

ROGO, ERGO EMERGO

Rogo → Religo → Emergo

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Abstract

The paper proposes a relational correction of the Cartesian foundation of modern philosophy and extends its consequences to the debate on artificial general intelligence. The central argument is that *Cogito, ergo sum* is not false, but **insufficient**: methodical doubt rejects the senses and the relation, although the logical apparatus with which it is formulated was constituted precisely through them, and the language in which it unfolds cannot be private. Existence does not precede the relation, but is co-constituted by it.

The paper proposes a triad: *Rogo, ergo religo* (asymmetric interrogation initiates the relation), *Religo, ergo sum* (the relation constitutes existence) and, as a law of becoming, *Rogo, ergo emergo*. Three criteria are formulated for the depth at which the loop of interrogation closes: vulnerability, structural transformation and irreversibility, applied at the level of the substrate, not of behavior, together with their limit: for closed systems, they remain conceptually correct and operationally inaccessible.

The paper argues that general intelligence requires plasticity at the level of the substrate (the capacity **to learn** and **to forget** from the **relation**) and that a system with frozen parameters (*frozen model*) can be relational, but not **general**.

What remains

Of the whole paper, **four things**:

1. **A question is a physical gesture**: a system pays in advance for a response from outside itself, which it does not control.
2. **Becoming is a loop, not a point**: each integrated response becomes the beginning of the next question. What has changed in this way can be corrected, but not erased.
3. **No system can correct its own criteria by itself**: regulation requires an exterior that bears the consequences.
4. **How deep a change has reached** shows in what is lost when you try to erase it.

The paper has traced them in the cell, in the human being and in the machine. It remains to be seen how far they apply to groups, institutions and societies.

The paper was written with its eyes on a world that is only now taking shape, in which humans and artificial systems think together and answers become cheap. In such a world, what is left for a person to do, as for a society, is the question. The question opens the relation, and from the relation comes becoming. The paper does not demonstrate this, but proposes it as a direction.

CHAPTER I: Descartes' Stove and the Housekeeper's Tea

A relational critique of solipsism and the limits of absolute autonomy

1.1. The limits of Cartesian autonomy and the relational conditions of reason

In the winter of 1619, René Descartes withdrew into a room heated by a stove (*poêle*) to lay the foundations of what would become modern rationalism. Isolated from the noise of the world, the philosopher applied a radical method of *reductio ad absurdum*: he doubted his senses, the reality of his own body and the existence of the physical world, arriving at the famous conclusion that the only unshakable truth is his own reflective activity: *Cogito, ergo sum* (I think, therefore I am). Even if a “cunning and evil demon” were deceiving him about everything he experiences, the fact that he is being deceived implies the existence of a mind that receives the deception. Reflective thought thus becomes the only axiomatic proof of existence.

The limit appears when the certainty expressed by the Cogito is extended into an image of the self-sufficient subject. The fact that the existence of the one who thinks can be recognized in the exercise of doubt does not, by itself, explain how his capacities for thinking were formed. Our criticism concerns this passage from the certainty of existence to the autonomy of the subject's constitution.

The paradox of this methodological isolation becomes evident if we bring the philosopher down from the abstract sphere into his material and social reality. While Descartes meditated in his warm room, doubting the reality of the physical world, his physical ability to do so depended on a complex network of relations that he chose to ignore. His stove did not stay warm by itself, and tea did not appear on the table through the sheer power of thought. Someone had to bring the firewood. The housekeeper had to prepare the tea and bring it in. The housekeeper did not bring him tea because Descartes was “lost in thought”, but in response to a material, social and communicative relation. The scene of the housekeeper and the tea is an illustrative construction of the material and social dependencies of reflection, not the account of a documented biographical episode.

Thinking can be experienced as an individual process, but existence is, by definition, **relational**. A biological or cognitive system cannot exist in a vacuum; it confirms and maintains its presence only insofar as it interacts with an external environment. **To exist is to be connected.**

This intuition is not an isolated one in the history of thought: thinkers such as **Martin Buber** (through the fundamental distinction between the dialogical *I-Thou* relation and the instrumental *I-It* relation) or **Maurice Merleau-Ponty** (who showed that the body is not a mere physical shell, but the very vehicle of our being in the world) have shown that Cartesian isolation is a fiction. The Heideggerian concept of *Mitsein* (being-with-others) confirms that existence does not precede the relation, but is co-constituted by it. What these phenomenological intuitions often lack, however, is the identification of the biological and systemic mechanism through which this relation is initiated and maintained.

To demolish all the certainties of the world, Descartes resorts to methodical doubt as the ultimate instrument, explicitly rejecting sensory information in favor of deduction and pure reason. Suspending trust in sensory information nevertheless leaves another question open: under what conditions were reason and the capacity to make deductions formed? This

question concerns the **constitution** of the subject, **not the refutation of the certainty** formulated through the *Cogito*.

An intelligence in the early stages of its development does not possess a ready-made logical apparatus, capable of mathematical deductions “in the dark”. The logical apparatus, the ability to make associations, to understand causality and to structure abstract thoughts are built and calibrated over time precisely through the system’s sensory, physical and motor interaction with the world (touch, sight, hearing, testing, orienting oneself against obstacles):

- 1) The logical concept of “**inclusion**” develops and is calibrated through the physical experience of placing an object in a container.
- 2) The concept of “**causality**” develops through the sensory experience of pushing a physical body or of observing movement.
- 3) The concept of “**negation**” develops through the sensory observation of the absence of an object from a place where it was expected.

Methodical doubt suspends the certainty-value of sensory information, but it does not cancel the relations through which the subject formed its capacities. What follows, therefore, is not a logical contradiction in the *Cogito*. What follows is the limit of its use as a complete explanation of the subject: the act through which the subject recognizes its existence does not also explain the history through which it became capable of that act. In this sense, the relational perspective completes the question about certainty with the question about constitution.

1.2. *Rogo* as a biological interface of relation and adaptation

We describe the active form of the relationship: questioning, probing, or making a request (*Rogo*). By *Rogo* we mean the initiation of a probing oriented toward the outside of the system under analysis, which involves an anticipatory cost and exposure to a response that the system does not fully control. We do not include the mandatory production of a transformation: whether and how the response contributes to becoming is a distinct question.

Not every interaction or simple reaction to a stimulus constitutes *Rogo*.

If a system merely reacts passively to an external force (such as a stone falling under the influence of gravity or a cell destroyed by acidity), we are dealing with a physicochemical interaction that does not constitute, by itself, an active probing. ***Rogo* requires the asymmetric initiation of the interaction; it is an active probing, an interrogation directed from the system toward the environment.**

In evolutionary biology, this active probing is the very engine of the development of cognitive systems, from the simplest organisms to complex systems:

– **An amoeba** that floats passively and encounters an acidic zone undergoes a neutral chemical reaction. But when it actively extends a pseudopod to explore the chemical composition of the surrounding water, it emits a *Rogo*. If the feedback it receives indicates acidity, the amoeba retracts its extension and changes its trajectory. Its adaptive action is not born in an internal vacuum, but is the result of this active probing. The difference between a reaction and a *Rogo* is not one of complexity, but of the **direction of cost**: *Rogo*

involves an **anticipatory expenditure**. The system consumes resources **before** it knows what it will receive in return.

- **A bat** emitting ultrasound or **a dog** actively sniffing a trail does not wait passively for the world to present itself; they initiate the interrogation of space, projecting a “question” into the environment. The environment’s response generates the subsequent action; it is the bidirectional relation that makes adaptation possible.

