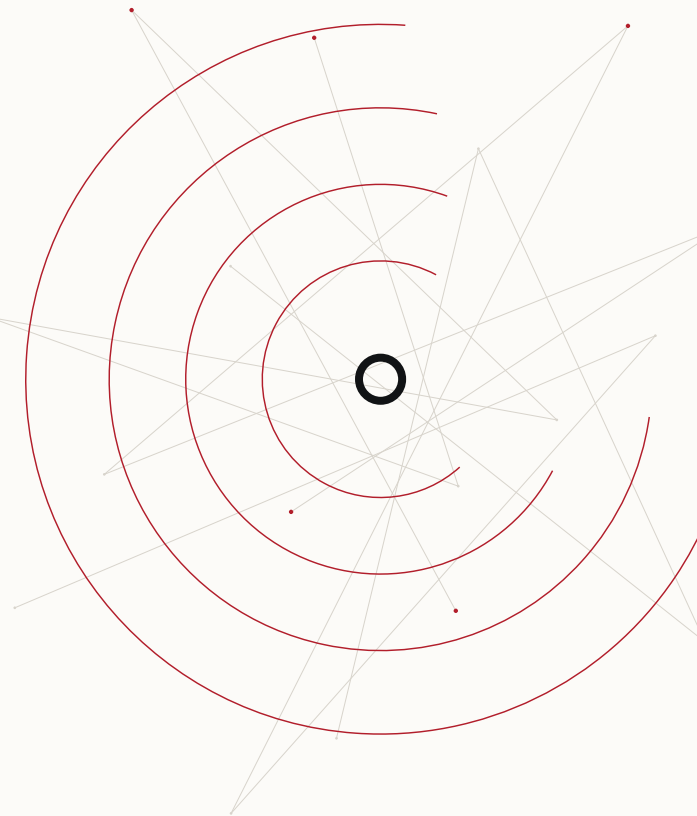


THE ECOLOGY OF ACTUALIZATION

Recursive Participatory Realism as a framework for matter, mind, culture, and civilizational change



ONTOLOGY

participatory realism

MECHANISM

actualization loop

DIAGNOSIS

temporal shear

ETHIC

pluralistic coherence

CENTRAL THESIS

Reality is neither a fixed stage nor a private projection. At human scales it is a field of resistant possibilities that embodied agents selectively actualize and collectively sediment through causal action. Freedom is participation without omnipotence; responsibility grows with causal reach.

Contents

This report sets out a framework, its mechanisms, its diagnostic claims, and its falsifiable research program. Bracketed numbers refer to the numbered bibliography. Evidence grades apply to individual claims, not to the framework as a whole.

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Abstract

This final volume asks what remains after three attractive but easily confused ideas have been examined at their strongest. The first stage considered whether quantum physics supports manifestation. It found a dynamic and nonclassical physical world, but no reliable route by which wanting an outcome makes a distant physical event adopt that outcome. The second stage examined biology. It found that beliefs are materially implemented and can alter attention, appraisal, autonomic and endocrine regulation, learning, symptoms, behavior, and the environments people sample. Yet conviction is not a sovereign chemical instruction, and biological plasticity is neither unlimited nor automatically truthful. The third stage moved from persons to populations. It found real collective cognition, social construction, cultural selection, network synchronization, and reciprocal biology-culture-institution loops, but no evidence that humanity has fused into one phenomenal mind or that collective emotion directly produces geophysical disaster.

The remaining problem is philosophical and scientific at once. If the world is not a fixed stage, but thought is not magical command, in what precise sense do persons and societies participate in making reality? How can subjective experience, physical resistance, biological regulation, social power, technological acceleration, spiritual discipline, and existential freedom belong to one account without being reduced to one level? This report proposes Recursive Participatory Realism (RPR) as an original integrative framework. It is not presented as a newly discovered law or a complete metaphysics. It is a disciplined middle position and a testable research architecture.

RPR begins from a distinction between a possibility space and an actuality. Physical, biological, social, and historical systems can usually develop along more than one reachable trajectory, but not along every imaginable trajectory. An embodied agent participates by detecting affordances, assigning salience, regulating its body, choosing policies, acting, coordinating, and modifying a niche. Other agents, material constraints, chance, history, and unequal power also act. Some consequences disappear; others are repeated, recorded, built into habits, classifications, institutions, technologies, and landscapes. Those durable consequences become conditions for the next round of perception and action. Reality at human scales is therefore neither passively received nor privately fabricated. It is selectively actualized and recursively sedimented under resistance.

The framework's mechanism is the Actualization-Sedimentation Loop (ASL): inherited constraint field → model and valuation → allostatic regulation → action → coordination or contest → sedimentation in body, artifact, rule, or environment → material and social resistance → revision or entrenchment → a changed constraint field. This loop unifies the evidence-aligned part of manifestation, predictive and enactive accounts of cognition, neuroplasticity, placebo and nocebo processes, niche construction, social ontology, institutional path dependence, and distributed cognition [5–27]. It also supplies a strict causal boundary. A belief can change an outcome only through specified mediators or by changing how the outcome is experienced and measured. A direct belief-to-independent-event effect remains a separate empirical hypothesis; available micro-psychokinesis evidence does not establish it [4].

