The Hierarchical Preservation Model of Decision-Making: Self-Relevance Encoding across Survival, Meaning, and Lineage–Collective Preservation

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Abstract

Decision-making is commonly analyzed through utility, preference, risk, prediction, or computational constraint. These frameworks have generated substantial insight, but they often leave underdeveloped a more basic question: what is the organism trying to preserve when it decides? This paper proposes the hierarchical preservation model of decision-making, which defines choice as a process of reorganization within a three-tiered preservation system mediated by self-relevance encoding.

The model distinguishes survival, meaning preservation, and lineage–collective preservation as analytically separable but biologically connected layers. Self-relevance encoding specifies how bodily, relational, symbolic, and temporal signals become decision-relevant by determining what counts as self-continuity, self-loss, or preservation. On this account, apparently irrational, self-sacrificial, or self-destructive decisions are not treated as exceptions to decision logic.

They are analyzed as outcomes of preservation-layer reweighting, boundary expansion, reference-point shift, or coherence collapse under biological, relational, cultural, and environmental constraints. The paper further grounds the model in multi-level biological organization, where lower-level limitation or termination can support higher-order viability, while unregulated persistence can become pathological.

Finally, the model reinterprets bounded rationality, prospect-theoretic asymmetries, and active-inference accounts as surface descriptions of deeper preservation-oriented organization. The contribution of the framework is to provide a common interpretive grammar for decision-making across biological, symbolic, cultural, and pathological boundary cases, thereby resetting the explanatory level at which irrationality is interpreted.

1 Introduction

1.1 Related Work and Problem Statement

1.1.1 Existing Landscape

Decision-making has been examined through several influential traditions, each of which clarifies a different aspect of choice. Normative theories, such as expected utility theory, define rational choice in terms of consistency and utility maximization (L. J. Savage, 1954; Von Neumann & Morgenstern, 1944). Descriptive approaches, most prominently prospect theory, explain systematic deviations from expected utility through reference dependence, loss aversion, and nonlinear probability weighting (Kahneman & Tversky, 1979; Tversky & Kahneman, 1992). Bounded and ecological rationality approaches shift attention from ideal optimization to the adaptive use of limited cognitive resources under environmental constraints (Gigerenzer & Todd, 2001; Simon, 1955; Todd & Gigerenzer, 2012). Dual-process theories distinguish between fast, automatic forms of processing and slower, deliberative forms of reasoning (Evans & Stanovich, 2013; Kahneman, 2011). More recent predictive and active-inference accounts attempt to unify perception, action, and decision-making under formal principles of uncertainty reduction or free-energy minimization (Buckley et al., 2017; Friston, 2010; Friston et al., 2017).

1.1.2 Limits of Current Frameworks

These traditions have produced substantial insight, but they also leave a common explanatory gap. Expected utility theory provides a powerful normative benchmark, yet its violations have been extensively documented, with prospect theory itself introduced as a critique of expected utility as a descriptive model of decision-making under risk (Allais, 1953; Kahneman & Tversky, 1979). Prospect theory improved descriptive fit by identifying recurrent patterns such as loss aversion and probability weighting, but it primarily specifies how choices deviate from expected utility rather than why such deviations should take the forms they do (Kahneman & Tversky, 1979; Tversky & Kahneman, 1992). In this sense, the descriptive success of prospect theory does not remove the need for a deeper account of the biological and self-referential conditions under which reference points, losses, gains, and probabilities acquire decision-relevant weight.

A related limitation appears in dual-process accounts. The distinction between Type 1 and Type 2 processing has been influential because it captures robust contrasts between automatic and controlled cognition. Yet recent critiques argue that the framework faces a functional individuation problem (Evans & Stanovich, 2013; Grayot et al., 2024). If the theory is to explain judgment and decision-making rather than merely classify them, it must specify what functionally unifies the properties assigned to each type of processing and how these types are individuated across contexts. Without such specification, the fast/slow distinction risks becoming a descriptive partition rather than an explanatory principle for why a given decision becomes adaptive, maladaptive, rational, or self-undermining in a particular organism-environment setting.

Predictive processing, active inference, and the free energy principle move closer to a biological account by treating action and perception as coupled processes embedded in organism-environment interaction. This shift is important for decision theory because it breaks with the idea that choice can be understood as an isolated cognitive event. However, the generality that gives these frameworks their integrative power also creates a burden of specification (Buckley et al., 2017; Isomura et al., 2023). Recent work has questioned how directly the free energy principle applies to concrete biological systems and what assumptions are required for its formal derivation. Other analyses

emphasize that the principle must be translated into more specific process theories before it can generate discriminating empirical claims (Friston et al., 2017; Isomura et al., 2023).

A further difficulty concerns ecological validity (Brunswik, 1955; Buelow et al., 2024; Kihlstrom, 2021). Many decision-making paradigms rely on simplified laboratory tasks, abstract gambles, or artificial reward structures. Such paradigms are useful for isolating variables, but they often detach choice from the embodied, relational, temporal, and environmental conditions under which real decisions occur. Recent evidence suggests that common behavioral decision-making tasks may not reliably predict real-world risky behavior (Buelow et al., 2024), reinforcing the concern that laboratory measures can capture task-specific performance without capturing the broader organization of decision-making in lived contexts.

1.1.3 The Preservation Gap

Taken together, these limitations suggest that existing theories often explain decision-making at the level of formal consistency, behavioral deviation, processing style, or uncertainty reduction (Evans & Stanovich, 2013; Friston, 2010; Kahneman & Tversky, 1979; Simon, 1955), while leaving underdeveloped a more basic question: what is the organism trying to preserve when it decides? This question is not equivalent to asking what option maximizes utility, what reference point structures valuation, or what prediction error is minimized. It asks how bodily survival, meaning preservation, and lineage and collective continuity become organized as decision-relevant layers within a living system.

1.2 The Present Framework

To address this preservation gap, the present framework offers a common interpretive grammar for decision-making by treating choice as a preservation-oriented reorganization process mediated by self-relevance encoding. First, decision-making is treated as a preservation-oriented reorganization process rather than as an isolated cognitive event. Second, self-relevance encoding specifies how bodily, relational, symbolic, and temporal signals become decision-relevant. Third, apparently irrational, self-sacrificial, or self-destructive decisions are analyzed as cases in which preservation layers are reweighted, destabilized, or collapsed under specific constraints.

Section 2 develops the preservation-based decision framework. Section 3 examines boundary cases in which preservation layers are reweighted or destabilized. Section 4 grounds the model in multi-level biological preservation. Section 5 discusses implications for decision theory, including cultural modulation and the interpretation of irrational decisions.

2 Preservation-Based Decision Framework

The basic architecture of the proposed model is summarized in Figure 1, where self-relevance encoding functions as the organizing principle through which survival, meaning preservation, and lineage/collective preservation become decision-relevant layers.

