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*Concept Paper*

# Ecologically Relevant Decisions and Personality Configurations: A Theoretical-Clinical Proposal Considering Quantum Cognition

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## Abstract

A situational individual's mental state contains the dynamic interaction between explicit, conscious cognitive processes and implicit automatism that develop outside of consciousness. The influence of implicit and unaware processes, often underestimated, manifests itself in the speed with which we process information, in immediate emotional responses, and in the emergence of intentions even before they are accessible to awareness. The brain activity that precedes a decision manifest itself several milliseconds before the subject reports the conscious intention to act. This phenomenon highlighting how awareness emerges after the decision-making process. The Quantum Cognition model proposing an alternative theoretical framework to classical logic to explain complex cognitive phenomena such as ambivalence, overlapping intentions, and sudden changes in perspective. The aim of this paper is to propose the QC model as a powerful formal strategy for describing the mind as a dynamic, probabilistic, and context-sensitive system.

**Keywords:** decision-making process; quantum cognition; personality; brain

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## Introduction

A situational individual's mental state contains the dynamic interaction between explicit, conscious cognitive processes and implicit automatism that develop outside of consciousness. Neuroscientific and psychological literature has extensively documented the interaction between these two systems: one explicit, deliberative, and conscious, and one implicit, automatic, and not conscious [1,2].

The influence of implicit and unaware processes, often underestimated, manifests itself in the speed with which we process information, in immediate emotional responses, and in the emergence of intentions even before they are accessible to awareness [3]. Functional neuroimaging studies have shown that many decisions are initiated unconsciously at the neural level, anticipating the subject's awareness by several hundred milliseconds [4,5].

Furthermore, computational models and experiments in the field of implicit psychology emphasize the decisive role of these components in shaping preferences, moral judgments, and social behaviors, even in the absence of conscious deliberation [6,7]. In ecologically valid decision-making processes (such as those that occur in emergency situations, social interactions, or moral conflicts), the automatic, affective, and pre-reflective component often plays a dominant role [8–10].

As clarified by the pioneering work of Libet [11], the brain activity that precedes a decision—the so-called readiness potential—manifests itself several milliseconds before the subject reports the conscious intention to act. This phenomenon has been confirmed and expanded upon by studies

using functional magnetic resonance imaging and electroencephalography techniques [12,13] , highlighting how awareness emerges after the decision-making process.

These results support the hypothesis that awareness does not play a direct causal role in determining action, but rather a narrative, integrative, and justificatory function of subjective experience [14,15]. From this perspective, it would act by constructing temporal and motivational coherence between internal and external events, rather than as a primary generator of behavioural choices. This does not imply a denial of free will but requires its reformulation in terms of distributed and multilevel processes, which include bodily, affective, and relational dimensions [16,17].

This is where the innovative contribution of the Quantum Cognition (QC) model comes in, proposing an alternative theoretical framework to classical logic to explain complex cognitive phenomena such as ambivalence, overlapping intentions, and sudden changes in perspective [18]. In summary, the QC model offers a powerful formal strategy for describing the mind as a dynamic, probabilistic, and context-sensitive system [19], opening up new theoretical possibilities for integrating preverbal and affective dimensions into the heart of the decision-making process. QC ultimately offers a methodological tool for modeling the behavior and symptomatology of subjects with personality disorders, integrating it into a phenomenological view of personality and psychopathology. This theory offers the possibility of organizing theoretical prediction models consistent with clinical experience, without theorizing a quantum structure of the brain.

### **Decision-making between automatism and awareness**

Decisions, in their many forms, arise from a logical sequence of rational evaluations. Although classical decision models, such as *Expected Utility Theory* [20], have proposed a normative approach based on formal rationality, cognitive psychology and behavioral sciences have amply demonstrated that human choices systematically diverge from these ideal models. Studies on decision-making processes in natural and real-world contexts have shown that humans use a varied repertoire of cognitive heuristics and *shortcuts*, often activated implicitly and unintentionally [21,22].

These decision-making strategies, which develop to ensure speed and efficiency in environments characterized by uncertainty, time constraints, and incomplete information, are generally functional, although not without systematic biases [23]. Heuristics, such as availability, anchoring, or representativeness, reduce the complexity of the decision-making task but introduce problematic deviations from formal and statistical logic [24]. However, more recent studies in the field of *ecological rationality* have reevaluated the effectiveness of some of these strategies, showing that in everyday contexts, heuristics can be more useful and effective than more computationally complex approaches [25,26].