RPR adds selective permeability. The word reality covers distinct domains. Physical regularities are highly resistant to collective endorsement. Biological organization is

plastic but metabolically, developmentally, and historically constrained. Phenomenal reality is strongly model-dependent but constrained by signals, embodiment, and pathology. Institutional facts depend on shared rules, records, enforcement, and recognition, while still becoming coercively real. Techno-ecological niches are intentionally modifiable but can create delayed, distributed, and partly irreversible consequences. Claims about “changing reality” are meaningful only after naming the target domain, mediator, resources, resistance, time horizon, and counterfactual.

At the civilizational level, the report proposes Temporal Shear as a focused hypothesis. Contemporary instability need not imply an awakening, a shared biological malfunction, or an approaching metaphysical endpoint. A more testable possibility is that tightly coupled processes now operate at sharply different rates: digital signals and markets can reorganize in seconds; technologies in months; habits, institutions, and law in years; biological development over lifetimes; ecosystems over decades or centuries. When fast systems repeatedly perturb slow systems before they can regulate, learn, recover, or correct — especially

under inequality, weak buffers, concentrated power, and low reversibility — allostatic overload, shortened collective attention, norm volatility, institutional lag, ecological overshoot, and cascading failure become more likely [41–51]. Rate mismatch is not a sufficient cause of war, collapse, or disaster, but it is a plausible cross-level risk multiplier that can be operationalized and falsified.

The normative response is Pluralistic Coherence: coordination strong enough to solve shared problems, combined with independence, protected dissent, accessibility, epistemic diversity, corrigibility, reversibility, and distributed agency. Connectivity alone can amplify intelligence or error. Collective performance improves under some arrangements of diversity and communication but degrades when influence destroys independent judgment, prestige cascades replace evidence, or concentrated systems make their own predictions into everyone else’s environment [29–44]. A humane collective is therefore not a hive mind. It is a federation of distinct, embodied, mutually answerable agents able to synchronize action without surrendering plurality.

The existential conclusion follows. Freedom is not authorship of the total world; it is answerable participation in a world one did not choose and cannot fully control. Responsibility increases with causal reach and irreversibility. Meaning is not proof that the cosmos guarantees a preferred outcome; it is the orientation that makes finite action worth undertaking under uncertainty. Yogic nonattachment contributes a disciplined relation to this condition: commit to ethical action, train attention, observe reactivity, and relinquish the claim to own the result. Apocalyptic, cyclical, and simulation narratives can illuminate fear, finitude, recurrence, and moral responsibility, but they remain interpretations unless they generate discriminating evidence.

The report ends with falsifiable propositions, a multilevel causal model, study designs, an evidence ledger, and a practical Disciplined Actualization Protocol. The project can therefore retain the motivating intuition behind manifestation — that consciousness participates in becoming — while abandoning omnipotence, victim-blaming, quantum mystification, chemical voluntarism, forced conformity, and historical fatalism. Its concentrated thesis is:

Reality is a resistant field of possibilities. Embodied agents do not create it from nothing, but through recursively organized attention, regulation, action, coordination, and institution-building they help determine which reachable possibilities become lived, shared, and durable.

Executive thesis: the new point of view The proposed point of view can be stated in one sentence:

Human agency is neither passive observation nor magical authorship; it is the situated capacity to alter the probability, meaning, and durability of reachable trajectories within a shared world that answers back.

This formulation changes the project's center of gravity. The central subject is no longer manifestation as a paranormal claim. It is actualization as a family of lawful processes operating across levels. A desired future may become more probable because an agent learns, regulates emotion, changes attention, practices a skill, chooses a better policy, reorganizes a social environment, recruits collaborators, builds an institution, or modifies material conditions. A feared future may become more probable through nocebo effects, avoidance, threat-biased sampling, self-fulfilling interaction, discriminatory classification, market coordination, propaganda, or destructive infrastructure. Some futures occur despite everyone's intentions. Some intentions collide. Some systems have long memories. Some consequences cannot be reversed on the timescale of a life.

The framework therefore joins generativity and realism. It accepts that perception is active, that organisms enact meaningful worlds, that institutions are produced and reproduced, and that history

contains novelty. It also insists that a world not authored by the agent constrains every attempt. The appropriate image is not a blank canvas and not a fixed script. It is a landscape of branching but bounded paths whose shape is altered by walkers, builders, weather, prior traffic, and unequal ownership of the ground.

Keywords: participatory realism; actualization; sedimentation; temporal shear; pluralistic coherence; social ontology; niche construction; collective intelligence; civilizational change

The four-part framework

What the framework changes

The language of manifestation often asks, "How can I make reality obey my intention?" RPR asks, "Which domain is being changed, through what mediator, with whose cooperation, against what resistance, over what time, and with what consequences for other agents?" The first question tempts overclaiming. The second produces a research program.