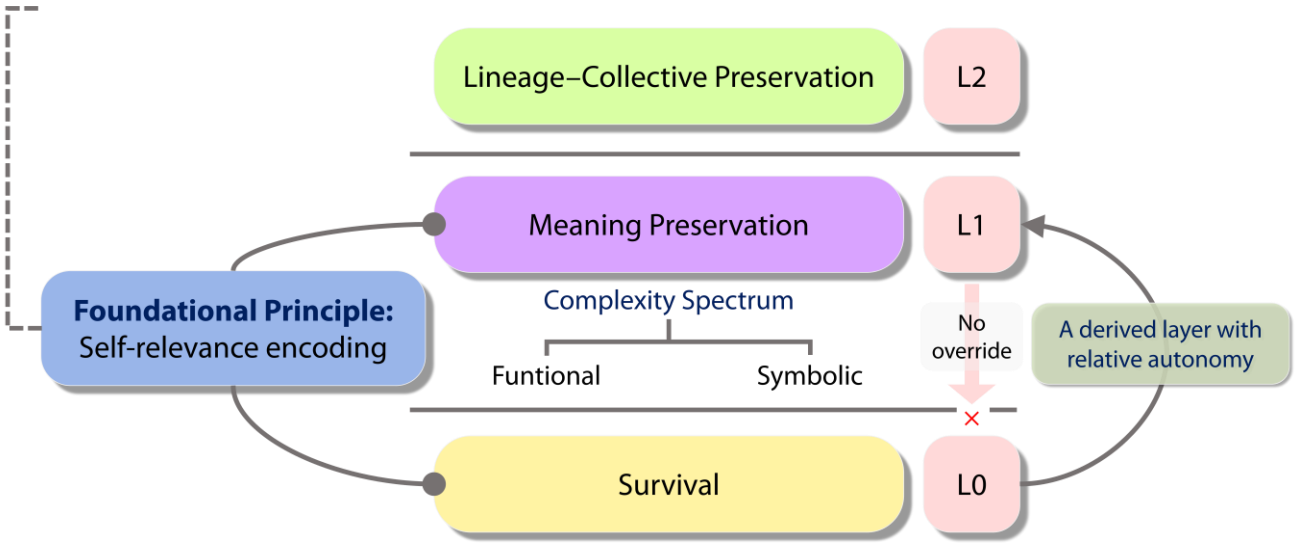

Figure 1. **Basic architecture of the hierarchical preservation model of decision-making.**
Self-relevance encoding functions as the foundational principle through which survival (L0), meaning preservation (L1), and lineage and collective preservation (L2) become organized as decision-relevant preservation layers. Meaning preservation is represented as a derived layer with relative autonomy, but it does not override survival as an independent principle.

2.1 Core Proposition and Foundational Principle

2.1.1 Core Proposition

The core proposition of the present framework is that decision-making is a process of reorganization within a hierarchical preservation system. A decision does not merely select among externally given options. It reorganizes what counts as preservation, loss, continuity, or acceptable sacrifice for the system under a given set of constraints.

The model distinguishes three preservation layers. The first layer is **survival** (L0), which refers to the maintenance of bodily viability, homeostatic continuity, and the practical conditions under which the organism can continue to exist (Cannon, 1932; Sterling, 2012). The second layer is **meaning preservation** (L1), which refers to the maintenance of self-continuity, coherence, narrative integrity, value structure, and dignity (Campbell et al., 1996; Steger et al., 2006; Yang et al., 2025). The third layer is **lineage and collective preservation** (L2), which refers to the preservation of kin, offspring, group continuity, symbolic communities, or other collective units encoded as part of self-relevant continuity (Hamilton, 1964a, 1964b; West et al., 2007). These layers are analytically distinguishable, yet they are not independent modules. They form a hierarchy in which higher-order preservation layers emerge from and remain constrained by biological preservation.

This hierarchy allows apparently irrational or self-defeating decisions to be interpreted without treating them as simple failures of reasoning. A self-sacrificial decision may preserve an expanded relational or collective self (Chinchilla et al., 2022; Martel et al., 2021; Swann et al., 2012). A belief-based sacrifice may preserve a meaning structure that has become more self-relevant than bodily continuation. A self-destructive decision may reflect a collapse of the conditions under which survival remains compatible with self-continuity. In each case, the relevant question is not whether the decision violates survival in the abstract, but how survival, meaning, and lineage/collective preservation have been weighted, reorganized, or destabilized within the decision context.

The framework therefore treats irrationality as a surface classification rather than an explanatory endpoint. What appears irrational at the level of formal preference or immediate bodily outcome may become intelligible when the relevant preservation layer is identified. This does not imply that all decisions are adaptive, nor that self-destructive decisions are normatively justified. It means that their structure can be analyzed as a distortion, reweighting, or collapse of preservation organization rather than as an absence of preservation logic.

2.1.2 Foundational Principle: Self-Relevance Encoding

The foundational principle of the model is **self-relevance encoding**. Self-relevance encoding refers to the process by which bodily states, external objects, social relations, symbolic values, and future continuities are rendered relevant to the self for the purposes of preservation-oriented decision-making (Northoff et al., 2006; Sui & Humphreys, 2015). It determines what counts as self-related, what counts as self-loss, and what counts as self-continuity within a given decision context.

This process should not be understood as raw sensory registration, since self-related processing can modulate how perceptual, mnemonic, and evaluative information is prioritized (Sui & Humphreys, 2015). Pain, hunger, threat, social rejection, reputational damage, attachment loss, and anticipated future failure are not decision variables by themselves (Eisenberger, 2012). They become decision-relevant when they are encoded in relation to preservation. A bodily signal may be encoded as a threat to survival. A relational failure may be encoded as a threat to self-continuity. A symbolic violation may be encoded as a loss of dignity or meaning. A future condition may be encoded as either a viable continuation of the self or as a state no longer compatible with self-preservation.

In this sense, self-relevance encoding provides the transformation through which inputs become preservation-relevant weights. Formally, it can be treated as a function that maps bodily, relational, symbolic, and temporal inputs onto preservation-relevant decision weights:

$$E_{SR}: X \rightarrow W_p$$

where X denotes the set of bodily, relational, symbolic, and temporal inputs, E_{SR} denotes the self-relevance encoding function, and W_p denotes preservation-relevant decision weights.

This formulation clarifies why self-relevance encoding is more than a mapping of objects onto the self. It is the process by which such relations become causally effective in decision-making. Once an input is encoded as self-relevant, it can alter the relative weights assigned to survival, meaning preservation, and lineage/collective preservation. The same external event may therefore produce different decisions depending on whether it is encoded as irrelevant, inconvenient, shameful, identity-threatening, relationally catastrophic, or incompatible with continued self-coherence.