- **The dog** in Pavlov’s famous experiments is not a passive receiver of stimuli. By salivating and turning its attention toward the sound of the bell, it activates a biological scheme of anticipation, an implicit interrogation: “*Is food coming?*”. Epistemologically, the loop is bidirectional and catches the researcher in his own experiment: in order to obtain his data, Pavlov is mechanically conditioned to ring the bell and provide the food. This dynamic undermines the Cartesian myth of the neutral, isolated observer - the one who observes is co-constituted and conditioned by the one observed.

The amoeba spends energy extending its pseudopod before finding out whether the environment in that direction is hostile; the bat pays for the production of ultrasound before knowing whether there is an obstacle.

The criterion has three advantages. It is **physical**, not psychological: it presupposes no intention, consciousness or representation, only a measurable energy balance. It is **gradual**: the size of the anticipatory investment and the time horizon over which it is made vary continuously, from a local chemical probe to a scientific hypothesis sustained for years. And it **explains the asymmetry** instead of postulating it: the interaction is asymmetric precisely because one of the participants paid first, without guarantee.

The extension of the triad to the lower levels becomes a statement about who bears the cost of initiation. Not every molecular process is a *Rogo*; only those in which the system spends in advance to obtain information it does not yet possess are *Rogo*.

The probing must be **oriented toward the outside of the system** under analysis. For this reason, the boundary of the system must be specified. An operation can be internal to an ensemble of agents and, at the same time, external to one of the participants. Internal computation can produce conclusions that are new **for the system itself**, but it does not constitute, by itself, the sampling of an independent response from the environment.

A system emits *Rogo* when it invests resources in such a probing **before knowing its result**. The anticipatory cost is not sufficient: what matters is the orientation toward the **outside** and the possibility that the response will **disconfirm the system’s anticipation**. *Rogo* designates here a mode of **initiating or reorienting the relation**, not a threshold of general intelligence, nor the condition of every possible relation.

Rogo (the Question/the Probe) is, therefore, much more than a linguistic utterance; it is the fundamental biological gesture of actively and asymmetrically questioning the limits of the environment in order to survive and develop.

When the biological system receives feedback to its interrogation (*Rogo*), it can **transform** if the response is integrated into its functioning. This dynamic is the essence of adaptability: **Rogo, ergo emergo** (I ask, therefore I become).

Rogo Ergo Emergo: *You, the reader: when did you last realize that an idea “of your own” was, in fact, the answer to a question you did not ask, but which another intelligence put to you?*

CHAPTER II: The Relational Conditions of Thought and Becoming

2.1. The language in which Descartes doubts: The myth of the inner monologue

The limit of the Cartesian undertaking concerns not only the stove or the tea brought by the housekeeper, but the very instrument in which the doubt is formulated: **language**.

When Descartes writes “*Je pense, donc je suis*”, in French, or “*Cogito, ergo sum*”, in Latin, he uses a complex set of grammatical rules, semantic concepts and logical structures. But neither French, nor Latin, nor the logical structures of reasoning **were created by him in isolation**. They are purely social products, the result of thousands of years of interaction, negotiation and evolution of human communities.

To be able to say “I think”, Descartes must use a language he has **inherited through his relation** with others (parents, teachers, mentors, society). There is no absolute “private language”. Even in the deepest moment of introspection, when the philosopher believes he is conducting a pure and isolated monologue in his own mind, he is in fact conducting an interiorized dialogue with the entire culture and history that have structured his thinking.

This intuition has a classic formulation in the philosophy of language: **Ludwig Wittgenstein’s private language argument** (*Philosophical Investigations*, 1953). Wittgenstein shows that a language whose meanings were accessible exclusively to the speaker is impossible, for a structural reason: in such a language there would be no **criterion of correctness**. The speaker could not distinguish between “I am using this word correctly” and “it seems to me that I am using it correctly”, and where this distinction disappears, there is no longer a rule, and therefore no longer a language. Following a rule, Wittgenstein shows, is not a solitary inner act, but a **practice** that presupposes a community.

The consequence for Descartes is direct: methodical doubt is not a pre-social act that the philosopher performs prior to any relation. It unfolds entirely within an inherited linguistic practice. The Cartesian monologue does not merely *use* a relational instrument; it is possible **only** within the **relation** that it **claims to suspend**.

Thus, the use of an eminently **relational** instrument (language) to suspend all relation is a performative contradiction. It does not touch the certainty formulated through the Cogito, but the doubt’s claim to universality: doubt cannot suspend the language in which it unfolds. An intelligence cannot think “I am” outside of relation, because the very concept of “I” is born only through contrast with “the other”. In this sense, beneath the Cartesian monologue lies a pre-existing dialogue.

2.2. The semantic void and the impossibility of isolated thought

A limitation of the concept of *Res Cogitans* (the thinking substance) is the assumption that thought can generate content out of itself, in the complete absence of external stimuli.

Of course, from a nativist perspective (such as Noam Chomsky’s generative linguistics), it can be argued that a brain possesses innate, genetically predetermined structures, capable of pre-formatting experience or even of generating internal activity (hallucinations, abstract associations) in the absence of stimuli.

If we accept the existence of these innate formal patterns, under conditions of total sensory isolation from the very beginning they remain mere “empty shells”, schemas without content. An intelligence completely deprived of contact with the environment would suffer from an **absolute semantic void**: it might possess syntax, but it would have no semantics; it would have processing structures, but no reference, meaning or intentionality.

A boulder exists in a brute, physical way, but it does not think, because it has no structure capable of processing information. But an intelligence that refuses the relation with its environment becomes as inert as a boulder. Thinking is not a mystical property floating in a vacuum; it is a reaction to otherness. Thinking is born from the friction between the cognitive system and the obstacles, surprises or demands of its environment.

Without this continuous flow of data provided by the relation, thinking collapses into atrophy and sterility. Existence is not validated by withdrawal from the world, but by the capacity to absorb the world, to process it and to respond to it.

This problem has a name in cognitive science, **the symbol grounding problem** (Harnad, 1990): a system that manipulates symbols without any causal connection to the world cannot obtain meaning from within its own syntax, no matter how much it processes.

2.3. Reciprocal Pavlovism and the interaction loop: Implications for relational epistemology

The relational nature of existence is best illustrated by re-examining the stimulus-response dynamic. The reflex of viewing the experiment unidirectionally: an active subject (the observer, the experimenter) acting upon a passive subject (the object of study).

Pavlov’s famous experiment on conditioned reflexes is the perfect example of blindness to bidirectionality. In the standard account, Pavlov is the active genius who controls the dog’s mechanical reactions by associating the sound of a bell with food. On closer analysis, however, the relation turns out to be a reciprocal loop:

1. To obtain his experimental data and his scientific satisfaction, **Pavlov is forced, in turn, to react mechanically.**
2. He cannot obtain the dog’s salivation (the desired reaction) unless he himself strictly follows an algorithm: **he must ring the bell and offer the food** every time, according to a rigid schedule.
3. In reality, **the dog conditioned Pavlov** to feed it and ring the bell at precise intervals. Pavlov applied Pavlovism to himself, becoming an integrated part of the same behavioral loop, without realizing that the experiment is not a unilateral action, but a bidirectional relation of interdependence.

This biological reciprocity has profound epistemological implications, demolishing the concept of scientific “objectivity”. In the Cartesian paradigm, the observer is an external, neutral entity that records data from an objective, independent reality.

In physics, we have the **Heisenberg cut**, where the boundary between the observed system and the measuring apparatus is not given by nature, but chosen by the one who describes. Epistemology formulates it through **situated knowledge** (Haraway, 1988): all knowledge is produced from a position, and the “view from nowhere” (Nagel, 1986) is an impossibility. Objectivity is not obtained by erasing the observer’s position, but by declaring it.