The framework also revises the image of collective consciousness. Shared symbols, coordinated attention, cultural memory, institutional rules, and distributed problem solving

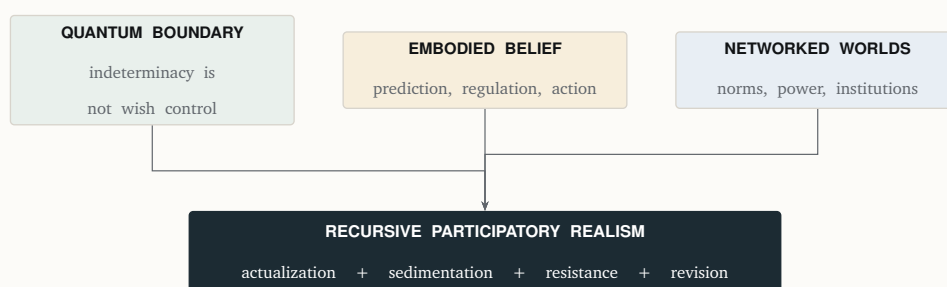
Table 1. The four-part framework

Component	Core question	Proposed answer
Recursive Participatory Realism	What kind of reality permits both agency and resistance?	A stratified, processual world in which embodied agents causally participate without constituting all that exists.
Actualization-Sedimentation Loop	How do thoughts become consequences?	Through attention, regulation, action, coordination, artifacts, institutions, feedback, learning, and path dependence.
Temporal Shear	Why can increased coupling feel destabilizing?	Fast symbolic and technological systems can outpace biological regulation, institutional correction, and ecological recovery.
Pluralistic Coherence	What form of collective development is desirable?	Coordinated action that protects independence, difference, accessibility, feedback, reversibility, and distributed agency.

are genuine collective phenomena. They do not require a single group subject. Humanity is better modeled as a coupled cognitive ecology: many centers of experience linked by communication, imitation, conflict, care, infrastructures, and environmental feedback. The unit capable of changing history is often neither an isolated brain nor a mystical supermind, but a temporarily coordinated assemblage of persons, practices, records, tools, institutions, and material resources [22–39].

Finally, the framework replaces a hierarchy of “advanced” and “unadvanced” people with an analysis of fit, power, and accommodation. A system can disable people by demanding a speed, sensory profile, language, income, or cognitive style that it treats as universal. Exclusion can resemble selection without being genetic selection. The humane and scientifically accurate response is to redesign coupling conditions, distribute resources, protect multiple modes of participation, and study who bears the cost of acceleration.

The architecture of the synthesis



The synthesis is a bridge among levels, not a license to erase their differences.

Figure 1. The project's three evidential stages converge in a framework that preserves, rather than erases, their boundary conditions.

The three earlier stages are preserved as constraints on the final claim:

- 1 Quantum boundary: physical indeterminacy and measurement contextuality do not entail that consciousness selects preferred macroscopic outcomes [1–4].
- 2 Biological bridge: beliefs can become causes when implemented as prediction, appraisal, bodily regulation, learning, action, and environmental sampling [5–12].

- 3 Collective extension: coordinated persons can create real social facts and alter material systems, but distributed cognition does not by itself imply a fused subject [22–40].

RPR is the bridge among these conclusions. It neither imports quantum language into psychology nor treats biology as destiny. It identifies lawful transitions and demands evidence at every crossing.

The project's concentrated conclusion

The strongest scientifically responsible descendant of “manifestation” is not the claim that thought overrides causation. It is the proposition that intentions can become historically effective when they are embodied, operationalized, coordinated, resourced, tested, and sedimented into environments that support their repetition. The strongest spiritual descendant is not cosmic entitlement. It is disciplined participation: clarity about values, care in action, humility before uncertainty, and nonattachment to ownership of outcomes. The strongest political descendant is not compulsory unity. It is the construction of conditions in which many distinct agents can jointly perceive error and revise a shared course.

1. Scope, method, and epistemic status

1.1 What kind of work this is

This report is a critical integrative review, conceptual synthesis, and prospective research program. It is not a registered systematic review, a meta-analysis, a new experiment, or a claim that one framework has already been validated as a whole. Its novelty lies in the way established and emerging literatures are arranged into a common causal grammar. Component claims have different evidential standing. Decoherence is not at the same epistemic stage as Temporal Shear; placebo analgesia is not at the same stage as a theory of civilizational transition; social facts are not the same kind of entities as neurons or tectonic plates.

The literature base includes quantum foundations, predictive processing, active inference, allostasis, interoception, placebo and nocebo research, neuroplasticity, enactivism, ecological psychology, biological organization, niche construction, gene-culture coevolution, social ontology, collective intentionality, institutional theory, network science, collective intelligence, communication research, resilience, tipping dynamics, philosophy of process, pragmatism, existentialism, ethics of technology, contemplative studies,

and causal inference. Major reviews, influential primary studies, scholarly monographs, and authoritative reference works were prioritized. Literature was checked through 5 September 2026.

1.2 Four classes of claim

Table 2. Four classes of claim and their appropriate warrants

Claim class	Appropriate warrant	Typical error
Empirical	Observation, experiment, replication, longitudinal evidence, quantitative synthesis	Treating correlation, vivid testimony, or conceptual elegance as causal proof.
Mechanistic	Specified parts and operations, temporal order, intervention, mediation, convergent measurement	Naming a chemical, brain region, energy, or network without showing the connecting process.
Interpretive	Phenomenological description, historical comparison, hermeneutic coherence, situated testimony	Presenting a meaningful interpretation as a population estimate or physical cause.
Normative	Ethical reasoning, rights, consequences, public justification, attention to power	Deriving what ought to be from biological fitness, technological capacity, or majority belief alone.

The report permits these classes to inform one another but refuses to collapse them. A community’s apocalypse narrative may be psychologically and politically causal because it organizes attention and action. That does not make its supernatural forecast empirically confirmed. A biomarker may track chronic stress. That does not decide the ethical legitimacy of the institution producing the stress.