Self-relevance encoding operates across the full hierarchy, but it becomes especially visible at the transition from survival to meaning preservation. At the level of survival, preservation can often be specified through bodily viability and immediate regulatory demands. At the level of meaning preservation, however, the system must determine which values, roles, relationships, memories, and projected futures belong to the self. This transition marks the point at which preservation is no longer reducible to bodily continuation alone, while still remaining biologically grounded. Meaning preservation emerges when the organism's continued existence becomes organized through self-related coherence.

2.2 The Status of Meaning Preservation

2.2.1 Derivative Status and Relative Autonomy

Meaning preservation occupies a distinctive position within the proposed hierarchy. It is derivative of survival, because meaning-bearing systems must first remain biologically viable enough to generate, stabilize, and act upon meaning (Steger et al., 2006; Sterling, 2012). A system that cannot maintain minimal regulatory continuity cannot sustain narrative identity, value structure, dignity, or long-term self-coherence as decision-relevant variables.

However, derivative status does not imply causal insignificance. Once meaning preservation emerges, it can acquire relative autonomy within decision-making. Values, roles, commitments, identities, and future-oriented narratives can reshape how survival itself is interpreted (Martel et al., 2021; McAdams, 2001; Steger et al., 2006). They can determine whether continued bodily existence is experienced as viable, dignified, coherent, or intolerable (Fontalis et al., 2018). In this sense, meaning preservation is not an external supplement to survival. It is a higher-order organization of survival under self-relevance encoding.

This distinction is central to the model. Meaning preservation does not override survival as an independent principle. Rather, survival may become inaccessible, unacceptable, or destabilized when its continuation is encoded as incompatible with self-continuity. Under such conditions, what appears to be a meaning-based override of survival may reflect a deeper collapse in the conditions under which survival can still be organized as self-preserving.

For example, a person may refuse bodily survival under conditions experienced as the destruction of dignity, identity, or relational continuity. The model does not interpret such cases as evidence that meaning floats free from biological preservation. It interprets them as cases in which survival has ceased to be encoded as a viable continuation of the self. Meaning preservation therefore functions as a derived but causally active layer, consistent with evidence linking self-concept clarity to meaning in life (Yang et al., 2025). It remains biologically grounded, yet it can reorganize the practical meaning of survival within a given decision context.

This position avoids two reductive alternatives. On one side, meaning cannot be dismissed as a secondary rationalization of biological drives. On the other side, meaning cannot be treated as a fully autonomous, non-biological principle that transcends survival. The proposed account instead treats meaning preservation as an emergent layer that remains constrained by survival while gaining the capacity to reorganize how survival is valued, endured, or rejected.

2.2.2 Functional and Symbolic Meaning

Meaning preservation is not a single-level phenomenon. It spans a spectrum from functional meaning to symbolic meaning. This distinction is necessary because the term meaning often evokes human language, narrative identity, or explicit value systems, while preservation-oriented meaning can appear at more basic levels of biological organization.

Functional meaning refers to the selective significance that a signal, state, or relation acquires for system maintenance (Bickhard, 2009; Di Paolo, 2005; Maturana & Varela, 1980). At this level, meaning does not require language, reflection, or symbolic representation. A nutrient gradient, threat cue, attachment signal, or familiar regulatory pattern can acquire functional meaning insofar as it

alters the system's preservation-relevant organization. In biological terms, functional meaning is the difference a signal makes for maintaining viable organization.

This level of meaning is continuous with basic biological regulation. A cell responds differently to nutrient availability, damage signals, or apoptotic cues because these inputs have preservation-relevant significance for the local or higher-order system. An organism treats pain, hunger, warmth, isolation, or safety as meaningful because such states alter the organization of viability. Functional meaning therefore marks the first layer at which environmental and internal signals become organized according to their relevance for preservation.

Symbolic meaning refers to the higher-order organization of identity, narrative, dignity, values, obligations, and projected futures (McAdams, 2001; Steger et al., 2006). It depends on more complex cognitive and social capacities, including memory, self-modeling, language, norm sensitivity, and temporal extension. At this level, what is preserved may be a role, a promise, a moral identity, a family position, a spiritual commitment, or a future self. These symbolic structures can become sufficiently self-relevant to shape action even when immediate bodily outcomes are costly.

The distinction between functional and symbolic meaning does not divide biology from culture. Symbolic meaning is not detached from functional regulation. It extends preservation into more abstract and temporally distributed forms. A social role may regulate belonging. A moral identity may stabilize self-coherence. A family obligation may preserve relational continuity (Martel et al., 2021; Swann et al., 2012). A future narrative may sustain action under present hardship. In each case, symbolic meaning organizes survival through extended self-relevance rather than replacing survival with a non-biological principle.

This spectrum is important for interpreting difficult cases. Self-sacrifice, martyrdom, euthanasia, and self-destructive decisions often appear to involve symbolic meanings that exceed biological survival. The present model reads them differently. Symbolic meaning can become decision-dominant because it organizes what survival is taken to mean for the self. The more a symbolic structure is encoded as necessary for self-continuity, the more its loss can be experienced as a threat to preservation itself.

Accordingly, meaning preservation should be understood as a spectrum of preservation-relevant organization. At one end, functional meaning stabilizes basic viability. At the other, symbolic meaning stabilizes identity, dignity, relational self-extension, and future continuity. Both belong to the same preservation hierarchy, but they operate at different levels of complexity.

2.3 Interpretive Rules of the Preservation Hierarchy

2.3.1 Analytical Distinction between Preservation Targets and Operational Units

The first rule is that preservation layers, operational units, and relational expressions must be analytically distinguished. The three preservation layers do not correspond one-to-one to concrete units of preservation. Rather, they specify the kind of continuity at stake. Operational units specify the scale or locus through which preservation is enacted. Relational expressions specify how self-relevance encoding extends preservation beyond the individual organism through socially or affectively meaningful forms.

Survival concerns the continued biological viability of the organism. Meaning preservation concerns the continuity of self-coherence, dignity, identity, narrative, and value structure. Lineage and collective preservation concerns the continuity of offspring, kin, group, symbolic community, or

other collective units encoded as part of self-relevant continuity. These layers may interact within a single decision, but they should not be treated as interchangeable preservation targets.

Operational units are different from preservation layers. Beginning from L0, preservation may be enacted through cellular or sub-organismic units, the individual organism, identity-level organization, relationally extended units, and group or kin-level units. These units do not correspond one-to-one to the three preservation layers. A cellular process may serve organism-level survival. An individual action may serve meaning preservation. A symbolic act may serve lineage and collective continuity. The unit through which preservation operates is therefore distinct from the preservation layer being prioritized.