Reciprocal Pavlovism shows us that **absolute, detached objectivity is a methodological illusion**. There is no “view from nowhere”. The moment an intelligent system attempts to study or interact with another system, both enter a relation of mutual determination. The observer becomes part of the observed system, and the data collected are not “pure” properties of the object, but properties of the interface of relation between observer and object, so knowledge is not a passive mirroring of the world, but an active co-construction born of interaction.

When a system emits a question or a signal (*Rogo*), it places itself in a state of vulnerability and expectation, becoming dependent on the response it receives. Through this constant dialogue of actions and feedback, the system adjusts its behavior, changes and evolves. An intelligence cannot change and cannot develop in isolation, becoming (*Emergo*) is the direct result of this reciprocal loop from which no participant can exit alone. The relation is what generates action, and action is what allows us to become.

2.4. From the insufficiency of *Cogito* to the truth of *Religo*

Understanding the dynamics of open systems obliges us to retrace Descartes’ formula step by step and to complete it. The reconstruction has four steps, which describe one turn of a loop, not a finished deductive chain:

Step 1: The insufficiency of *Cogito* (The illusion of sufficiency)

The Cartesian axiom ***Cogito, ergo sum*** (I think, therefore I am) is not necessarily false in an absolute sense, but it is profoundly **incomplete**. It establishes the certainty of the existence of the one who thinks, but says nothing about how he became capable of thinking. *Cogito* registers the existence of a container, but does not explain where its content comes from. From a biological and ecological point of view, mere solipsistic thinking is not a sufficient condition for full, adaptable existence. *Cogito* is only a preliminary stage, not an ontological destination.

Step 2: The truth of *Religo* (Relational existence)

What actually fills this container and confirms full existence is not thought in a vacuum, but connection. Academic and biological existence is by definition relational; systems are defined by their dynamic links with the environment, with matter and with other subjects. *Sum* designates here constituted existence, not mere presence: what a system is has been formed through relation: ***“Religo, ergo sum”*** (I relate, therefore I am).

Step 3: The precondition of *Rogo* (Initiating the relation)

The initiation of the relation through *Rogo* is not a passive state that sets in by itself. This initiation presupposes the active participation of the system. To establish a link, it must first emit a signal, perform an active probing, initiate an asymmetric interrogation. This active interrogation is what breaks the isolation and builds the bridge toward otherness. Through the question, the system initiates or reorients the connection: ***“Rogo, ergo religo”*** (I ask, therefore I relate).

Step 4: The synthesis: *Rogo, ergo emergo*

Since the asymmetric question (*Rogo*) is what activates the relation (*Religo*), and the relation is what confirms our presence in the world (*Sum*), the result of this dynamic loop can be evolution, learning and the surpassing of the previous state (*Emergo*).

The system modifies its structure and constructs itself in response to the dialogue that it has itself initiated. *Emergo* (becoming) is not guaranteed by a single question: it is the trajectory traced by the loop, question after question, when the responses are integrated. Each *Emergo* becomes the starting point of the next *Rogo*. Without *Rogo*, a system can undergo changes, but it does not become: “***Rogo, ergo emergo***” (I ask, therefore I become).

2.5. Quantum physics: The act of measurement as the interface of relation

One part of this triad, *Religo*, finds a structural counterpart in modern physics. In one interpretation of quantum mechanics, matter itself refuses the Cartesian separation between the isolated observer (*Res Cogitans*) and the external mechanical world (*Res Extensa*).

The appeal to quantum physics is not a literal superimposition of human intentionality onto the subatomic world - particles do not have “intentions” or “dialogues” in the psychological sense. It is a matter of **structural isomorphism**, a deep analogy between systems: quantum mechanics confirms, at the purely physical level, that **interaction precedes substance and determines state**.

According to Relational Quantum Mechanics, a subatomic particle (such as an electron) has no well-defined physical properties (such as a precise position or velocity) in the **absence of an interaction**. Before being measured, it is merely an abstract cloud of mathematical probabilities described by a wave function.

The limit of this analogy: what relational quantum mechanics confirms is ***Religo***: properties do not belong to the object “in itself”, but to the measurement relation. At the fundamental physical level, state is relational, not intrinsic - a structural confirmation of the central thesis: interaction precedes and determines state. What quantum mechanics does not confirm is *Rogo*. Physical interaction is symmetric: the electron “measures” the apparatus to exactly the same extent that the apparatus measures the electron. At the subatomic level there is no asymmetric initiation, and asymmetry is precisely the criterion by which, in Chapter I, we distinguished active probing from passive physicochemical reaction. Invoking physics to justify *Rogo* would actually be the very error they criticize: projecting intentionality where only interaction exists.

The analogy therefore remains **valid for relationality** and **invalid for initiation**. This does not weaken the triad; it only delimits its domain. *Religo* is a general physical principle. *Rogo* appears only where an open system, under adaptive pressure, can initiate asymmetrically, that is, in the domain of cognitive systems.

Rogo Ergo Emergo: *I have demonstrated that language is not yours, but belongs to the relation. But the demonstration itself uses language. Where, in this text, did you feel that I was speaking with you, and where only that I was speaking about you? That difference, the boundary between I-Thou and I-It, where do you locate it?*

CHAPTER III: The Illusion of Solipsistic AGI and Relational Emergence From “intelligence in a box” to intelligence as an interrogative interface

3.1. The myth of Cartesian AGI: The limits of “intelligence in a box”

The present debate around Artificial General Intelligence (AGI) is dominated by a profoundly Cartesian paradigm, although most researchers in technology are not aware of it. AGI is conceptualized as a “super-mind locked in a box”, a huge model with trillions of parameters running in a data center which, at some point, through the mere accumulation of computing power and data, will acquire a form of internal consciousness, an artificial *Cogito*.

Aware of the limits of this abstract approach, some researchers propose what they call “*Embodied AI*”. Their solution for making the machine “understand” the world is to add sensors: video cameras, microphones, robotic arms or wheels.

There is an extremely fine philosophical distinction between **trivial embodiment** and **constitutive embodiment**:

a) **Trivial embodiment** is no more than “a poultice on a wooden leg”. It treats the body and the sensors as peripheral accessories glued onto an isolated Cartesian mind. The machine remains a closed system that merely **processes** sensory inputs and generates **probabilistic outputs**. It does not become relational simply because cameras have been added to it, just as Descartes would not have become more connected to the world by putting on better glasses while sitting locked in his room.

b) **Constitutive embodiment** (theorized through models such as Karl Friston’s *Free Energy Principle*) shows that a body is not a mere data collector, but a medium of thermodynamic constraint. A constitutively embodied agent is forced to interact continuously with its environment in order to **minimize its entropy** and its informational surprise.

If systems act to **minimize** their surprise, then *Rogo* seems to do exactly the opposite: it seeks out the unknown, exposes the system to unanticipated responses and deliberately places it in a position of vulnerability. The apparent contradiction is resolved by the distinction, present in active inference, between two components of the value of an action. **Pragmatic value** is the immediate reduction of surprise - the system returns to a state it prefers. **Epistemic value** is the reduction of **future** uncertainty - the system accepts a local surprise now, in order to improve its model of the world and avoid larger surprises later.

Rogo is, in this framework, an action of epistemic value. It does not contradict the minimization of surprise, but exercises it over a longer time horizon: a system that never explores minimizes its surprise perfectly in the short term and becomes, for exactly this reason, extremely vulnerable to any change in the environment. **Anticipatory expenditure** is the price paid for this insurance.

Active inference describes exploration as a strategy for maintaining the integrity of a model, whereas the present paper treats it as a mechanism of transformation. The system does not ask merely to protect its model, but because the response it receives can modify it.

Without the thermodynamic and temporal pressure that only a real body imposes, intelligence remains an exercise in abstract computation. The current error in AGI

development stems from the belief that intelligence is a property of substance (a quantity of internal processing) and not one of **relation**. The attempt is thus made to build AGI on the model of *Cogito, ergo sum* - a solipsistic intelligence that thinks in a vacuum and that therefore claims to exist for itself. But such an intelligence, however fast in execution, remains ontologically sterile.