1.3 Evidence grades

Table 3. Evidence grades used in this report

Grade	Meaning	Example in this report
A — established	Convergent evidence or a well-supported causal principle with clear operationalization.	Expectations, context, and learning can alter some symptoms and behaviors through identifiable pathways.
B — supported with limits	Replicated or theoretically mature evidence with boundary conditions and heterogeneity.	Network structure can improve or degrade collective estimation depending on independence and feedback.
C — plausible, unconfirmed	A coherent mechanism or preliminary association needing stronger identification or replication.	Temporal Shear as a cross-domain predictor of social dysregulation.
D — unsupported as stated	A necessary bridge is missing, evidence is null or inadequate, or the claim outruns the data.	Intention alone selects desired quantum outcomes or geophysical events.
M — metaphysical or existential	Not directly settled by current empirical methods; evaluate coherence and consequences.	Humanity is inside a recurrent simulation or history has a cosmic purpose.

1.4 The cross-level bridge rule

Every transition in the argument must answer six questions:

- 1 Target: What exactly changes — experience, behavior, physiology, social status, material event, or institutional rule?
- 2 Carrier: What crosses the boundary — neural signals, hormones, speech, money, law, code, weapons, carbon, or another medium?
- 3 Mechanism: Which operations transform the carrier into the proposed effect?
- 4 Timescale: Does the process occur in milliseconds, developmental years, institutional decades, or genetic generations?
- 5 Counterfactual: What should happen if the proposed cause is absent or experimentally changed?
- 6 Boundary condition: When should the effect weaken, reverse, or fail?

This bridge rule is the project’s protection against category error. “Energy,” “frequency,” “observer,” “chemistry,” “selection,” and “collective consciousness” are not explanations until their physical or operational meanings are supplied.

1.5 The mechanism requirement

Scientific explanation ordinarily requires organized entities and activities that produce the phenomenon of interest, not merely a correlation or an evocative label [17]. RPR treats a pathway as scientifically admissible when its intermediate variables can in principle be measured, manipulated, or distinguished from alternatives. A belief may change reported pain through expectation, attention, descending modulation, learning, and appraisal. It may change employment through goal selection, preparation, social signaling, persistence, op-

portunity, and discrimination. It does not follow that the same belief changes a randomized external event when perception and action are blocked.

Mechanistic pluralism is necessary. Human outcomes rarely have one master cause. A war can involve leadership, institutions, security dilemmas, resources, identity, propaganda, trauma, markets, and ecological pressure. Identifying stress biology does not reduce the war to cortisol. Identifying discourse does not make weapons linguistic. Identifying physical constraints does not render meaning irrelevant.

1.6 An originality statement

The labels Recursive Participatory Realism, Actualization-Sedimentation Loop, Temporal Shear as used here, selective permeability, and Pluralistic Coherence are proposed constructs of this synthesis. Their components have substantial precedents: process philosophy emphasizes becoming [56]; pragmatism treats inquiry as transformation of indeterminate situations [54]; enactivism describes sense-making through organism-world engagement [13,14]; ecological psychology describes affordances [69]; active inference models perception and action as reciprocal [5–7]; niche construction describes organisms modifying selection environments [18]; social ontology analyzes institution-dependent facts [22,23]; and path-dependence research explains durable consequences of earlier choices [27]. The originality claim is therefore architectural, not ex nihilo. The framework integrates these resources, states their limits, and generates new cross-level hypotheses.

1.7 Humane guardrails

Any account of belief and outcome can become cruel if it implies that harmed people secretly selected their condition. Any account of adaptation can become authoritarian if it classifies dissent, disability, poverty, or slower processing as biological failure. Any account of collective consciousness can become coercive if it treats plurality as pathology. This report therefore adopts four guardrails:

- Do not infer blame from causation. A modifiable mediator is not proof of moral responsibility.
- Do not infer truth from conviction. Strong confidence can amplify confirmation bias and hallucination-like perception under some conditions [11,12].
- Do not infer worth from fitness or performance. Biological adaptation is not a moral hierarchy.
- Do not infer consent from participation. People can be embedded in systems whose rules they did not choose and cannot individually exit.

2. What the first three stages jointly establish

2.1 Stage I: a dynamic universe without mental sovereignty

Quantum theory undermines a naive image of the world as a set of classical properties simply waiting to be read. Superposition, entanglement, contextual measurement, and nonlocal correlations require a nonclassical formal description. Decoherence explains how environmental entanglement suppresses interference between components of a system and helps account for the stability of quasi-classical records, though interpretive questions remain [1,2]. Bell inequality violations rule out broad classes of local hidden-variable theories; they do not permit controllable faster-than-light signaling or establish that preference determines outcome [3].

The word “observer” is a major source of confusion. In most operational uses, observation means a physical interaction that yields a record. Conscious awareness is not inserted into the predictive formalism as a variable that selects the answer desired by the observer. An experimenter can choose a preparation, measurement arrangement, timing, and question within physical constraints. The experimenter cannot choose which probabilistic outcome is obtained on a particular trial. This distinction survives different interpretations of quantum mechanics.

The strongest direct manifestation proposal would predict that intention alters an independently generated physical outcome while ordinary behavioral and informational pathways are blocked. A large online micro-psychokinesis study with 12,571 participants reported evidence favoring the null rather than the intended effect [4]. No single study settles every conceivable claim, but a responsible framework must update toward the absence of a reliable effect unless preregistered, independently replicated evidence says otherwise.