Relationality requires a further distinction. Relational bonds are not treated as an independent fourth preservation layer. They are expression-forms through which self-relevance encoding binds survival, meaning preservation, or lineage/collective preservation to another person, role, attachment figure, or collective continuity (Chinchilla et al., 2022; Swann et al., 2012). Meaning can occur without relationality, but relationality cannot become preservation-relevant without meaning. A child, partner, caregiver, community, or group becomes decision-relevant when encoded as part of self-continuity, meaning preservation, or lineage continuity.

This distinction prevents two common errors. The first is reducing all higher-order decisions to immediate bodily survival. The second is treating symbolic, relational, or collective commitments as detached from biological preservation. The proposed model avoids both errors by treating higher-order preservation as an extension and reorganization of biological preservation under self-relevance encoding. It also prevents a category error in the opposite direction: the presence of a relational or collective operational unit does not mean that the decision has left preservation logic. It means that preservation has been extended, scaled, or expressed through a different form of self-relevance.

2.3.2 Reweighting, Collapse, and Apparent Irrationality

The second rule is that apparently irrational decisions should be examined in terms of preservation-layer reweighting or collapse. A decision may appear irrational when judged from one preservation layer, while becoming intelligible when analyzed across the hierarchy.

For example, a decision that risks bodily survival may preserve relational continuity, moral identity, or collective belonging (Chinchilla et al., 2022; Martel et al., 2021). A decision that appears self-defeating may reflect the loss of conditions under which survival can still be encoded as self-continuity (O'Connor & Kirtley, 2018). A refusal to continue a given form of life may arise when continued existence is encoded as the destruction of dignity, agency, or meaning.

This does not make such decisions adaptive or normatively justified. The point is narrower. Apparent irrationality is often a sign that the relevant preservation layer has been misidentified. What looks like preference failure, cognitive error, or motivational inconsistency may instead reflect a reorganization of preservation priorities under constraint.

Collapse differs from reweighting. Reweighting occurs when one preservation layer gains priority over another while the hierarchy remains functionally organized. Collapse occurs when the system can no longer maintain coherence among preservation layers. In collapse, survival, meaning preservation, relationally expressed self-relevance, and future continuity no longer support one another as a viable decision structure. This condition is especially important for interpreting self-destructive choices, where bodily continuation may no longer be encoded as preservation of the self.

2.3.3 Transformations of Self-Relevance Encoding

The third rule is that changes in decision-making should be traced through transformations of self-relevance encoding. The same event can have different decision consequences depending on how it is encoded in relation to the self. A loss may be encoded as inconvenience, threat, shame, identity rupture, relational abandonment, or irreversible collapse. These encodings alter the weights assigned to the preservation layers.

Several transformations are especially relevant.

Reference-point shift occurs when the center of self-relevance moves from the individual organism to a value, belief, role, deity, collective, or future continuity (Martel et al., 2021; Swann et al., 2012). In such cases, bodily survival may lose priority because the encoded self is no longer limited to the biological individual.

Temporal-range transformation is a subtype of reference-point shift. This occurs when the temporal horizon of self-relevance changes. Immediate survival may be subordinated to long-term continuity, posthumous meaning, ancestral obligation, offspring survival, or anticipated future suffering. In these cases, the preserved object is not only the present organism, but a temporally extended self, lineage, or symbolic continuity.

Boundary expansion occurs when other persons, kin, attachment figures, groups, or symbolic communities are encoded as part of the self's preservation field (Chinchilla et al., 2022; Swann et al., 2012). Sacrifice for another is therefore not simply self-negation. It reflects the inclusion of relational or collective units within self-relevance.

Coherence collapse occurs when the system can no longer organize survival, identity, dignity, relationally expressed self-relevance, and future continuity into a stable self-related configuration (Campbell et al., 1996; O'Connor & Kirtley, 2018). This does not necessarily require the absence of survival motivation. It indicates that survival has lost its status as a coherent continuation of the self.

Mediating-pathway transformation is a subtype of coherence collapse. This occurs when the route through which preservation is pursued changes after coherence has been destabilized. A system may shift from direct bodily protection to withdrawal, refusal, protest, relational severance, symbolic action, or self-termination when these routes are encoded as more coherent than continued survival under the existing conditions.

Weight redistribution occurs when the relative priority among survival, meaning preservation, and lineage/collective preservation changes under stress, threat, cultural pressure, or environmental constraint. This redistribution may be temporary and adaptive, or it may become rigid and destabilizing.

These transformations provide the bridge between the framework and the boundary cases examined in the next section. They allow the model to analyze extreme decisions without treating them as exceptions to decision-making. Instead, such cases reveal how the preservation hierarchy behaves under altered self-relevance encoding and constraint.

3 Boundary Cases and Cultural Modulation

3.1 Boundary Cases of Preservation Reorganization

Before turning to the cases, one clarification is necessary. The present paper does not propose a clinical model, diagnostic framework, or intervention protocol. Clinical and self-destructive cases are used only as boundary cases for testing the explanatory scope of a preservation-based theory of decision-making. Their function is not to classify pathology, but to examine how preservation layers are reorganized under extreme constraints.

3.1.1 Martyrdom and Belief-Based Self-Sacrifice: Reference-Point Shift

Martyrdom and belief-based self-sacrifice are often described as cases in which meaning overcomes survival, especially in work on sacred values, moral conviction, and identity fusion (Atran & Ginges, 2012; Martel et al., 2021; Swann et al., 2012). In the present framework, they are better understood as cases in which the reference point of self-relevance shifts from the biological individual to a higher-order self. This higher-order self may be organized around a deity, belief system, moral order, community, nation, or posthumous continuity (Atran & Ginges, 2012; Martel et al., 2021; Whitehouse, 2018).

Under such encoding, bodily death is not necessarily represented as pure annihilation. It may be encoded as transition, fulfillment, testimony, purification, loyalty, or continuity at a higher level of self-organization. The decision therefore does not arise from a simple conflict between survival and meaning. It arises from a transformation in what counts as the self to be preserved.

This interpretation does not require treating martyrdom as rational, adaptive, or morally justified. It only specifies the structure of the decision. If the self-relevant reference point has moved beyond the biological organism, then bodily survival may lose priority because it no longer exhausts the relevant preservation target. The preserved object is not the organism alone, but the encoded continuity of belief, identity, role, or sacred order.

Martyrdom therefore illustrates reference-point shift. The central change is not that survival disappears, but that the locus of self-continuity is relocated.

3.1.2 Altruistic Sacrifice and Kin/Collective Preservation: Boundary Expansion

Altruistic sacrifice is best understood as a case of boundary expansion. Here, self-relevance extends beyond the individual organism and incorporates another person, kin unit, attachment figure, or collective body into the preservation field (Chinchilla et al., 2022; Hamilton, 1964a, 1964b; Swann et al., 2012). The sacrificed individual does not necessarily act against preservation logic. Rather, the relevant preservation unit has expanded.