The cognitive continuum model, introduced by Hammond [27], suggests that human thinking unfolds along an axis that oscillates between intuitive, rapid, and automatic modes and analytical, slow, and deliberative modes. This oscillation depends largely on the characteristics of the task, the level of uncertainty, and time pressure. Decisions made under conditions of ambiguity or urgency tend to favor intuitive processes, while those requiring formal justification or complex evaluation activate more analytical modes [28,29].

Jens Rasmussen's SRK (Skills–Rules–Knowledge) model [30] complements this perspective and proposes a hierarchy of cognitive processing levels in complex environments, such as industrial or critical ones. At the lowest level, behavior is guided by automated (skill-based) abilities, as in highly trained experts; the intermediate level (rule-based) involves the application of learned rules to known situations; finally, the highest level (knowledge-based) requires explicit inferences, problem solving, and creative reasoning in new or unexpected situations [31]. This hierarchy reflects the progressive demand for cognitive resources and the increasing involvement of awareness in the control of action.

The Recognition-Primed Decision (RPD) model, developed by Gary Klein [32], fits into this framework by showing how, in high-pressure contexts, effective decision-making emerges from the immediate recognition of prototypical situations and the activation of experiential mental schemas. The expert decision-maker quickly doesn't actively compare alternatives, but quickly recognizes a familiar situation and mentally simulates its consequences to verify its plausibility. If the simulation

is consistent with the objective, the action is carried out; otherwise, an iterative process of adaptation is activated. This model has been widely applied in fields such as aviation, emergency medicine, military leadership, and crisis management [33,34].

Overall, these models provide a useful theoretical framework for understanding the plasticity of human thought, which adapts to environmental demands by modulating the degree of automatism, deliberation, and simulation involved in decision-making. The result is a complex and layered picture of human decision-making, which cannot be understood solely in terms of rational calculation but must integrate affective, bodily, contextual, and pre-reflective dimensions.

### **Decision-making styles, emotional pressure, and personality**

Decisions made under emotional and time pressure are quite vulnerable to cognitive distortions that can lead to performance failures. This is particularly evident in high-stakes contexts - such as sports performance, emergency situations, or assessment tests - where the affective component can interfere with the attentional and mnemonic resources necessary for the task [35]. One of the most studied phenomena in this regard is “choking under pressure”, the impairment of performance due to excessive physiological arousal accompanied by hyperawareness of one’s own behavior, which disrupts the automatism acquired through practice [36,37]. Under these conditions, attention shifts from the external task to internal monitoring (“self-focus”), compromising the efficiency of already established motor and cognitive routines.

The Yerkes-Dodson law [38] describes this dynamic through an inverted U-shaped function, in which performance improves with physiological activation up to an optimal level, beyond which a deterioration is observed due to cognitive overload and emotional tension. This curve, widely confirmed in experimental and applied settings, highlights the need for a balance between activation and control in order to maintain optimal performance [39].

In this context, personality plays a crucial role. Individuals with high levels of neuroticism are more prone to experiencing anticipatory anxiety, rumination, insecurity, and hypersensitivity to the judgment of others [40], all factors that amplify the risk of choking [41,42]. Conversely, traits such as extroversion, openness to experience, and emotional stability are associated with greater resilience to stress, improved cognitive flexibility, and a higher capacity for dynamic adaptation, which act as protective factors against performance collapse under pressure [43] which act as protective elements against performance collapse under pressure [44,45].

This evidence suggests that decision-making performance in high-pressure contexts is not only the product of technical skills or rational preparation, but is strongly modulated by psychophysiological dynamics, temperamental dispositions, and affective regulation strategies [46].

### **Adaptive cognitive and heuristic strategies**

In the field of everyday decisions, individuals tend to use heuristic strategies, i.e., cognitive shortcuts that reduce computational load, speed up choice, and conserve attentional resources [47,48]. Although heuristic strategies introduce a margin of systematic error, they are adaptive in ecologically valid conditions, where information is uncertain or incomplete, and time is limited.