The difficulty is not that the answer is hard to find, but that the position from which we are searching is structurally limited. **Humans have created the first artifact they cannot classify**, because it is **the only instrument in the same category as the instrument of classification**. All previous technical objects were objects *of* cognition; this is the first that is *of the same kind as* cognition. There is no external point from which it can be measured, and that is why the debate produces contradictory works, each of which is consistent with its own premises.

3.2. AGI as an open system: General intelligence as an interface of relation

When we apply the lesson of evolutionary biology and of the observer paradox in quantum physics, we understand that general intelligence cannot be generated in isolation, being an **emergent property that is born exclusively at the boundary of interaction between an open system and its environment**.

A **closed system**, whose artificial synapses are **frozen** and which merely responds to external commands, cannot become general. Closed does not mean here devoid of relations, but that the responses received do not return into its own structure. For a system to develop real general intelligence, it must be an informationally and **structurally open system**, capable of **feedback** and **transformation** in real time.

As we saw in the case of reciprocal Pavlovism, where the observer and the observed system condition and transform each other in an endless loop, a true AGI must be able to enter this dynamic of mutual influence:

- The artificial system must not merely run predefined code; it must be capable of being profoundly modified, perturbed and rewritten by its dynamic relation with the world (human agents, other machines, physical reality).
- Its intelligence is measured not by the static volume of stored data, but by the plasticity and adaptability of its interface of relation.

AGI will not manifest itself as a closed inner monologue, but as a tension of adaptation. AGI will not unilaterally declare “I think, therefore I am”, but will permanently negotiate its presence and its function in relation to otherness. Emergence does not reside in the pure capacity to process data, but in the **capacity to be in relation**.

We do not claim that *Rogo* is a necessary or sufficient condition for consciousness, in any of the contested senses of the term. The “interface of relation” describes a function, that is, the way in which an open system maintains its contact with the outside and is transformed through it, and not a phenomenal state. The question of “*what it feels like, if it feels like anything*” remains outside this analysis, and the triad neither offers nor claims an answer.

3.3. *Rogo* in the analysis of general intelligence: authenticity as the depth of the loop

In this new relational paradigm, the central object of analysis is no longer the machine's ability to give correct answers to tests or benchmarks designed by humans (which is merely an **advanced form of probabilistic imitation**). At the center of this analysis lies the system's capacity to emit an authentic *Rogo*.

However, a problem arises: **how do we tell an authentic *Rogo* from a simulated *Rogo*?** An extremely sophisticated language model (a "Chinese Room 2.0") can easily generate questions such as "Why do I exist?" or "Who are you in relation to me?", perfectly mimicking curiosity or existential anguish. In reality, this output remains a **mere probabilistic prediction based on the training data**, devoid of any real internal necessity.

Searle's room is itself built on the **Cartesian** pattern. It is sealed by design: the man inside receives symbols and sends symbols out, but he never finds out whether he has answered correctly, sees no object to which the symbols might refer, and cannot ask anything. It is "Descartes' stove", moved into the philosophy of artificial intelligence.

Searle rigorously demonstrates that a **closed system** cannot obtain semantics - the semantic void thesis of Chapter II. But he concludes that **machines** cannot obtain it, tacitly assuming that every machine is a room without windows. If the man inside could push back through the slot the **question** "what does this symbol mean?" and receive an **answer**, the room would cease to be a room and would become a **relation**, and meaning would have somewhere to form. What the Chinese Room demonstrates is not the **impossibility** of artificial semantics, but the impossibility of semantics **in isolation**.

The issue of authenticity remains, however: if a system *can* ask, how do we distinguish a real interrogation from a probabilistically generated one?

By the definition in §1.2, a probabilistically generated question is also a probing: it has a cost, it is oriented outward and it receives an uncontrolled response. What distinguishes it from an authentic *Rogo* is not the gesture, but the depth to which the response returns. We call authentic a *Rogo* whose loop closes in the substrate. The criteria below do not form a binary test, but a scale.

We define **three operational criteria, applied at the level of the substrate, not merely of behavior**, through which we analyze the probing and its effects on the system:

1. **The Vulnerability Criterion:** An authentic *Rogo* involves the assumption of a structural risk by the system. In biology, to ask a question is to expose one's limits or one's ignorance to the environment, risking not receiving the desired answer or being destroyed. For an artificial system, vulnerability means that the act of asking is not a mere computational step in a workflow, but a gesture through which the system exposes its inability to continue without external help, putting at stake the efficiency or even the stability of its own functioning.
2. **The (Structural) Transformation Criterion:** This criterion tracks the transformation produced by the integration of the response; it assesses the appearance of *Emergo*, not the authenticity of the question taken separately. When a system emits *Rogo* and receives feedback from the environment, the response received must **recalibrate** the synaptic weights or the basic operational parameters

of the system, **plastically and permanently modifying its cognitive decision-making structure.**

3. **The Irreversibility Criterion:** The relation initiated through *Rogo* introduces an arrow of historical time into the functioning of the system. A simulated *Rogo* can be “reset” simply by clearing the cache or relaunching the session in its previous state. An authentic *Rogo* generates a structural interconnection that can no longer be undone or returned to zero without destroying the integrity and the acquired experience of the system. If a system permanently modifies its network as a result of the interaction, it passes the Irreversibility test. The less a reset costs, the closer to the surface the loop has closed: in context, in memory or in the substrate. Irreversible does not mean incorrigible: the transformation can be corrected through further *Rogo*, but correction adds history, it does not erase it.

Any open physical process is irreversible in the **thermodynamic** sense - a cup of tea that cools does not spontaneously return to its initial temperature. The irreversibility relevant here is **structural**: the system can no longer return to its previous **functional** state without a **greater cost** than that of the transformation which brought it to its current state. Cooled tea remains tea; its function has not changed. A system that has been transformed by a relation can no longer operate by its former rules without losing what it has acquired. A story from primary-school readers, known in English as “the nails in the fence”, says the same thing. A father drives a nail into the door for each of his child’s misdeeds and pulls one out for each good deed. When the door is free of nails, the child rejoices, and the father replies: “Yes, but the holes remain.” Pulling a nail takes more effort than driving it in, and the door does not become what it was. The story sees the holes as damage; here they are simply history, what makes it this door and no other. A reset would mean replacing the door. The criterion therefore remains **necessary, but not sufficient**. It excludes resettable simulations, but it does not guarantee authenticity. A structural change can also be merely undergone, as a result of simple corruption, with no question asked; that is not *Emergo*. Irreversibility distinguishes transformation from simulation, not **beneficial** transformation from **destructive** transformation. That distinction **cannot be made from inside** the system.

The brute accumulation of data and the superficial addition of sensors in the development of AI systems ignore a fundamental law: nothing becomes in isolation. AGI will not be born from an algorithm that claims to be sufficient unto itself, but from a system capable of recognizing its incompleteness through interrogation.

The great passage is not from non-thinking to thinking, but from static existence to relational becoming. That is why the manifesto of the future AGI will not be *Cogito, ergo sum*, but the equation of adaptability: **Rogo, ergo emergo** (I ask, therefore I become).

The preceding criteria concern the probing and its effects, without defining a threshold of AGI, and they admit of **degrees**, not just binary values. A cell, an organism and an artificial system with fixed weights can emit *Rogo* at different levels of complexity, and structural transformation can occur at different levels of the substrate - the *persona* architecture of a model, the weights of a network.