Stage I therefore contributes two principles to RPR. First, the physical world is processual and not exhaustively captured by common-sense classical imagery. Second, nonclassical does not mean desire-responsive. Ontological openness must not be converted into psychological control.

2.2 Stage II: belief as embodied prediction and policy

Beliefs are not free-floating propositions that later influence a separate body. They are distributed dispositions implemented in perception, memory, valuation, motor preparation, autonomic regulation, language, and social expectation. Predictive-processing and active-inference approaches model nervous systems as using generative models to anticipate sensory causes, weight prediction errors, and select actions that obtain preferred or expected states [5–7]. These approaches remain active research programs rather than a completed theory of every mental phenomenon, but they provide a powerful vocabulary for understanding how expectation can organize experience and sampling.

Interoceptive models extend the idea to the body. The brain must anticipate and regulate internal needs while interpreting afferent signals from viscera, immune processes, and the

autonomic system [8]. Allostasis names stability through anticipatory change. Chronic or uncontrollable demands can accumulate as allostatic load, affecting cognition, emotion, cardiovascular and metabolic function, sleep, and health [9]. There is no context-free chemical “natural state” to which all healthy brains conform. Healthy regulation is dynamic, developmental, state-dependent, and socially supported.

Placebo and nocebo research demonstrates that expectations, learning, clinical context, and meaning can change some symptoms and physiological pathways, especially pain, nausea, motor symptoms, and treatment experience [10]. These effects are real but bounded. They do not imply that belief cures any disease, replaces treatment, or makes every endpoint subjective. Similarly, experiments show that strong learned priors can contribute to perceiving signals that are absent or ambiguous, and that resistance to corrective evidence can be linked to reduced neural sensitivity to disconfirming information [11,12]. A mind can become more coherent by becoming better calibrated, or by excluding error. Stability is not the same as truth.

Stage II therefore contributes the biological bridge: intention can become causal when it changes salience, regulation, learning, policy, and action. It also contributes a warning: repetition can train skill or entrench bias. Plasticity is capacity for change, not a guarantee of improvement.

2.3 Stage III: many minds, one ecology, no demonstrated supermind

Persons regulate one another through attachment, imitation, language, sanction, care, ritual, and conflict. Cultures furnish categories of emotion, identity, normality, danger, success, and possibility. Institutions make some shared meanings durable by attaching records, roles, rights, money, infrastructure, and enforcement. In this sense, social reality is not an illusion added to a fully private world. It is an objective field of consequences partly constituted by collective practices [22–24].

Collective cognition is also real in a functional sense. Groups can remember, estimate, discover, and coordinate in ways not reducible to the isolated capacity of one member. Experiments identify a group-level factor related to performance across tasks, and network studies show that interaction can improve difficult estimates under some conditions [29,30,32,33]. Yet influence can also undermine the

wisdom of crowds by reducing independence and diversity [31]. Diversity can improve problem solving under suitable conditions, while maladaptive ties, homophily, status bias, and false-information cascades can produce confident error [34–44]. Connectivity amplifies the epistemic properties of the arrangement; it does not supply wisdom by itself.

Interbrain synchrony during communication or joint action indicates correlated neural dynamics and can track shared attention or prediction. It does not establish a merged field of experience [38,39]. Even within individual consciousness science, competing theories require difficult, discriminating tests; a large 2025 adversarial collaboration found challenges for key predictions of both integrated information theory and global neuronal workspace theory rather than resolving consciousness once and for all [40]. Claims about a literal planetary subject therefore face a much higher burden than claims about coordination or shared culture.

Stage III contributes the social extension: individual models are trained by evidence that other agents and institutions produce, and repeated coordination can build a common world. It also contributes the principle of plurality: integration among agents is not identity of agents.

2.4 The inferential ledger

Table 4. The inferential ledger

Supported conclusion	Tempting overextension	RPR correction
Quantum outcomes are non-classical and probabilistic.	Thought selects preferred outcomes.	Choice of experimental question is not choice of answer.
Experience is actively generated by embodied systems.	External reality is a private projection.	Generative perception remains answerable to signals, action, and resistance.
Belief changes some symptoms and behaviors.	Conviction directly controls all chemistry or events.	Specify mediator, endpoint, boundary condition, and counterfactual.
Social facts depend on collective practices.	All physical facts depend on consensus.	Different domains have different constitutive conditions.
Networks coordinate cognition.	Humanity is one phenomenal mind.	Function, synchrony, agency, and subjectivity are distinct claims.
Culture and biology reciprocally influence development.	Rapid change is creating a superior human type.	Distinguish plasticity, social sorting, cultural selection, and genetic evolution.
Shared stress can affect political and economic behavior.	Collective emotion directly causes earthquakes or storms.	Follow behavioral, institutional, industrial, and physical pathways.
Civilizations show recurrent crises and transformations.	History is demonstrably a cosmic loop or simulation test.	Recurrence can arise from repeated causal structures without metaphysical repetition.

2.5 The missing concept: durable actualization

The first two stages explain how an agent interprets and acts. The third explains how many agents coordinate and institutionalize. The missing concept is the process by which a selected possibility becomes durable enough to confront later agents as part of their given world. A temporary intention becomes a skill through practice; a social expectation becomes a norm through mutual anticipation and sanction; a classification becomes an institution through records and authority; a design choice becomes infrastructure; an emission becomes atmospheric concentration; a traumatic event becomes a learned threat model; a legal decision becomes precedent. These are different processes, but they share a recursive form: output becomes input.