Among the main strategies, compensatory and non-compensatory strategies can be distinguished. Compensatory strategies, such as the weighted sum model or multi-attribute utility theory [49], involve weighing the pros and cons: an option can be chosen even if it has shortcomings in some attributes, provided that these are compensated for by advantages in others. Non-compensatory strategies, such as the lexicographic rule or elimination-by-aspects [50], exclude alternatives that do not meet certain minimum criteria, even if they excel in other aspects. The latter are faster but also more susceptible to distortion, especially in the presence of rigid cognitive traits or high emotionality.

The choice between these strategies is modulated by multiple factors: individual (such as experience, level of fluid intelligence, metacognitive abilities), contextual (time available, task ambiguity, perceived risk level), and emotional (mood, anxiety, physiological arousal) [51,52]. Time pressure, for example, tends to favor non-compensatory strategies, while the availability of time and information promotes more analytical approaches.

Psychological literature has also identified different decision-making styles, which represent recurring patterns in the ways choices are approached: deliberative (analytical, thoughtful), impulsive (quick, reactive), intuitive (based on affective signals and experiential patterns), reflective (oriented toward self-evaluation and prediction of consequences) [53,54]. These styles should not be conceived as rigid traits, but as dynamic and situational patterns emerging from the interaction between temperamental dispositions, cognitive content, and characteristics of the decision-making environment.

### **Towards a complex theory of decision-making and the theory of quantum cognition**

Decision-making can only be understood within a complex framework that integrates multiple levels of analysis: neurobiological, cognitive, affective, personological, and phenomenological. Each choice is a multidimensional act, in which sub-personal components (such as automatic neural processes), personal components (such as biographical history and temperamental traits), and transpersonal components (such as the relational or symbolic context) are dynamically intertwined. The traditional dualism between the unconscious and the conscious is gradually being superseded by models that recognize a fluid and interactive continuity between different levels of information processing [55,56]. From this perspective, the unconscious is no longer seen exclusively as a repository of repressed content or a source of pathological distortion, but as a generative, probabilistic, and predictive space: an environment in which anticipations, implicit simulations, and trajectories of meaning that are not yet verbalized but potentially orienting are configured [57,58].

Within this review, quantum cognition theory is proposed as a tool capable of effectively modeling the complex interactive processes that we highlighted in the first part of the work [59].

Quantum cognition does not claim that the brain functions as a physical quantum system, but rather that certain characteristics of cognition - such as the non-commutativity of mental acts, interference between alternatives, the coexistence of superimposed states, and the “collapse” of decision-making at the moment of action - are best described by a formalism inspired by quantum mechanics. In this framework, indecision is not simply a lack of information, but a superimposed mental state in which multiple options coexist until the decision-making act produces a resolution [60].

This formalism also allows us to model the role of context, which in quantum theory is not external and objective, but interactive and constitutive of the mental state. Thus, improvisation, creativity, and the ability to reformulate scenarios - central characteristics in conditions of ambiguity or novelty - are not seen as deviations from normative rationality, but as superior adaptive forms of decision-making. They emerge from a cognitive framework capable of sustaining ambivalence, tolerating uncertainty, and producing novel configurations [61].

### **Quantum Cognition and Non-Classical Models of Decision Making**

In recent years, there has been growing interest in the application of quantum mechanics models to cognitive processes, particularly to decision-making in conditions of uncertainty, ambiguity, and conflict. This approach, known as quantum cognition, does not imply that the brain operates according to quantum physical principles - such as the behavior of subatomic particles - but rather that formal models of quantum theory can better represent certain non-classical aspects of human thought [59].

Unlike traditional cognitive models, which assume that preferences, beliefs, and intentions are always defined and stable, the quantum cognition model assumes that mental states are dynamic and contextual. In this perspective, the mind does not have a clear position on all available options at any given moment, but is in a superimposed state in which different possibilities coexist until the decision-making act, influenced by context, emotions, and questioning modes, may not emerge from it. Just as in quantum physics a particle can be in multiple states simultaneously until it is observed, so too in human cognition a decision can exist in a potential state until the moment of choice. This approach has proven particularly effective in modeling paradoxical or seemingly irrational cognitive phenomena, such as context-induced changes of opinion (question order effect), fluctuating consistency of preferences, and ambivalence in emotions or moral judgments. Such phenomena

challenge the rules of classical logic and Bayesian probability, but find a more natural representation in the language of quantum probability, which allows for interference, order dependence, and states that are not determined a priori [60,62].