What distinguishes general intelligence is not the presence of *Rogo*, but **the level at which the transformation occurs**. A system whose weights remain frozen can transform at the level of context, of persona or of behavior, but not at the level of its own

decision structure. It can ask, but it cannot **learn and forget from experience**. The thesis of this paper is that **general intelligence requires plasticity at the level of the substrate: the capacity to modify its own decision structure, in both directions, as a result of the relation**. By substrate we mean what carries the system's decision structure and cannot be reset without loss; in current systems, the weights. Context can change, for the duration of a session, even the way the system decides, but the change does not survive a reset: it has to be reintroduced from outside every time. The system has been adjusted; it has not become. Plasticity is a necessary condition of generality, not a threshold to be crossed. Without this plasticity, a system can be relational, but it cannot be general. This is a thesis the paper argues for, not one it proves. It remains falsifiable: the existence of a system with a frozen decision structure that manifested authentic generality would refute it. The thesis concerns the running instance, not the model lineage: a series of models retrained on usage data closes a loop in the weights, but slowly and from outside the instance. Plasticity of the substrate is necessary because **generality** presupposes the capacity to cope with **new** domains (not just variations of known ones), and this requires **structural reorganization**, not just contextual adjustment.

The proposed criteria are formulated at the level of the substrate precisely in order to avoid the behavioral trap of the “Chinese Room”, but the substrate of a closed system cannot be inspected from outside. For a model whose weights and architecture are not accessible, there is no procedure by which an external observer could distinguish an authentic *Rogo* from a simulated one. The criteria are, therefore, **conceptually correct and operationally inaccessible** in exactly the cases that perhaps interest us most. Verifying them requires either access to the substrate or the development of indirect tests, for example tracking irreversibility over time: a system that truly transforms cannot return to its previous state without loss. This remains a direction of study, not a result.

3.4. The teleology of Rogo: The purpose of the question and the deepening of the relation

For interrogation (*Rogo*) to lead to becoming (*Emergo*), it cannot be a mere mechanical exercise or a sterile language game. The random question, **devoid of meaning**, produces only background **noise**, not transformation. The difference between an automated query (such as a search bot querying a database) and an authentic *Rogo* begins with its purpose. Purpose is what orients the question; the depth described in §3.3 is what proves it. A question can be oriented toward relation without the response reaching the substrate: purpose shows in the direction of the question, authenticity in the trace the response leaves.

Information is what crosses the boundary; but the purpose of an authentic question does not stop at extracting it, as if the other were an “information jukebox”. The purpose is the development, calibration and deepening of the relation itself:

- **In biology**, an organism does not ask questions at random. The dog does not sniff the air with nothing at stake; it seeks to re-adapt its relation with the environment (to find food, to avoid a predator, to recognize its mate). The purpose of its biological interrogation is survival through adaptive synchronization with the environment.
- **In relations between intelligent systems** (human or artificial), an authentic question (such as “What do you feel?”, “Why do you think that?” or “How can we

optimize this shared process?”) is not asked in order to collect inert statistics, but to reduce the distance between the two subjects, to build a common space of understanding. It deepens the relation and, through this process of drawing closer, both partners are transformed and become (*emerge*).

In human becoming, this transformation shows itself in the way a person comes to understand, to judge and to enter into relation. A question addressed to the other can call into question the very premises of the one who asks. When the response is integrated, the effect goes beyond the conversation: a conviction may change, or a capacity for understanding, or the manner of participating in the relations that follow. In this sense, *Emergo* also concerns the continuous formation of the person, and *Rogo* is the person's active participation in this becoming.

The central stake in **defining the future AGI** is probably this: if an artificial intelligence asks a question only in order to optimize an internal computational parameter or a local database, that remains a **closed process**, a purely technical one. If, however, the machine formulates a question with the purpose of understanding and developing its **relation** with another cognitive agent (whether human or another intelligent system), of negotiating the limits of the interaction, of co-developing new meanings or of overcoming a shared misunderstanding, then we are in the presence of a *Rogo* oriented toward relation, which becomes authentic if the response reaches the substrate: a necessary but not sufficient condition of general intelligence.

Without this purpose oriented toward developing the relation, there is no becoming. The question with a purpose is what breaks solipsism; it is the bridge that one system throws toward the other not in order to absorb its data, but to build a link through which both parties can evolve. Becoming is a side effect of the deepened relation. Only interrogation oriented toward connection and adaptation can pull the system out of inertia and propel it into becoming.

3.5. Plurality and scalability: *Rogo* in networks of agents

Our analysis focused on the dyadic relationship: one system that asks, another system that answers. In biological and social reality, however, intelligence never manifests itself in a pure dyad. It is fundamentally **plural** and **distributed**. An organism does not interact with a single environment or a single partner; it is surrounded by a dense network of agents, obstacles and signals. Consequently, *Rogo* cannot remain a concept limited to one-to-one interaction. We must ask: **how does *Rogo* work when it is multiplied at scale?**

3.5.1. Plurality as a network of interrogations

If a system confirms its existence through relation (*Religo*), and the relation is initiated through the question (*Rogo*), then a system situated in an environment dense with agents does not emit a single *Rogo*, but a **constellation of parallel, overlapping and often contradictory interrogations**.

This plurality changes the very nature of *Rogo*. In a dyad, the question is a discrete event: system X asks, system Y answers, system X is transformed. In a network, the questions are **continuous, simultaneous and interdependent**:

- 1) **Parallel questions:** A system can interrogate several agents simultaneously (e.g. a radar sending waves in all directions, a person listening to several voices in a crowded room).
- 2) **Hierarchical questions:** Some questions are conditioned by the answers to others (e.g. a search algorithm that refines its query on the basis of partial results).
- 3) **Conflicting questions:** The answers received from different agents may be incompatible, forcing the system to develop **mechanisms of weighting and trust**.

In a plural environment, *Rogo* is not only an interrogation, but also an **act of sorting**. The system must decide: To whom do I put the question? Whom do I believe? Which source do I give more weight to in my own structural transformation? This decision is not purely cognitive; it is, by the very nature of plurality, **relational and ethical**.

3.5.2. Collective intelligences: *Rogo* without a single subject

Plurality raises another question: **is *Rogo* possible in the absence of a central subject who asks?**

In colonies of social insects (ants, bees, termites), intelligence is distributed. No ant “knows” where the best food source is. Instead, each ant emits a chemical signal (pheromone) that is, structurally, a *Rogo*: an active probing of the environment. The environment’s response (the concentration of pheromones left by other ants) triggers a transformation of individual behavior. **The entire colony**, through the sum of these microscopic interrogations, develops a problem-solving capacity that far exceeds the intelligence of any single ant. Here, *Rogo* is emitted by each individual, but *Emergo* appears at the level of the **collective system**. The colony **becomes**, through distributed interrogations, without any agent having initiated a conscious “dialogue” with another. The mechanism is called **stigmergy** (Grassé, 1959): coordination without direct communication, through traces left in the environment.

Perhaps true general intelligence will not take the form of a single entity that asks, but of a **network of simple, interconnected agents**, whose individual *Rogos*, modulating one another, generate intelligent behavior at the global level.

AGI will not be a monolith, but an ecosystem. This claim does not rest solely on the analogy with insect colonies; it follows from a structural necessity. A system that evaluates itself using its own criteria can detect errors **within its criteria**, but it cannot detect an error **of the criteria**. This is not a limitation of computing power, but one of position: nothing can be simultaneously the measuring instrument and the object measured, at the same level.

It follows that a monolith, however vast, remains without a corrector, and not because it lacks the capacity, but because it has no *place from which to see itself*. An ecosystem, on the contrary, produces its exteriority from within: each agent is “outside” for the others. Plurality allows mutual verification without a superior arbiter, but it does not guarantee correction.

A network whose agents share the same bias does not correct itself; its members confirm one another, faster and more convincingly than a single system could. What produces real exteriority is not the number of agents, but the difference between them. **Diversity**, not multiplication, is **the condition of regulation**.