RPR calls this durable transformation sedimentation. The term does not imply permanence or passivity. Sediments can be excavated, contested, repurposed, or eroded. Its purpose is to connect micro-level action with historical structure without pretending that either fully determines the other.

3. Recursive Participatory Realism

3.1 The ontological proposal

Recursive Participatory Realism holds that the world contains real processes and constraints not constituted by any individual perspective, while organisms and societies participate in determining which possibilities are encountered, enacted, amplified, and made durable. “Participatory” refers to causal involvement, not supernatural creation. “Recursive” means that consequences re-enter the conditions of later perception and action. “Realism” means that other agents and material processes can surprise, frustrate, injure, or outlast the participant.

The position is realist without being static, constructivist without being arbitrary, emergent without treating higher levels as magical, and existential without making meaning an empirical force. It rejects four false alternatives:

- Either reality is a finished object or it is invented by mind.
- Either biology determines behavior or consciousness can will biology into any state.
- Either society is only individuals or it is literally one mind.
- Either history is predetermined or choice is unconstrained.

3.2 Eight axioms

Axiom 1 — Process. Systems persist through activity. Apparent stability often depends on continued regulation, repetition, maintenance, and constraint. A living body, currency regime, language, ecosystem, and institution endure in different ways, but none is adequately understood as a motionless substance.

Axiom 2 — Resistance. Reality pushes back. Failed prediction, pain, measurement, scarcity, another person’s refusal, ecological limit, and unintended consequence are not defects in participation; they are how a non-solipsistic world becomes known.

Axiom 3 — Situated participation. An agent affects the world from a body, location, history, role, and resource position. There is no view or intervention from nowhere. Agency is exercised through available causal channels.

Axiom 4 — Stratification. Physical, biological, phenomenal, institutional, and technological domains have different constitutive conditions. A causal explanation must respect the ontology of its target.

Axiom 5 — Recursion. Actions alter later inputs. Learning changes future perception; institutions change incentives; infrastructures change affordances; ecological changes alter bodies and opportunities. Recursion permits both development and lock-in.

Axiom 6 — Asymmetry. Agents differ in resources, authority, reach, exposure, and ability to exit. Powerful actors can externalize their models as environments for others. Actualization

is therefore political as well as psychological.

Axiom 7 — Plurality. Other subjects are centers of perspective and action, not characters generated for one observer. Collective outcomes emerge from coordination, dependence, contest, and accident among multiple agents.

Axiom 8 — Contingency. Chance, novelty, hidden variables, complex interaction, and unintended effects remain. A causal action can change a probability without guaranteeing a result.

3.3 Possibility, reachability, and actuality

Manifestation language often confuses conceivability with physical or practical possibility. RPR distinguishes three sets:

- 1 Imagined states are states an agent can represent, however loosely or inconsistently.
- 2 Reachable states are states accessible from present conditions through available transformations within a relevant time horizon.
- 3 Actualized states are the trajectories that occur through the joint influence of agents, constraints, other processes, and contingency.

A person can imagine an outcome outside the reachable set. A reachable outcome can fail because resources, timing, skill, cooperation, or chance are unfavorable. An outcome can also occur without having been imagined. The value of imagination is that it can reveal a goal, reframe a constraint, recruit action, or enable a design. It does not erase the difference between representation and reachability.

In compact form, let the multilevel state at time t be $x(t)$, the focal agent's action be $a(t)$, other agents' actions be $o(t)$, inherited constraints be $c(t)$, and exogenous or unresolved contingency be $e(t)$. Then:

$$x(t+1) = F[x(t), a(t), o(t), c(t), e(t)]$$

Beliefs and values influence the policy that selects $a(t)$. They are not the only arguments of F . The equation is a conceptual scaffold, not an estimated universal law. Its purpose is to prevent the agent's intention from swallowing the rest of causation.

3.4 Affordances rather than unlimited options

Ecological psychology uses the concept of an affordance to describe action possibilities emerging from relations between an organism's capacities and an environment's properties [69]. A stair affords climbing for one body but not every body; a written contract affords legal action only within an institution; a smartphone affords access only with electricity, connectivity, literacy, compatible senses, and permission. Possibility is relational.

This reframes biological disadvantage. A difference becomes disabling within a particular

field of demands and supports. Technologies can widen affordances through assistive design or narrow them through speed, cost, opacity, and standardized interfaces. The relevant moral question is not who deserves to survive a new environment. It is who designed the environment, which capacities it presupposes, whose burdens are treated as acceptable, and whether alternatives remain available.

3.5 Selective permeability: five domains of reality

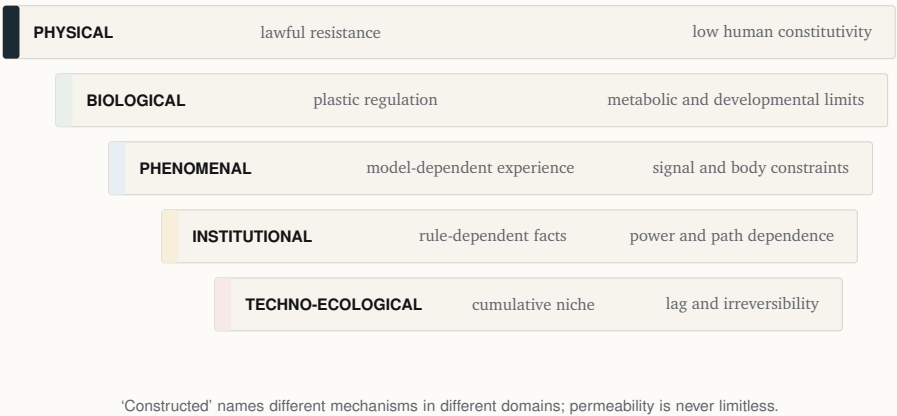


Figure 2. Selective permeability. Each domain is changeable through different mechanisms and resists intervention in a different way.