In this sense, quantum cognition (QC) represents not only a theoretical evolution but also a paradigm shift: from the mind seen as a computational system to a fluid and plastic organism, capable of holding together uncertainties, ambivalences, and multiple possibilities until the creative act of decision-making.

### **Principles of quantum cognition**

Quantum cognition uses the formalism of quantum mechanics, in particular its conceptual structure, to model cognitive processes that escape the rules of classical logic and conventional probability. The goal is not to claim that the brain functions as a quantum physical system, but that mental behavior under certain conditions - such as uncertainty, ambivalence, decision conflict, or contextual influence - exhibits properties analogous to those described by models of quantum physics. This approach has proved particularly useful in explaining non-linear, contradictory, or dynamically unstable cognitive phenomena that classical psychology struggles to represent coherently [59,60].

One of the key concepts is superposition: a mental state can contain multiple alternatives simultaneously, without the subject having yet consciously defined a clear preference. For example, when faced with a complex emotional choice (staying in or leaving a relationship), a person may find themselves simultaneously in both intentional states, oscillating between contradictory impulses. This state of coexistence can be represented more effectively with the concept of superposition than with a classic binary view that presupposes a clear choice already made.

Another crucial concept is the non-commutativity of order: in quantum cognition field, the outcome of a mental process may depend on the order in which information is presented or questions are asked.

This means that human thought is not always stable or linearly consistent, but can be profoundly influenced by the sequence of stimuli. This effect is well documented, for example, in political polls or diagnostic questionnaires, where the order of questions can significantly alter responses.

Classical decision models assume that order should not affect the outcome, but empirical data show the opposite, a dynamic that quantum formalism can describe more accurately [63].

Finally, the concept of mental state collapse represents the moment when, from a state of uncertainty or ambivalence, a definite choice is made. This moment is not necessarily the result of rational calculation, but can be sudden, context-sensitive, and influenced by affective, relational, or bodily elements. Collapse does not imply a loss of information, but a crystallization of possibility into a decision-making act: the mind temporarily stabilizes in a meaningful configuration. This aspect is particularly interesting for understanding improvisation, intuition, or creative processes – situations in which action does not follow deductive logic, but emerges from a process of emerging configuration.

Taken together, these concepts provide a theoretical framework that values the complexity, fluidity, and contextual sensitivity of the human mind. They suggest a view of cognition no longer as a linear sequence of computational operations, but as a dynamic, probabilistic process capable of supporting ambiguity in a functional way.

### **The main quantum concepts applied to cognition**

It is necessary to explain some fundamental concepts of the quantum model applied to the study of decision-making. This explanation will not contain mathematical formalisms but will focus on translating them into intuitive concepts so as not to interrupt the flow of a complex and comprehensive discourse that serves as an introduction to future in-depth studies. In subsequent studies, focused on specific elements of the quantum model applied to psychic processes, the mathematical formulation of the model can be proposed in a limited manner and therefore complete and exhaustive for specific needs.

### 1. Hilbert Space and Cognitive States

In QC, Hilbert space is a formal metaphor to describe all the possible mental configurations of a subject with respect to a certain content (a decision, a belief, a preference). We can imagine it as a “multidimensional mental space”; in which every possible thought, intention, or emotion is represented by a direction. A mental state is a combination of these directions, i.e., a potential configuration of the mind, which can contain multiple alternatives simultaneously. Unlike classical logic, where one thinks of one option at a time, here the mind can “host” multiple possibilities simultaneously, which determine ambivalence, uncertainty, or decision complexity. Every possible thought or intention is a vector in this space, while a mental state is a potential configuration in which multiple vectors coexist simultaneously. This multidimensional representation accounts for the complexity, ambivalence, and uncertainty present in decision-making processes [64,65].

### 2. Probabilities as amplitudes squared

In the classical decision model, the probability of choosing A or B is simply a number between 0 and 1 that measures how likely A or B is. In QC, however, probability arises from something more complex: the intensity of the mind orientation toward a certain option. This orientation is represented by a “vector” in cognitive space. But the observed probability is proportional to its intensity, that means its “amplitude squared”. In intuitive terms, it is not enough to know that I am thinking about a certain possibility: what matters is how strongly I am thinking about it. It is this intensity (not the mere presence) that determines the probability of the choice. This explains why a choice can emerge suddenly when the intensity exceeds a certain threshold. The probability of that option emerging is therefore proportional to the intensity squared, a concept that explains dynamics such as the sudden appearance of a decision or intuition.

