming individuals capable of turning global challenges into opportunities for human progress.

7. Conclusions

We need to update Masonic training processes to improve Initiates in the 21st Century, considering their different generational profiles, preparing them to operate in Society 5.0. This requires a pedagogical structure that values the cognitive diversity of each individual, allowing for personalized training that combines traditional Masonic self-knowledge with contemporary challenges such as adaptability and critical thinking.

Considering strategies that include adapting the training process with collective discussions, combining human mentoring with digital tools such as AI for feedback. The expected benefits go beyond personal growth: with Freemasons becoming more empathetic and resilient, capable of balancing reason and emotion, fostering inclusive and innovative teams that mitigate inequalities and promote collective well-being in an increasingly technological world.

At the Entered Apprentice degree, *upskilling* serves as an ethical refinement tool, enhancing intrapersonal and bodily-kinesthetic intelligences through symbols and allegories that encourage inner discipline and emotional control. This humanized strategy cultivates humility and self-awareness, aligning with Society 5.0's demand for emotional resilience. Benefits include a solid foundation for authentic leadership, empowering novices to navigate disruptive environments with empathy and social responsibility from the outset.

The Fellowcraft degree emphasizes *reskilling*—a cognitive requalification introducing new analytical and interpersonal skills through liberal arts exploration and social harmony. Strategies include

collective discussions and collaborative projects that challenge dogma and foster sustainable solutions, making learning dynamic and accessible. Results appear in intermediate leaders who are agile, capable of mediating conflicts and applying a systemic vision, generating innovation and talent retention.

At the Master Mason degree, synthesis combines *upskilling* to refine ethical competence with *reskilling* for multicultural contexts, integrating AI with human wisdom. Strategies involve advanced mentoring and resilience, emphasizing purpose and knowledge transmission. Benefits include mature leaders who guide with empathy and strategic vision, boosting productivity and social cohesion, with impacts such as more creative teams and improved leadership succession.

In essence, this convergence creates a holistic framework—an integrated model considering the human being, the organization, and the system as an interconnected whole—that merges reason, emotion, and technique. Collective learning ecosystems promote sustainability and inclusion. Hybrid curricula humanize Masonic formation, preparing leaders for a complex future. Expected benefits include greater equity, innovation, and institutional strengthening—contributing to societies that are more just and centered on the human being.

8. References

- Minutes of the CMI Assembly of April 2009, Bogotá, Colombia.
- Definindo gerações: onde termina a geração Millennial e começa a geração Z, Michael Dimock, 2019, Pew Research Center - <https://www.pewresearch.org/short-reads/2019/01/17/where-millennials-end-and-generation-z-begins/>
- Apresentamos a Geração Beta, as crianças nascidas a partir de 2025, Alena Botros, 2025, Fortune - <https://fortune.com/2025/01/02/gen-beta-2025-millennials-gen-z-baby-boomers-trends/>
- Programa de Ensino e Formação Maçônica, Grande Oriente de Santa Catarina – GOSC, Secretaria de Ensino e Formação Maçônica, 2018.
- Frames of Mind, The Theory of Multiple Intelligences, Howard Gardner, Perseus Books Group, 1983.
- The upskilling imperative: Required at scale for the future of work, 2025 - <https://www.mckinsey.com/industries/public->

[sector/our-insights/the-upskilling-imperative-required-at-scale-for-the-future-of-work](#)

<https://www.humanresourcesonline.net/most-in-demand-core-skills-globally-in-2025-2030>.

Upskilling for Shared Prosperity, Insight Report, WEF, 2021.

Upskilling e reskilling: o que são e como aplicar na sua empresa, SEBRAE, 2023.

Upskilling: diferença entre reskilling e como aplicar, Totus, 2023.

Sociedade 5.0, Cabinet Office, Gabinete do Governo, Governo do Japão, Plano Básico de Ciência e Tecnologia do Japão (2016).

Inteligências Múltiplas ao Redor do Mundo, Howard Gardner e Jie-Qi (Autores), Roberto Cataldo Costa (tradutor). Editora Penso, 2010.

Análisis crítico sobre las inteligencias múltiples de Gardner. Aplicaciones contemporáneas. Ciencia y Reflexión, Revista Científica Multidisciplinaria.

<https://cienciayreflexion.org/index.php/Revista/article/view/95/122>

Davis, K., Christodoulou, J., Seider, S., & Gardner, H. (2011). The theory of multiple intelligences. In R.J. Sternberg & S.B. Kaufman (Eds.), Cambridge Handbook of Intelligence (pp. 485-503). Cambridge, UK; New York: Cambridge University Press.

Leadership development in U.S. Higher education: Strategies for lifelong learning and upskilling; Journal of Innovation & Knowledge; Volume 10, Issue 4, July–August 2025, 100754; Gladys Daher-Armache, Jalal Armache, Hussein Nabil Ismail.

<https://www.sciencedirect.com/science/article/pii/S2444569X2500099X?via%3Dihub>

Upskilling and Reskilling in a Rapidly Changing Job Market: Strategies for Organizations to Maintain Workforce Agility and Adaptability. Mahedi Hasan, Md. Anamul Haque, Sabrina Sharmin Nishat, Md. Monzur Hossain. EJBMR European Journal of Business & Management Research. 2024.

<https://www.ejbmr.org/index.php/ejbmr/article/view/2502>

Educación para todos: La Teoría de las Inteligencias Múltiples de Gardner, Gisela Emst-Slavit, Washington State University, Revista de Psicología de la PUCP. Vol. XIX, 2, 2001.

How Teachers Use Gardner's Multiple Intelligences Theory, Andy Minshew.

<https://www.waterford.org/blog/multiple-intelligences-theory/>

Most in-demand core skills globally in 2025-2030, Sarah Gideon, Human Resources, 2025 -



FRATERNITAS