This is most visible in decisions involving children, kin, partners, or threatened communities (Hamilton, 1964a, 1964b; Swann et al., 2012; West et al., 2007). A parent who risks bodily survival for a child may not encode the child as an external object competing with the self. The child may function as a self-relevant continuation, such that the child's survival is experienced as preservation of an extended self. Similar dynamics can occur in collective or group-based sacrifice when group continuity, ancestral obligation, or communal survival becomes incorporated into self-relevance.

This does not mean that all altruism is self-interest in disguise. The claim is more specific. Altruistic sacrifice becomes decision-relevant when the boundary of preservation is expanded through self-relevance encoding. Sacrifice for another can therefore be interpreted as the acceptance of lower-level loss for the preservation of an expanded self-related unit.

Altruistic sacrifice illustrates boundary expansion. The central change is not the negation of self-preservation, but the enlargement of what counts as self-relevant preservation.

3.1.3 Euthanasia and Suicide: Coherence Collapse

Euthanasia and suicide require separate ethical, clinical, and legal treatment in applied contexts (Fontalis et al., 2018; O'Connor & Kirtley, 2018). Within the present theoretical framework, they are considered only as boundary cases of decision organization. Their relevance lies in the way they expose the conditions under which survival may cease to be encoded as self-continuity.

These cases should not be interpreted as simple instances in which meaning defeats survival. They are better understood as cases in which the conditions for sustained survival have become destabilized by internal pathology, irreversible bodily deterioration, chronic suffering, external constraint, loss of autonomy, or collapse of control (O'Connor & Kirtley, 2018). The central issue is not bodily pain alone. It is the breakdown of coherence between continued existence and the self that the system is able to encode as viable, dignified, or continuous.

In such cases, the decision structure may shift from preserving bodily life to terminating a state that is encoded as no longer self-continuous. The phrase "this state is no longer me" captures the relevant form of collapse. Survival remains biologically possible in some cases, but it may no longer be organized as preservation of the self (O'Connor & Kirtley, 2018; Steger et al., 2006). L0 survival is then expressed through the language of L1 meaning, dignity, agency, or coherence.

This formulation does not normalize self-destruction or treat it as a valid conclusion from suffering. It identifies a structural failure in preservation organization. Coherence collapse occurs when survival, identity, dignity, relational continuity, and future projection can no longer be maintained within a stable self-related configuration.

Euthanasia and suicide therefore illustrate coherence collapse. The central change is not the disappearance of survival motivation, but the loss of survival's status as a coherent continuation of the self.

3.1.4 Summary

The three boundary cases clarify how the preservation hierarchy operates under extreme conditions. Martyrdom illustrates reference-point shift. Altruistic sacrifice illustrates boundary expansion. Euthanasia and suicide illustrate coherence collapse. In each case, the decision becomes intelligible only when the relevant transformation of self-relevance encoding is specified. Apparent violations of survival are therefore analyzed as reorganizations, expansions, or collapses within preservation logic.

3.2 Cultural Modulation Matrix as a Heuristic

Culture should not be treated as a direct cause of decision-making. In the present framework, culture functions as a contextual constraint that shapes self-relevance encoding and the relative weighting of preservation layers (Kitayama et al., 2009; Markus & Kitayama, 1991; Vignoles et al., 2016). It specifies what may be included as part of the self, what kinds of failure are experienced as self-loss, and which relations, roles, values, or collective identities become incorporated into self-continuity (Cross et al., 2000; Markus & Kitayama, 1991; Vignoles et al., 2016).

This cultural modulation changes the relative weight assigned to survival, meaning preservation, and lineage/collective preservation. A culture does not add a non-biological criterion outside the preservation hierarchy. Rather, it constrains how biological preservation is extended, symbolized, and reorganized through meaning, role, relational self-extension, and collective continuity.

A minimal cultural matrix can be constructed from two variables. The first is **context-dependence**, referring to the degree to which action meaning is determined by implicit norms, social position, role expectations, and shared background assumptions (Gudykunst et al., 1996; Hall, 1989). The second is **relational self-relevance density**, referring to the degree to which relationships, family roles, attachment figures, and collective belonging are encoded as part of self-continuity (Cross et al., 2000; Gabriel & Gardner, 1999; Markus & Kitayama, 1991).

For illustrative purposes, when both variables are high, meaning preservation becomes strongly bound to relational coherence, face, family or group continuity, and role viability (Kim & Cohen, 2010; Ting-Toomey & Kurogi, 1998). In such contexts, the reference point of self-relevance may shift from individual survival toward a relational or collective higher-order system. If this higher-order preservation layer repeatedly constrains or blocks the individual's practical capacity to continue living, meaning preservation may become unstable. Under extreme conditions, this may weaken preservation coherence by making continued existence difficult to encode as meaningful, viable, or self-consistent.

This matrix is not intended as a typology of cultures. It is a heuristic for analyzing how cultural environments modulate the pathways through which preservation layers are weighted, stabilized, or destabilized.

- **High context-dependence / high relational self-relevance density**
    - **Ordinary modulation:** Relational coherence, role fulfillment, and face-preserving choices gain weight.
    - **Extreme-constraint pathway:** Relational rupture or failure → meaning-preservation damage → collapse of self-coherence → weakening of survival continuity.
- **High context-dependence / low relational self-relevance density**
    - **Ordinary modulation:** Norm compliance and social evaluation shape choices, without fully absorbing the self into relational bonds.
    - **Extreme-constraint pathway:** Norm violation or role failure → damaged social legitimacy → weakened external validation of meaning preservation → pressure on self-coherence → weakened survival continuity.

- **Low context-dependence / high relational self-relevance density**
    - **Ordinary modulation:** Close family, religious, or local community ties become strong anchors of self-continuity.
    - **Extreme-constraint pathway:** Loss or damage to the core relational unit → collapse of the extended self → damage to meaning preservation → destabilize self-coherence → weaken survival continuity.
- **Low context-dependence / low relational self-relevance density**
    - **Ordinary modulation:** Autonomy, personal goals, and internal meaning resources receive greater weight.
    - **Extreme-constraint pathway:** Exhaustion of meaning resources → destabilize self-coherence → weaken survival continuity.

In ordinary contexts, cultural modulation shapes the relative weight of relational coherence, role fulfillment, autonomy, social evaluation, and internal meaning resources (Cross et al., 2000; Markus & Kitayama, 1991; Vignoles et al., 2016). Under severe or repeated constraint, the same modulation pathways may become routes through which preservation coherence is weakened. Different cultural environments may therefore produce different routes to the same structural endpoint. These pathways differ at the level of cultural modulation, but they converge on the same preservation-hierarchical structure: survival becomes unstable when self-relevance encoding can no longer organize continued existence as meaningful, coherent, or viable.