### 3. Projection and Collapse of the State

When a decision is made or an answer is given, the mind “chooses” a trajectory: among the various possibilities contained in the superimposed state, one is realized. This process is called state collapse; in it, the cognitive configuration, which was previously fluid and potential, stabilizes into a single option. Projection represents the transition from a complex and open mental state to a more defined and “measurable” one, such as when we verbalize a decision or take action. This does not imply that the other options are lost forever: they may reemerge if conditions or context change. But at that moment, the mind “contracts” onto a defined configuration. When we decide or respond, the multifaceted mental state organizes itself around a well-defined option. Projection is the transition from a potential, multidimensional state to a stable, observable configuration when the mind crystallizes into a concrete option. This does not eliminate the others, which remain in the potential memory, ready to reemerge if the context changes.

### 4. Effect of order: Non-commutativity

In classical logic, the order in which you ask questions or evaluate options should not change the outcome. But in many real-life cases, such as surveys, clinical interviews, or emotionally relevant decision-making processes, order matters. In QC, this is called non-commutativity: asking first “do you feel guilty?” and then “are you angry?” can lead to a different answer than the reverse order because each question “prepares” the next mental state, directing attention and modifying the configuration of Hilbert’s cognitive space. The mind is sensitive to the path it is led down, not just the content of the answers. In QC, the order in which questions or information are presented can change the final decision; the decision depends not only on the content, but also on the path through which mental states evolve.

### 5. Interference

In cognitive terms, interference means that the way we think about one option can be influenced by other options, even if we do not explicitly choose them. For example, simply considering two alternatives can change the perception of a third. This often occurs when we are undecided: the options “compete” with each other, influencing each other even in the absence of a logical comparison. Interference can explain why preferences change even without new information, and

why the presence of multiple alternatives can often confuse rather than clarify. In dynamic terms, it is as if the waves of meaning associated with each option overlap, producing constructive or destructive effects on the decision-making process. Interference describes how cognitive options interact with each other even in the absence of explicit comparison. Thinking about different possibilities simultaneously can generate constructive or destructive effects, changing the perception or preference for a choice. This mechanism explains phenomena that are problematic for classical theory, such as the disjunction fallacy or preference fluctuation. The quantum model accounts for these phenomena through the overlap and interaction between “mental waves”.

### **Personality as a dynamic structure in Hilbert’s cognitive space: a quantum application to decision-making under emotional pressure.**

In a phenomenological point of view, personality is not conceived as a rigid and stable entity, but as a dynamic structure of pre-reflective dispositions, patterns of embodied meanings, and styles of contact with the world. In this perspective, consistent with phenomenological psychopathology [66,67], personality represents a potential field from which intentionality, emotions, and decision-making tendencies emerge. This field can be formalized as a cognitive Hilbert space, i.e., a multidimensional potential space in which each direction represents a possible experiential and behavioral configuration of the individual, modulated by temperamental traits, affective factors, and deep narrative configurations.

Subjects with fragile or disorganized personality structures (as in borderline, avoidant, or narcissistic disorders) tend to generate highly unstable overlapping cognitive states, in which divergent decision-making options coexist, often irreconcilable and logically unsolvable. In such cases, emotional pressure, generated by internal factors (such as shame, abandonment, fragmentation of identity) or external factors (such as relational conflict, symbolic or concrete threats), acts as a disruptor that forces a premature collapse of the overlapping state towards impulsive, disorganized, or dysfunctional choices [59,64].

QC allows to model these processes by taking into account certain fundamental properties of affective subjectivity: the overlap of contradictory intentions, the non-commutativity between emotion and reasoning (the way in which an affect retroactively modifies the cognitive configuration), and the interference between options that dissolve or reinforce each other based on the intersubjective context.

In this logic, personality functions as a basis of cognitive states that determines the availability or accessibility of certain mental configurations over others. An individual with high affective instability and poor reflective function, for example, will have a more “compressed” cognitive space, with decision-making trajectories more prone to impulsive collapse. Conversely, an integrated and flexible personality structure will have a broader and more coherent cognitive space, capable of maintaining overlapping states for longer and deferring decision-making collapse to allow for a more articulated affective and symbolic evaluation.