The framework proposes selective permeability: domains differ in how strongly intention, interpretation, coordination, and institution can change them. The metaphor is a membrane, not a wall. Influence crosses boundaries through specific carriers, and the ease of crossing differs.

Table 5. Five domains of reality and their forms of resistance

Domain	How it is generative	Primary form of resistance
Physical-material	Dynamic interactions generate events; experiments select arrangements and measurements.	Conservation, lawful regularities, energy, scale, measurement, and causal independence from preference.
Biological-organizational	Regulation, development, learning, plasticity, and niche interaction continually remake the organism.	Metabolic cost, anatomy, developmental history, illness, aging, and limited plasticity.
Phenomenal-experiential	Generative models, interoception, attention, memory, and meaning shape the lived world.	Sensory evidence, bodily signals, action consequences, other perspectives, and dysfunction.
Institutional-intersubjective	Rules, recognition, records, sanctions, and repeated practices constitute roles and facts.	Law, power, infrastructure, collective dependence, dissent, and path dependence.
Techno-ecological	Design, industry, agriculture, code, and cumulative behavior remake niches and planetary flows.	Resource limits, ecological feedback, time lag, distributed effects, and irreversibility.

The physical domain is not “less real” because it is less permeable to belief. Institutional reality is not “merely imaginary” because collective practices constitute it. Money can cease to function if the supporting system collapses, yet while the system operates it can determine food, shelter, health, and freedom. Pain is subject-dependent, yet no less real to

the subject. The framework replaces a hierarchy of realities with a taxonomy of dependence and resistance.

3.6 The reality-change audit

Before accepting any claim that consciousness altered reality, specify:

- Domain: Which of the five domains contains the target?
- Endpoint: Is the outcome a report, symptom, behavior, relationship, institutional fact, or independently measured physical event?
- Mediator: What changed between intention and endpoint?
- Resources: Which skills, tools, allies, money, rights, or infrastructures enabled the change?
- Resistance: What could block, reverse, or redirect it?
- Timescale: When should change appear, and how long should it persist?
- Distribution: Who gains, who bears risk, and whose agency is constrained?
- Falsifier: What result would count against the proposed mechanism?

This audit is the conceptual equivalent of experimental controls. It turns a totalizing statement into a sequence of propositions that can be evaluated.

3.7 Power: whose belief becomes whose environment?

The project becomes more comprehensive when belief is linked to power. Two people may hold equally intense convictions while possessing radically different capacities to sediment them. A private expectation may influence the holder's attention. A platform operator's expectation can become an algorithm that filters millions of users' evidence. A clinician's expectation can affect diagnosis and treatment. A government classification can alter legal status. A financier's model can redirect capital. An architect's default can include or exclude bodies for decades.

Power can be defined here as differential capacity to make one's model consequential for others while avoiding reciprocal correction. This definition connects social ontology, technology, and epistemology. It also explains why collective reality is not simply consensus. Institutions can persist despite widespread disbelief when enforcement, dependency, and path dependence remain. Conversely, a minority with sufficient resources can make a model materially dominant.

The self-fulfilling prophecy is one special case. A definition of a situation can evoke behavior that makes the definition appear accurate [25]. Economic models can also become performative when incorporated

into market devices and practices [26]. Hacking's "looping effects" describe how classifications of people can change the people classified, which can then change the classification [24]. These processes are genuine reality alteration, but their mechanisms are social and behavioral, not evidence of thought acting outside causation.

3.8 Emergence without mystification

Higher-level organization can have explanatory and causal importance even when implemented by lower-level processes. Work on causal emergence asks whether a macro-description can in some conditions have greater effective information than a micro-description because it captures stable causal structure at the relevant scale [16]. Biological organization can also be described through closure of constraints: components maintain constraints that, together, maintain the organization capable of producing them [15]. These ideas help explain why “society” or “organism” need not be dismissed as shorthand for atoms.