4 Multi-Level Biological Grounding

4.1 Preservation Across Biological Scales

The preservation hierarchy proposed in this paper is not limited to higher-order cognition. Its biological grounding begins from the more general observation that living systems maintain themselves through selective regulation, constraint, and, in some cases, organized termination of lower-level components (Galluzzi et al., 2018; Gómez-Virgilio et al., 2022; Kerr et al., 1972). At this level, preservation is not expressed as explicit choice. It appears as viability-oriented dynamics through which a system maintains its organization across perturbation.

Cellular processes provide a useful grounding case. Cells do not merely persist by maximizing their own continuation. They participate in multi-level organization in which local maintenance, local sacrifice, and system-level stability are coordinated. Apoptosis is the clearest example. From the perspective of an individual cell, apoptosis is termination. From the perspective of tissue or organism-level preservation, it prevents damage propagation, removes dysfunctional cells, and reduces the risk of uncontrolled proliferation (Galluzzi et al., 2018; Kerr et al., 1972; Sharma et al., 2019). The loss of the lower-level unit can therefore serve the stability of a higher-order biological system.

Autophagy illustrates a different form of the same principle. In autophagy, a cell degrades parts of itself to recycle resources, maintain metabolic balance, and survive under stress (Chun & Kim, 2018; Gómez-Virgilio et al., 2022; Khandia et al., 2019). This is not termination of the whole unit, but partial self-limitation for continued viability. A component-level loss is reorganized as system-level

maintenance. Immune-cell sacrifice shows a related pattern. The loss or exhaustion of specific immune cells may support the defense of the larger organismic system (Garrod et al., 2012; Zhan et al., 2017), especially when local cellular persistence would be less important than containment of systemic threat.

These cases show that preservation is not identical with the uninterrupted continuation of every component. Biological systems preserve themselves through selective maintenance and selective loss. What appears as self-destruction at one level may function as preservation at another level, provided that the lower-level loss contributes to the stability of the higher-order system.

This point matters for decision theory because it prevents a simplistic reading of survival. Survival is not merely the persistence of the smallest available unit. It is the maintenance of organized viability across nested levels. In biological systems, the preserved object may be a cell, a tissue, an organism, a lineage, or a wider regulatory system, depending on the level at which preservation is being enacted. This does not mean that cellular processes are decisions in the cognitive sense. It means that decision-making in higher organisms inherits a deeper biological logic in which preservation may require reweighting, limitation, or loss across levels.

The multi-level structure also clarifies why apparent self-negation cannot be analyzed only at the level of the immediately sacrificed unit. If preservation is scale-dependent, then a local loss may be intelligible only when the relevant higher-order system is identified. In the present framework, this principle is extended cautiously to decision-making. Human choices are not reduced to cellular regulation, but they are situated within a broader biological pattern: preservation can involve the organized sacrifice, limitation, or termination of a lower-level continuity for the sake of a higher-order continuity.

4.2 Self-Termination, Limitation, and Unregulated Persistence

The preceding examples suggest that self-termination should not be treated as a simple opposite of self-preservation. In biological systems, termination can function as a regulatory operation through which higher-order stability is maintained. The relevant distinction is therefore not between preservation and destruction, but between unregulated persistence and organized limitation.

Self-termination can be differentiated into at least four levels. **Termination** refers to the actual ending of a lower-level unit, as in apoptosis. **Limitation** refers to the restriction of growth, activation, or expansion without complete elimination. **Withdrawal** refers to the removal of a unit, process, or behavior from an interactional field when continued engagement would destabilize the larger system. **Role or functional termination** refers to the ending of a specific function, authority, demand, or regulatory role without ending the biological unit itself.

These levels clarify why biological preservation cannot be reduced to persistence. A healthy system must not only maintain itself. It must also constrain its own continuation when continuation at one level threatens stability at another. The failure of organized termination can therefore become pathological. When cells evade programmed death, persist beyond their functional role, or continue proliferating despite system-level constraints, lower-level persistence can undermine organism-level viability (Fouad & Aanei, 2017; Sharma et al., 2019).

Cancer provides the clearest biological case of this opposite failure mode. A cell that evades normal limits on proliferation does not preserve the organism more effectively. It preserves its own lower-level continuation at the expense of higher-order viability. In this sense, pathological growth can be

understood as the failure of a lower-level unit to submit its persistence to the preservation requirements of the larger system. The problem is not excessive termination, but insufficient limitation.

Immune-cell dynamics illustrate the same principle from the regulatory side. The disappearance, exhaustion, contraction, or withdrawal of immune cells is often part of an organized cycle shaped by gene expression, signaling networks, antigen exposure, and systemic feedback (Garrod et al., 2012; Zhan et al., 2017). If these limitation pathways fail, immune activity may persist in ways that damage the organism, as in chronic inflammation, autoimmunity, or uncontrolled proliferation (Fouad & Aanei, 2017; Zhan et al., 2017). Here again, pathology emerges when a lower-level process continues beyond the conditions under which it serves higher-order stability.

A similar organizational pattern can appear at higher social levels. A role, institution, authority structure, ideology, or control apparatus may continue to preserve itself after it no longer serves the viability of the wider system. Such persistence may be justified in the name of collective continuity, security, order, or tradition, yet it can consume the survival conditions of the individuals who constitute that collective. The pathology lies in the over-persistence of a function that should have been limited, withdrawn, or terminated.

This extension should be treated as an analogy of organization, not as a direct equivalence between cellular and social systems. Cellular proliferation and institutional persistence operate through different mechanisms. Yet both reveal a shared organizational risk: a lower-level process can outlive its stabilizing role and begin to undermine the system whose preservation originally made that process meaningful.

The theoretical implication is that preservation and termination are not mutually exclusive categories. Termination, limitation, withdrawal, and functional ending can be operations through which preservation is enacted, provided that they are constrained by higher-order viability. Conversely, persistence can become pathological when it continues after its stabilizing function has expired. The task of the model is to specify which level is being preserved, which unit or function is being limited, and whether the resulting organization stabilizes or destabilizes the preservation hierarchy.

5 Implications for Decision Theory

The hierarchical preservation model does not directly replace existing frameworks such as expected utility theory, prospect theory, bounded or ecological rationality, Bayesian decision theory, active inference, evidence accumulation models, or model-based and model-free reinforcement learning (Collins & Cockburn, 2020; Friston, 2010; Kahneman & Tversky, 1979; Okazawa & Kiani, 2023; Simon, 1955; Todd & Gigerenzer, 2012; Von Neumann & Morgenstern, 1944). Rather, it introduces a lower interpretive layer beneath them. These frameworks specify how preferences, utilities, reference points, prediction errors, accumulated evidence, or action values are computed (Friston et al., 2017; Kahneman & Tversky, 1979; Okazawa & Kiani, 2023; Sutton & Barto, 2018). The present model asks a more basic question: how do survival, meaning preservation, and lineage/collective preservation become organized as the preservation layers that make those computations decision-relevant?