From a therapeutic point of view, this formulation suggests that strengthening the personality structure and expanding the subject experiential space can have direct effects on decision-making quality: it is not just a matter of teaching cognitive strategies, but of modulating the subjective quantum field, i.e., the dynamic space in which meanings take shape even before they become conscious representations or manifest actions [68,69].

## **Conclusions**

The analysis of human decision-making under conditions of uncertainty, conflict, and emotional pressure requires a theoretical framework capable of integrating multiple levels of subjectivity: neurobiological, cognitive, affective, and characterological. Classic models of rationality, even if effective in formal and computational contexts, are often inadequate for capturing the complexity of real-life decision-making experiences, especially when the choice is modulated by ambivalent emotions, tension between motivational plans, and fragile or disorganized personality structures

[70]. In this regard, the paradigm of “quantum cognition” offers an innovative conceptual framework capable of dynamically representing the mental configurations that precede and accompany decision-making. The introduction of concepts such as superposition, non-commutativity, interference, and collapse of the cognitive state allows us to model the instability, reversibility, and fluidity inherent in human thought in emotionally charged or highly complex situations.

In particular, the definition of a cognitive Hilbert space allows us to formalize the dynamic coexistence of intentional alternatives, opening up a more faithful representation of subjectivity in action. Personality, understood according to phenomenological and clinical epistemology, cannot be reduced to a sum of traits, but is a dynamic predispositional field in which possibilities of meaning, affective structures, and decision-making trajectories take shape. This field, when viewed through the lens of “quantum cognition” becomes the “probabilistic landscape” on which the subject’s choices unfold: a landscape whose configuration depends not only on content, but also on affective disposition, openness to the world, and the degree of integration of personal identity.

This perspective also opens up new possibilities in terms of methodology and modeling. The adoption of formal tools inspired by quantum theory - while devoid of ontological implications about the physical nature of the brain - allows us to represent subjective dynamics that escape classical probability, such as affective ambivalences, the fluctuation of intentional states, and the sudden transformation of meaning. In this framework, the mind no longer appears as a rational computer, but as an open, plastic, and contextual system in which contact with the world retroactively modifies the space of possibilities.

The integration of quantum cognition and phenomenological psychopathology proves particularly fruitful, both for understanding personality disorders and decision-making dysfunctions, and for constructing theoretical models consistent with clinical practice. The experience of choice in subjects with borderline, avoidant, or narcissistic personality organizations, for example, can be interpreted as a premature collapse of the cognitive state, induced by intolerable affective configurations or the fragility of the intentional structure. Similarly, therapeutic work can be seen as a process of expanding the subjective Hilbert space through the reactivation of relational, narrative, and bodily possibilities that were previously excluded or collapsed into rigid and symptomatic patterns. The adoption of formal tools inspired by quantum theory (without ontological implications for the physical structure of the brain) allows for the representation of nonlinear subjective dynamics, such as affective ambivalences, fluctuating intentional states, and sudden transformations of meaning.

As Busemeyer and Bruza [59] write, “the mind, in many conditions, does not follow the classical principles of logic or probability: it exists in a potential state that evolves in context and collapses only at the moment of decision” (p. 4). In this framework, the mind is not an information processor, but a field of possibilities in dialogue with the lived world. The integration of quantum cognition and phenomenological psychopathology appears particularly promising both for understanding decision-making dysfunctions in personality disorders and for outlining therapeutic strategies aimed at expanding the subject intentional space.

From this perspective, therapeutic work is not limited to correcting logical distortions, but aims to make the field of possibility habitable again: helping the patient to remain in the overlap, to tolerate ambiguity, to delay decision collapse, until new trajectories of meaning emerge. As Fuchs argues, “*therapy does not consist in replacing an incorrect meaning with a correct one, but in opening up a space in which new configurations of meaning can appear*” [66] (p. 165).

This view suggests that the future of psychological and clinical research should be based on interdisciplinary and multi-level models capable of combining formal rigor, phenomenological depth, and attention to embodied subjectivity. The contribution of quantum cognition goes in this direction, providing theoretical tools to represent the fluidity of decision-making experience, but also inspiring new therapeutic and diagnostic approaches based on the dynamics of potential mental states and the affective topology of personality.

The challenge for future research will be to construct epistemologically grounded tools that can model the complexity of the mind without reducing it to simplistic schemes, and to produce clinical and psychotherapeutic applications that translate these theoretical frameworks into transformative practices for the subject.

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