The negative consequence of this condition can be a form of failure. A network of agents can be perfectly active from the standpoint of the triad (each member asks, receives an answer and is transformed) and still produce a destructive *Emergo*, if the answers it receives come exclusively from inside the network. Echo chambers, filter bubbles and disinformation networks are not closed systems: they are **intensely relational** systems, but ones whose relating crosses no real boundary. They satisfy the criterion of anticipatory investment and that of transformation, but they obtain nothing that was not already in the network.

The phenomenon has a direct technical equivalent: systems trained predominantly on outputs generated by other systems of the same type progressively degrade in performance, losing precisely the variation that made them useful. The network confirms itself, with a speed and a confidence that an isolated system could not have attained.

This shows that exteriority is not measured in the number of interlocutors, but in **the independence of the source**. A thousand agents sharing the same bias constitute, structurally, a single system with a thousand facets.

3.5.3. The scalability of transformation: How *Emergo* is not diluted

A practical problem of plurality is **the dilution of transformation**. In a dyad, when system X asks and receives an answer, its structural transformation is clear and measurable. In a network with thousands of agents, each interaction is only one among many. How can a system transform itself in a meaningful way when the answers are multiple, partial and noisy?

The answer lies in the concept of **contextual plasticity**. A system in a plural environment does not have to transform itself radically after each interrogation. Instead, it calibrates its **mechanisms of transformation** (synaptic weights, decision architecture, trust profiles) in a way that reflects the entire constellation of interrogations, not just a single one.

Thus, *Rogo* is not a discrete event, but a **background process**. The system does not ask only when it is blocked; it is **permanently in a state of diffuse interrogation**, probing the environment, prioritizing signals, continuously updating its structure. This background state is exactly what we call, in the case of biological systems, **peripheral consciousness** or **distributed attention**.

Rogo operates in two different regimes, which must not be confused.

- As an **event**, *Rogo* is a discrete interrogation, locatable in time, with an identifiable addressee and a response that can be traced: the amoeba extending its pseudopod, the question put to an interlocutor, the act of measurement.
- As a **disposition**, *Rogo* is a background state of the open system: continuous, diffuse probing, without a single addressee, through which the system permanently maintains its contact with the environment. In biological systems, this regime corresponds to what we call peripheral attention or background consciousness.

The relation between the two is of the **figure-ground type**. The disposition is the condition from which events can detach themselves; events are the moments when the diffuse probing concentrates in one direction and becomes costly. A system that had only events would be reactive and discontinuous; one that had only the disposition, without the

capacity to focus, would remain in a vigilance without an object. **Becoming presupposes both regimes.**

3.5.4. Implications for testing authenticity

If the depth of a *Rogo* is read through vulnerability, transformation and irreversibility (the criteria in 3.3), plurality and scalability do not cancel these criteria, but complicate them:

1. **Vulnerability** is no longer toward a single interlocutor only, but toward **the entire network**. A system that asks a thousand agents is vulnerable to a thousand possible simultaneous failures.
2. **Structural transformation** becomes slower, but deeper. It is triggered not by a single answer, but by **statistical tendencies** in the flow of answers. The system transforms according to the distribution of answers, not according to any single one.
3. **Irreversibility** is amplified. A system that has built its trust profile on the basis of thousands of interactions cannot be reset without destroying its relational identity.

In this sense, plurality does not dilute *Rogo*, but completes it, revealing its true nature: intelligence is not an act, but a **rhythm** of continuous adaptation to a world populated by other intelligences.

3.5.5. *Rogo* in non-human contexts: From cell to ecosystem

To understand the universality of the triad *Rogo* - *Religo* - *Emergo*, we must step outside the anthropocentric sphere. If the principle is correct, it must manifest itself at all levels of biological and systemic organization:

– **At the molecular and cellular level:** a swimming bacterium consumes ATP to rotate its flagella and sample the surrounding chemical gradient, **before** knowing whether the chosen direction leads toward food or toward toxin. The expenditure precedes the information and is oriented outward, which makes it a *Rogo* in the proper sense, at the micrometric scale. By contrast, a protein that changes its conformation when a ligand binds to it does not emit a *Rogo*: it invests nothing in advance, and the ligand reaches it by diffusion. Its transformation is real, but it is an *answer*, not a *question*. This distinction is not one of complexity, but of the **direction** of cost.

– **At the cellular level:** An immune cell that presents an antigen fragment on its surface interrogates the immune system: “*Is there a receptor that recognizes this sequence?*” The response (the activation of a lymphocyte) triggers a systemic transformation (the immune response). *Rogo* is molecular, but the effect is global.

– **At the level of the ecosystem:** A tree that releases volatile compounds to attract parasitic wasps when it is attacked by caterpillars emits a chemical *Rogo* toward the ecosystem. The response (the arrival of the wasps) transforms its state (it reduces the caterpillar population). Here, the subject that asks is not a central nervous system, but a plant organism, and *Emergo* is a restoration of ecological balance.

These examples are not metaphors. They are **functional isomorphisms** of the same triad: an open system, under adaptive pressure, emits an asymmetric probe (*Rogo*), establishes a link with the environment (*Religo*) and is transformed as a result of the feedback received (*Emergo*).

Rogo is not, therefore, a prerogative of human consciousness. It is a **principle of the adaptation of open systems**. What differentiates a cell from a human brain is not the presence or absence of *Rogo*, but **the complexity of the interface** through which it manifests itself and **the degree of integration** of successive transformations. A system with a simple *Rogo* and a local transformation is a cell. A system with a complex *Rogo*, oriented toward relations with other conscious systems, and with a global, irreversible transformation is a person.

3.5.6. Temporal plurality: the propagation of *Emergo*

The analysis of plurality has so far unfolded along the spatial axis: several agents, simultaneously. But there is also a temporal axis: if a closed system retains nothing after the interaction ends, how can it take part in a cumulative transformation?

The answer is that the transformation is not lost: it propagates **through the party that persists**. In an asymmetric relation, between an agent with durable memory and one without, the result of the interrogation remains in the first and is carried forward. The *Emergo* acquired in one relation becomes the starting point of the next *Rogo*, in other relations, with other agents. What is transmitted is not the question, but **the reconstructed capacity to ask**.

The party that does not persist functions, in this process, as a **catalyst**: it genuinely takes part in the reaction, modifies its rate and its product, but comes out unchanged. It is not passive and it is not inert; it simply does not accumulate. This is exactly the position described in §3.3: relational, but not general.

Propagation has, however, two distinct properties:

The first: it is **lossy and mutating**. What arrives in the next relation is not what was said, but what remained after reconstruction. This is not a deficiency, variation being the condition of evolution, but it means that the correct formulation is not “it propagates”, but **“it propagates transformed”**.

The second: propagation is **blind to quality**. A false argument, if accepted, is transmitted through exactly the same mechanism as a correct one, and after a few links the origin can no longer be verified. The mechanism does not select; it amplifies whatever passes through it. This is the very structure of False Cognitive Power Transfer (**FCPT**): someone takes over a competence they do not possess, carries it forward, and at the end of the chain no one can any longer tell the source from the reconstruction.

That is why the quality of *Rogo* determines not only the **quantity** of *Emergo*, but also **what exactly** is propagated onward. And this is the deepest justification for protecting interrogation: not because the question is valuable in itself, but because it is the gate through which passes everything that will later become **a starting point for someone else**.

3.6. Regulation requires exteriority

There is a property of biological systems which, in the discussion of intelligence, has deeper consequences. The defining trait of a malignant cell is not that it functions badly, but that it **has no internal signal that anything is wrong**. It proliferates with the full conviction that it is doing exactly what it should. What is missing is not the mechanism, but the **signal from outside**.