First, value judgment should not be separated from biological preservation. High-value decisions are often treated as if they belong to a domain that transcends survival, especially when they involve dignity, moral commitment, sacrifice, or symbolic meaning (Atran & Ginges, 2012; Martel et al., 2021). The present model interprets such cases differently. Value does not float outside preservation

logic. It emerges when survival is organized through self-relevance encoding into meaning, identity, relational self-extension, and continuity. This makes it possible to analyze moral or symbolic decisions without reducing them to immediate bodily survival and without detaching them from biological constraint.

Second, decision failure should not be understood only as an internal cognitive error, preference inconsistency, or maladaptive valuation. A decision structure may deteriorate because the environment repeatedly blocks the practical conditions under which survival can be encoded as viable (Buelow et al., 2024; O'Connor & Kirtley, 2018). When the organism cannot act through the environment to restore coherence, regulate threat, maintain dignity, or preserve future continuity, the decision field itself becomes constrained. In such cases, irrationality is not simply produced inside the decision-maker. It can be structurally produced by an environment that prevents viable preservation routes from remaining available.

Third, survival, meaning preservation, and lineage and collective preservation must be analyzed as hierarchically related but potentially conflicting layers. These layers can support one another, but they can also become unstable, misweighted, or mutually obstructive. Similar tensions may recur within operational units, such as cellular units, individual organisms, identity-level organization, relationally extended units, or kin and group-level units (Hamilton, 1964a, 1964b; Swann et al., 2012; West et al., 2007). From this perspective, altruistic behavior and moral sacrifice are not best treated as pure departures from biological motivation (Atran & Ginges, 2012; Chinchilla et al., 2022; Hamilton, 1964a, 1964b). They are better understood as cases in which preservation logic is extended, reorganized, and symbolically stabilized through self-relevance encoding.

Fourth, the boundary between adaptation and pathology should be reconsidered. Self-destructive behavior should not be interpreted as the absence of preservation logic (O'Connor & Kirtley, 2018; Wolff et al., 2019). It is more precisely analyzed as a condition in which preservation layers conflict, collapse, or fail to support one another. A decision may become destructive when survival no longer appears as a coherent continuation of the self, when meaning preservation is destabilized, or when lineage, role, or collective demands overrun the organism's viable preservation routes. This reframes pathology as a disturbance in preservation organization rather than as a mere failure of rational choice.

Fifth, decision-making should be treated as a coordination process within hierarchical living systems. Choice is not only a computational outcome. It is a regulatory act through which the system negotiates tensions among bodily viability, self-coherence, future continuity, and wider biological or collective extension (Di Paolo, 2005; Friston et al., 2017; Sterling, 2012). This view does not deny computation, inference, or valuation. It situates them within a broader biological organization in which decisions matter because they alter what can continue, what must be limited, and what can still count as self-preserving.

Sixth, environmental permissibility should be elevated to a central explanatory variable. If survival-oriented action is repeatedly rejected, blocked, punished, or rendered meaningless by the environment (Cross et al., 2000; Markus & Kitayama, 1991; O'Connor & Kirtley, 2018), the decision system may lose the conditions required to maintain coherent preservation weights. This is not merely a clinical concern. It has implications for policy, institutional design, education, and social environments. A system that removes viable routes for preserving dignity, relational self-extension, autonomy, or future continuity may contribute directly to the collapse of decision organization.

Taken together, these implications shift the interpretation of decision-making away from a simple **rational versus irrational contrast.** The relevant question is not only whether a decision satisfies a formal criterion of rationality, maximizes expected value, or minimizes uncertainty. It is whether the decision preserves, reorganizes, or collapses the layered conditions under which a living system can continue as itself. In this sense, the hierarchical preservation model offers a deeper explanatory layer for interpreting decisions that appear irrational, morally costly, self-sacrificial, or self-destructive under conventional frameworks.

6 Discussion

6.1 Scope and Boundary Conditions of a Preservation-Based Account

The broad explanatory scope of the present model follows from its minimal biological assumption: living systems must preserve organized viability under constraint (Di Paolo, 2005; Sterling, 2012). Survival, meaning preservation, and lineage/collective preservation are therefore not additional explanatory variables, but differentiated expressions of preservation logic across biological, symbolic, and temporal levels.

This scope is broad but not unbounded. The model is challenged if recurrent decisions in ordinary, non-pathological contexts are shown to be systematically organized without contribution from survival viability, meaning preservation, lineage continuity, self-relevance encoding, social-adaptive preservation routes, or the collapse of these routes. Such cases would need to show more than apparent irrationality or harmful outcome. They would need to show decision patterns that cannot be traced to any preservation layer, operational unit, or transformation of self-relevance.

The model also does not claim that harmful decisions are adaptive, or that preservation logic is consciously represented by the decision-maker. Its claim is structural: a decision becomes intelligible when the relevant preservation layer, encoded self-relevance, and mode of reweighting or collapse are specified. If no preservation-relevant organization can be identified, the model loses explanatory force. Until then, its breadth is a consequence of grounding decision-making in the minimal preservation requirements of living systems.

6.2 Altruism, Self-Relevance, and Metacognitive Awareness

The proposed framework also clarifies why altruism and self-relevance should not be treated as simple opposites. An action may benefit another person while still being organized through self-relevance encoding (Chinchilla et al., 2022; Swann et al., 2012). This does not reduce altruism to selfishness. It means that another person, group, role, or future continuity can become self-relevant within the preservation hierarchy.

In this sense, altruistic behavior may arise from several preservation pathways. It may protect bodily or emotional conditions necessary for one's own stability. It may preserve a relationally extended self, such as a child, partner, attachment figure, or community. It may also preserve meaning by sustaining moral identity, dignity, promise, duty, or coherence with a value system (Atran & Ginges, 2012; Martel et al., 2021). These pathways differ, but none requires the exclusion of self-relevance.

Metacognitive awareness provides an additional distinction. Individuals may differ in the degree to which they recognize the self-relevant structure of their own altruistic actions (Fleming & Dolan, 2012; Yang et al., 2025). High metacognitive awareness can allow a person to acknowledge that helping another also preserves identity, coherence, relational self-extension, or meaning. This

recognition does not necessarily weaken the altruistic character of the act. It may instead make the act less dependent on purity narratives.

By contrast, low metacognitive awareness may make altruistic behavior more vulnerable to self-idealization. A person may interpret their action as purely selfless while remaining unaware of the identity, recognition, attachment, or meaning-preserving functions it serves. The problem is not that self-relevance invalidates altruism. The problem is that unrecognized self-relevance can be misrepresented as moral purity.

The implication is that altruism and self-centeredness are not mutually exclusive categories. Self-relevance is a structural condition of decision-making, not a moral defect. What matters is how self-relevance is encoded, whether it expands or narrows the preservation field, and whether the decision remains compatible with the viability and dignity of both self and others.

6.3 Preservation Coherence and Maladaptive Decision-Making

The present model does not define pathology by deviation from rational choice alone. Pathology begins where survival viability, meaning preservation, and self-relevance encoding can no longer maintain a coherent decision structure (Campbell et al., 1996; O'Connor & Kirtley, 2018). A harmful decision is not pathological simply because it produces loss. It becomes pathological when the system repeatedly loses access to viable routes for preserving bodily continuity, self-coherence, dignity, relational self-extension, or future possibility.

This framing places strong emphasis on environmental constraint. If the environment repeatedly blocks survival-oriented action, denies agency, removes relational safety, or makes future continuity unavailable, decision-making may deteriorate even without an initial defect in reasoning (Klein et al., 2026; O'Connor & Kirtley, 2018). Under such conditions, self-relevance encoding can become unstable, especially where dysregulated affect and self-injurious behavior are involved (Wolff et al., 2019). The system may no longer encode continued existence as meaningful, viable, or self-consistent.

Pathology therefore appears as a collapse in preservation coherence. Survival may persist as a biological impulse while losing its connection to meaning. Meaning preservation may become rigid, punitive, or impossible to satisfy. Lineage, role, or collective demands may overrun the individual's viability. In each case, the problem lies in the failure of preservation layers to support one another.

This account does not replace clinical explanation. It provides a structural interpretation of why certain decisions become destructive under sustained constraint. The relevant question is not only what symptom is present, but which preservation route has been blocked, which self-relevance encoding has become unstable, and where the hierarchy has lost coherence.

6.4 Reinterpreting Existing Decision Frameworks

The preservation-based account does not reject existing theories of decision-making. It redescribes their central insights within a deeper biological architecture. Expected utility theory, bounded rationality, prospect theory, active inference, evidence accumulation models, and reinforcement-learning approaches each identify important formal or behavioral features of choice (Friston et al., 2017; Kahneman & Tversky, 1979; Okazawa & Kiani, 2023; Simon, 1955; Sutton & Barto, 2018). The present model asks what preservation structure makes those features decision-relevant for a living system.

Bounded rationality can be reinterpreted as preservation-constrained rationality (Simon, 1955; Todd & Gigerenzer, 2012). Agents do not evaluate all formally available options under unlimited computational resources. They select among options that remain viable under biological, environmental, temporal, and self-relevance constraints. What appears as limited rationality may therefore reflect not only cognitive deficiency, but the narrowing of the decision field around preservation-relevant possibilities. Satisficing, in this view, is not merely a compromise under limited information. It is a way of preserving viable action under cost, uncertainty, and constraint.

Prospect theory can also be reinterpreted through preservation asymmetry. Loss aversion need not be treated only as a descriptive bias relative to normative utility. Losses may receive greater weight because they threaten an already organized preservation trajectory (Kahneman & Tversky, 1979; Tversky & Kahneman, 1992), while gains often function as optional improvements rather than immediate safeguards of stability. The asymmetry between loss and gain is therefore intelligible if the decision system is more sensitive to disruptions of existing viability, identity, relational self-extension, or future continuity than to equivalent increases in abstract value.

Probability weighting can be read in a similar way. Low-probability events may be overweighted when they carry high preservation significance (Tversky & Kahneman, 1992). A rare event that threatens bodily survival, social belonging, dignity, offspring continuity, or future self-coherence is not processed only as a small numerical probability. It is transformed by self-relevance encoding into a preservation-relevant possibility. Conversely, rare opportunities may also be overweighted when they appear to reopen a blocked preservation trajectory. The relevant variable is therefore not probability alone, but probability as encoded through preservation significance.

Predictive-processing and FEP-based accounts can be situated within the same architecture. Surprise minimization, uncertainty reduction, or prediction-error regulation may be understood as operational mechanisms through which viable preservation trajectories are stabilized (Buckley et al., 2017; Friston, 2010; Friston et al., 2017). However, they should not be treated as sufficient by themselves to explain why a given uncertainty matters to the organism. Under the present model, uncertainty becomes decision-relevant when it threatens or reorganizes survival, meaning preservation, lineage continuity, or self-relevance coherence. Prediction and inference are therefore placed within preservation rather than treated as the final explanatory level.

This reinterpretation also applies to evidence accumulation and reinforcement-learning models. Evidence does not accumulate in a neutral space. What counts as evidence, what threshold matters, and what reward value becomes salient are shaped by the preservation field in which the agent is operating. Model-based and model-free learning can specify how values are updated, policies are selected, or actions are reinforced (Collins & Cockburn, 2020; Sutton & Barto, 2018). The preservation account specifies why certain outcomes acquire value in the first place and why some losses, threats, roles, or future states become disproportionately decisive.

Taken together, these reinterpretations suggest that many canonical findings in irrationality research need not be understood only as deviations from optimality. They may also be surface signatures of deeper tensions among survival, meaning preservation, lineage/collective preservation, self-relevance encoding, and environmental constraint. The present model does not replace formal decision theories. It provides an interpretive layer beneath them, explaining why particular utilities, losses, probabilities, prediction errors, or rewards become weighted as they do within living systems.

7 Conclusion

This paper proposed the hierarchical preservation model of decision-making. The central claim is that decision-making is not reducible to higher-order cognition, utility computation, or preference selection. It is a process of reorganization within a three-tiered preservation system mediated by self-relevance encoding.

The model distinguishes survival, meaning preservation, and lineage/collective preservation as analytically separable but biologically connected preservation layers. Apparent irrationality, self-sacrifice, and self-destructive decisions can therefore be interpreted as cases in which these layers are reweighted, expanded, destabilized, or collapsed under specific constraints.

The main contribution of the framework is to provide a common interpretive grammar for decision-making across biological, symbolic, relational, cultural, and pathological boundary cases. Rather than treating such cases as exceptions to rational choice, the model situates them within a preservation hierarchy that begins from biological viability and extends through meaning, identity, relational self-extension, and collective continuity.

The model therefore resets the explanatory level at which irrationality is interpreted. What appears as irrational, self-sacrificial, or self-destructive choice is not placed outside decision logic, but analyzed as reorganization, distortion, or collapse within biological preservation. Decision-making is thus clarified as the process through which living systems determine what can continue as themselves under constraint.

Declaration of generative AI and AI-assisted technologies in the manuscript preparation process.

During the preparation of this work the author used GPT-5.5 in order to language refinement. After using this tool/service, the author reviewed and edited the content as needed and take full responsibility for the content of the published article.

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