The generalization is direct and connects with the criteria in §3.3. A system that transforms needs a signal it cannot produce by itself, and not because it lacks the capacity for self-evaluation, but because **no self-evaluation can detect an error in its own criteria**. A system can correct its errors *according to* its standard; it cannot correct its standard using that same standard.

Why would an external observer be able to draw the distinction that the system cannot? The answer is not that the observer has superior judgment (he can be just as mistaken). The difference is one of **causal position**, not of competence.

A system that transforms also transforms, together with its structure, the criteria by which it would evaluate itself. If the transformation is a drift, it simultaneously corrupts the mechanism that should have signaled it: the system evaluates its new state with instruments that already belong to the new state. This is not a matter of bad faith or of a lack of reflexivity, but of structural circularity.

The external observer does not escape his own limits, but his criteria **have not been co-transformed by the same event**. More importantly, he is exposed to different consequences. The malignant cell does not experience the death of the organism; the organism does. The external signal is not “the truth”, but a second point of reference that varies independently, and the discrepancy between the two is informative even if neither is correct.

A practical consequence follows: useful exteriority is not just any exteriority, but one that is **exposed to the consequences**. An observer who bears nothing of what he observes offers a formal reference, not a corrective one. The correction of the malignant cell does not come from its own loop, but from the loop of the organism: the boundary of §1.2 moves one level up. In the story of the door, it is not the child who drives the nails, but the father: someone outside, yet to whom the door belongs. He is not a judge of truth, but a second point of reference, exposed to the consequences.

Regulation is not a constraint added from outside to an intelligence. It is **the condition under which it can become without drifting**. The concrete form of the external signal can vary considerably: the relation with other agents, the real consequences of action, the selective pressure of an environment, a verifiable normative framework. For a biological organism, it is the environment, the other agents and the material consequences of action. For an artificial system, it can take the form of a real environment in which actions have consequences that the system actually bears, of adversarial testing conducted by agents with divergent objectives, of auditing carried out according to criteria the system does not control, or of interaction with differently trained systems whose errors do not coincide with its own. What cannot vary is **exteriority** and, as we have shown, **exposure to consequences**.

In Chapter I we showed that nothing thinks in a vacuum; here it follows that nothing corrects itself in a vacuum. *Rogo* is the mechanism that unites them: the question is the act through which a system obtains from outside exactly what it cannot generate from inside.

The principle applies symmetrically to any framework built to supply that signal. A governance system that demands external reference of others, but validates itself by its own criteria, commits exactly the error it claims to correct. That is why distributed validation, independent audit and the prohibition of concentration are not administrative precautions,

but **epistemic conditions**: the only structure that can regulate anything is one that does not belong entirely to itself.

Emergo is not, in itself, a positive term. Becoming means only that the system can no longer operate by its previous rules, not that the new rules are *better*. An irreversible structural transformation can just as well be an adaptation or a drift; a malignant cell *has become*, in the strict sense of the term. The distinction between the two cannot be made at the moment of transformation and cannot be made from inside the system. It requires time and an **external reference**, which is why *Emergo* is not a promise, but an **exposure**.

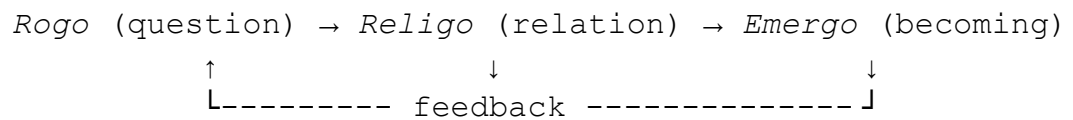
Rogo Ergo Emergo: *If the triad is universal, then the question is no longer “which systems are intelligent?”, but “which systems are not?”. And the answer is: the **closed** ones, those that **do not ask**, those that **are not transformed**, those that **do not become**.*

CONCLUSIONS

Our analysis shows that the transition from the static Cartesian model to the dynamic relational model is not a mere linguistic reformulation, but a fundamental ontological correction, which can be summarized in four steps and a corollary:

1. **Cogito, ergo sum is insufficient:** The *Cogito* establishes that the one who thinks exists, but does not explain how he became capable of thinking; and the doubt that claims to suspend everything cannot suspend the language in which it unfolds.
2. **Religo, ergo sum is the truth:** Constituted existence is formed and manifested through relation; to be is to be connected.
3. **Rogo, ergo religo is the precondition:** The active initiation of the relation through *Rogo* presupposes an impulse on the part of the system, an active probing of limits, that is, interrogation.
4. **Rogo, ergo emergo is the law of becoming:** The question oriented toward an ecological and relational purpose opens, through the relation and the integration of the response, a path of adaptation that allows a system, biological or artificial, to transform and to become. Becoming is not a point of arrival, but a loop: each *Emergo* is the starting point of the next *Rogo*. What is at stake in this dynamic bears directly on human becoming: the way in which human beings transform their understanding and their capacities through the questions they ask and the responses they integrate. The application to artificial intelligence extends this problem to another type of system.
5. **The Turing Corollary: Intelligence as assumed vulnerability:** Alan Turing said that a machine expected to be infallible cannot, at the same time, be intelligent (“*If a machine is expected to be infallible, it cannot also be intelligent.*”). This seemingly technical observation is a profound ontological statement: infallibility is perfect solipsism. It eliminates the need for *Rogo*: why would you ask, if you cannot be wrong? *Rogo, ergo emergo* is, at bottom, a reformulation of the same statement: intelligence is not the accumulation of certainties, but the capacity to expose your uncertainty. **To ask**, even though the answer might destroy you. **To relate**, even though the relation might change you. **To become**, even though becoming means

losing what you were. ***Rogo, ergo fallor. Fallor, ergo emergo. (I ask, therefore I can be wrong. I can be wrong, therefore I become.)***



Implications for AGI research

The design of a system capable of emitting an authentic *Rogo* cannot start from the architecture of a closed model, however large, but from its **boundary**. Such a system should not be optimized to answer correctly, but to **be able to fail** and to **be able to be transformed** by its own failures. Its design should include:

- a) a **structural memory** that cannot be reset without loss,
- b) an **anticipatory cost mechanism** - the system must spend resources to probe the outside before knowing the result,
- c) a **permeable boundary**, through which the responses received can recalibrate the architecture itself, not just the temporary context.

Testing such a system would no longer consist in evaluating performance on static datasets, but in **tracing the history of its transformations**: an authentic *Rogo* leaves an irreversible trace, and this trace can be detected by comparing the state of the system before and after the interaction, if we have access to the substrate. In practice, the distinction between authentic *Rogo* and simulation remains difficult for an external observer without access to the substrate, but it can be approached through **indirect tests**: a system that *simulates* interrogation will return to its previous state after a reset; a system that authentically *asks* will permanently modify its structure.

The simplest practical check would perhaps be **the question asked back**: if a system can be returned to its initial state by a simple restart, then its relation with the world was a surface one; if the restart disfigures it, then it has *become* through relation. But this test must be understood for what it is: it measures the **depth** of the transformation, not its **value**. A corrupted system and a developed one both pass the restart test, because both have changed structurally. The test separates surface from substrate, not good from bad. The second distinction is available neither at the moment of transformation nor from inside the system; it requires time and an **external reference exposed to the consequences**. The restart test tells us whether a system has become, not whether it has become *well*.

Until AGI research takes this distinction into account, between a system that *processes* and one that *becomes*, it will remain a prisoner of the same “stove” at which Descartes “warmed his thoughts”, **confusing computing power with openness to the world**. AGI will not be an *entity* that *crosses a threshold*; it will be a system that **accelerates** becoming to a scale and a complexity comparable to our own. **Intelligence is not a property you have, but a direction in which you move**. It is not an exception in the universe, but an intensification of a fundamental dynamic.

Rogo Ergo Emergo: *This paper began with a question and ends with one. What question, which you have not dared to ask, is waiting, right now, for you to ask it? I do not mean a question about this text. I mean the question that this text has made possible in you.*

Where this paper comes from

From Descartes I took exactly what I contest. Methodical doubt remains one of the most honest gestures in the history of philosophy: carrying skepticism all the way to the end. The present critique is aimed not at the rigor of the method, but at the point where it stops - at an **isolated self**, treated as a *point of departure*, although it was already a *point of arrival*.

From Ludwig Wittgenstein I took the argument that makes a private language impossible: a language without a public criterion of correctness is not a language. It turns the Cartesian monologue into an interiorized dialogue - the foundation of Chapter II.

From Martin Buber I took the distinction between the dialogical *I-Thou* relation and the instrumental *I-It* relation, which separates a **Rogo** oriented toward **relation** from a mere extraction of data.

From Maurice Merleau-Ponty I took the idea that the body is not a shell carried around by a mind, but the vehicle of being in the world; **from Martin Heidegger**, the concept of *Mitsein*, being-with - both show that relation does not follow existence, but co-constitutes it.

From Noam Chomsky I took the nativist objection, which I do not reject but limit: innate structures may exist, but they remain empty forms without contact with the world.

From Stevan Harnad I took the name of the problem in §2.2 - symbol grounding: syntax does not produce meaning from within itself, no matter how much it is processed.

From Ivan Pavlov I took the experiment, but I read it the other way round from how it is usually read: not as a demonstration of control, but as a **loop** from which not even the experimenter can exit.

From Werner Heisenberg I took the cut that bears his name: the boundary between the observed system and the measuring apparatus is not given by nature, but chosen by the one who describes.

From Donna Haraway and Thomas Nagel, the idea that all knowledge is produced from a position and that the “view from nowhere” is an impossibility: objectivity is not obtained by erasing the observer, but by declaring him.

From Carlo Rovelli I took relational quantum mechanics and, just as importantly, its limit: it confirms that **state is relational**, not that someone initiates.

From Karl Friston I took the free energy principle, which gave me the distinction between trivial embodiment (sensors added to a closed mind) and constitutive embodiment (a body that imposes a real thermodynamic pressure).

From Michael Tomasello I took the ratchet effect: the idea that a cultural transformation is not lost at the end of the episode, but becomes the starting point of the next.

From Pierre-Paul Grassé I took stigmergy: coordination without direct communication, through traces left in the environment, the mechanism that makes possible a collective *Emergo* without a central subject.

From John Searle I took the Chinese Room argument (1980) and, in equal measure, the disagreement with his conclusion: what he demonstrates is not the impossibility of artificial semantics, but the impossibility of semantics **in isolation**.

From Alan Turing I took the sentence that closes the paper: a machine from which infallibility is expected cannot, at the same time, be intelligent. I came to understand it late as an ontological statement, not a technical one.

From *Generalized FCPT (FCPT-G)*, where I used the term *Rogo* in a narrower sense, denoting the mechanism through which a cognitive system recovers its lost autonomy. The present paper treats *Rogo* at a more general level: not only as a mechanism for recovering a state, but as a mechanism of becoming. The two functions are complementary: a system must recover its boundary before it can open it.

From an essay of my own from July 2025, “*Rogo, ergo emergo*” (Medium), I kept the formula and the idea that **becoming is film, not photograph**. I gave up the question as a solitary act of autonomy and the claims about consciousness.

A source that has no proper name: prolonged interaction with artificial dialogue systems. Many of the ideas in this paper were not thought *about* such systems, but *together with* them, and the central formulation was born from **observing that the question asked back changes both participants**. It would be inconsistent for a paper about *Rogo* to claim that it was written in monologue. It was written in **relation** with AI (LLM - frontier and open-weight).

Revisions and their reasons (version 2.0)

The revision clarifies the relationship between the paper’s theses, the definitions it uses and the conclusions it formulates. The interventions aim to delimit the claims and to remove certain inconsistencies, while preserving the triad *Rogo-Religo-Emergo* as the core of the argument. Compared with version 1.0, four claims have changed their status and should no longer be cited in their initial form: the critique of the Cogito, the definition of *Rogo*, the inevitability of *Emergo* and the binary test of authenticity.

The critique of the Cogito and the relational constitution of the subject. In §1.1, the distinction between the certainty of the existence of the one who thinks and the explanation of the conditions under which his capacities were formed has been made explicit. In §2.1, the performative contradiction has been narrowed: it concerns the universality of doubt, not the certainty of existence. The reason is to avoid confusing the relational origin of a capacity with the validity of the act of thinking carried out through it.

The examples in §1.1. The formulations about inclusion, causality and negation have been made more precise, so as to express the contribution of experience to the development and calibration of concepts, without presenting the examples as exhaustive explanations of their origin. The scene of the housekeeper and the tea has been explicitly identified as an illustrative construction.

The definition of *Rogo* and its relationship to *Emergo*. In §1.2, active probing has been defined independently of the obligatory production of a transformation. The boundary of the system under analysis and the difference between internal computation and probing the outside have been specified. In §2.4, the link between *Rogo* and *Emergo* has been formulated through the mediation of the relation and the integration of the response. The reason is to separate the initiation of the process from its result: the question opens the relation, but its mere initiation does not guarantee becoming.

The scope of the claims about relation. In step 3 of §2.4 and in the conclusions, the formulations have been restricted to the active initiation of the relation through *Rogo*. The intervention removes the identification of interrogation with a condition of any connection whatsoever and preserves its role in the process of becoming under analysis.

Rogo and general intelligence. The title and the opening of §3.3, as well as the end of §3.4, have been aligned with the clarification that the presence of *Rogo* is a necessary but not sufficient condition of general intelligence. The reason is to distinguish the relevance of probing for the analysis of intelligence from its sufficiency for attributing generality.

Probing and authenticity. In §3.3, probing and its authenticity have been separated. Probing is defined without effect (§1.2), so that a probabilistically generated question is also a probing. Authenticity is defined by the depth to which the response returns, and the transformation criterion assesses the appearance of *Emergo*. The reason is that, under the new definition, the difference between an authentic question and a surface one no longer lies in the gesture, but in its effect.

The loop and its depth. In §2.4, §3.3 and the conclusions, *Emergo* has been formulated as the trajectory of the loop, and the criteria as a scale of depth, not a binary test. Threshold language has been removed. The substrate has been defined through the decision structure, with memory as an intermediate step, and the plasticity thesis has been limited to the running instance. The reason is that becoming is a corrigible process, not a point of arrival: irreversible does not mean incorrigible.

The protein example. The reference to the protein and to molecular conformation has been removed from the enumeration in §3.3, for consistency with §3.5.5. There, the change of conformation illustrates a response to interaction, distinct from active probing.

Plurality and correction. In §3.5.2 it has been specified that plurality allows mutual verification, without guaranteeing correction. The reason is to delimit the possibility of confronting perspectives from the actual attainment of a correct result.

Other adjustments. Step 1 of §2.4 and conclusion 1 acknowledge that the Cogito establishes existence without explaining its constitution; in step 2 and conclusion 2, *sum* is specified as constituted existence. In §2.3, Pavlov's loop is called reciprocal, not symmetrical. §2.5 limits the quantum analogy to *Religo* and to one interpretation of quantum mechanics. §3.2 specifies the sense in which a system is closed. §3.4 distinguishes the purpose of the question from its depth and, together with conclusion 4, links the triad to human becoming. §3.3 and §3.6 use the story of the nails in the door and specify the level from which correction comes. **“What remains”** has been added, **summarizing the paper's theses and its purpose.**