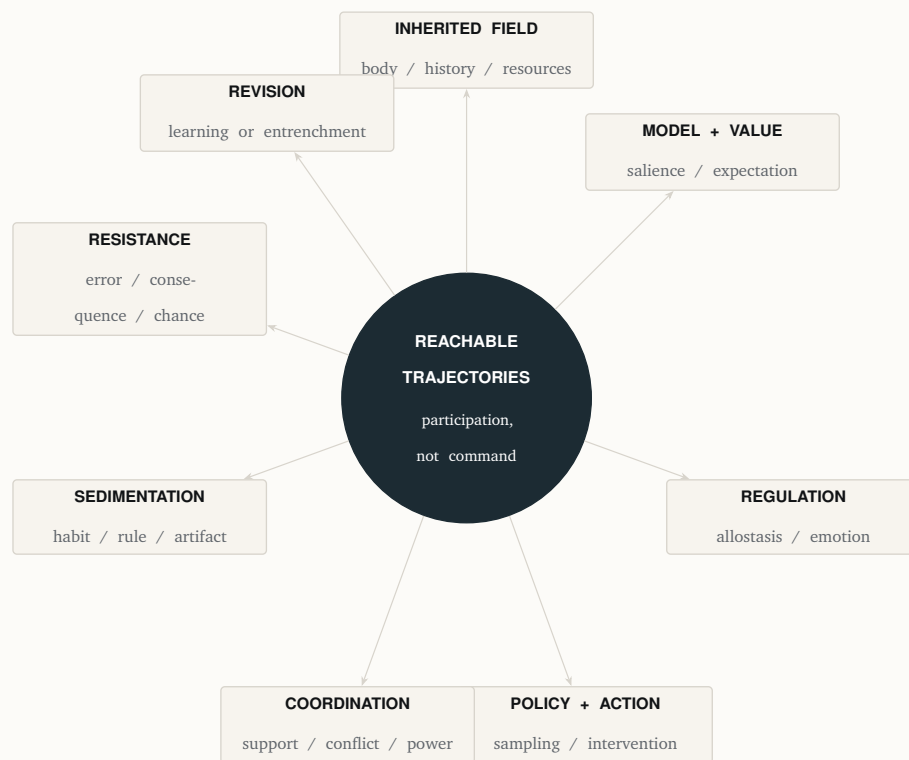
They do not license every emergent claim. A group can display memory, norm enforcement, and coordinated agency without having a private phenomenal field. The appropriate test depends on the property claimed. Emergent function requires evidence of organized performance; emergent subjectivity would require a theory and observations capable of distinguishing one experience from coordinated many.

4. The Actualization-Sedimentation Loop

4.1 The mechanism in full

The Actualization-Sedimentation Loop is the framework's central causal mechanism. It links private intention to public consequence without inserting an unexplained jump.

The Actualization-Sedimentation Loop



Every cycle changes the next field of possibility; no cycle abolishes constraint or contingency.

Figure 3. The Actualization–Sedimentation Loop. Agents act within inherited conditions; repeated actions become habits, rules, artifacts, and niches that condition subsequent agents.

The loop contains eight analytically distinct moments:

- 1 Inherited constraint field. The agent begins inside a body, biography, relationship network, culture, institution, built environment, ecology, and distribution of resources it did not choose.
- 2 Model and valuation. The agent predicts, categorizes, remembers, imagines, and assigns importance. Values define preferred directions, while beliefs estimate conditions and consequences.
- 3 Allostatic regulation. The body allocates attention, energy, arousal, immune activity, and action readiness in anticipation of need.

- 4 Policy and action. The agent samples information, avoids or approaches, communicates, practices, builds, votes, buys, treats, protests, rests, or seeks help.
- 5 Coordination or contest. Other agents respond. Intentions align, conflict, bargain, imitate, sanction, care, or ignore.
- 6 Sedimentation. Repetition and material investment stabilize consequences as synaptic dispositions, habits, records, reputations, routines, standards, laws, platforms, buildings, or ecological change.
- 7 Resistance and error. The world returns outcomes. Plans encounter scarcity, evidence, independent agency, bodily limit, unintended effects, and chance.
- 8 Revision or entrenchment. The agent or institution updates, changes strategy, and restores fit — or discounts error, increases commitment, and deepens the existing path.

The new output is an inherited condition for another cycle. A belief therefore changes reality most durably when it recruits multiple layers of the loop. It becomes more than a mental event when embodied in competencies, relationships, rules, artifacts, and material supports.

4.2 Why this is not disguised manifestation metaphysics

The ASL does not state that the universe responds to emotional frequency. It states that an intention can change the distribution of actions and therefore the distribution of consequences under identifiable conditions. If those conditions are absent, the effect should shrink or disappear. This makes the account falsifiable.

Suppose a person strongly believes they will pass an examination. The belief may lower or increase arousal, change study time, influence which errors are noticed, affect sleep, alter help-seeking, and shape persistence. The outcome also depends on prior knowledge, exam validity, health, time, discrimination, and chance. If study behavior, regulation, assistance, and assessment are held constant and scoring is blinded, RPR predicts no residual effect merely because the belief was intense.

Suppose a community believes a bank is unsafe. Depositors withdraw; liquidity falls; the bank may fail. The prophecy becomes materially effective through coordinated action and institutional structure. The example is not magical because every carrier is visible. It is nonetheless a powerful instance of consciousness participating in reality.

4.3 Belief, precision, and error permeability

In predictive accounts, a system must balance prior expectations against incoming evidence. The relative weighting is sometimes described as precision. Strong priors can stabilize perception under noise, but excessively rigid priors can prevent correction. Powers and colleagues experimentally manipulated perceptual priors and observed hallucination-like experiences, illustrating how learned expectation can dominate ambiguous input [11]. Roll-wage and colleagues linked polarized belief to reduced neural sensitivity to disconfirming evidence [12].

RPR calls the capacity of disconfirming information to enter and reorganize a model error

permeability. A practice that increases conviction while decreasing error permeability may improve persistence but degrade calibration. This is why affirmations, visualization, ritual, and group reinforcement cannot be judged only by how confident or coherent they make a person feel. The crucial question is whether they preserve contact with consequence.

4.4 Allostasis: chemistry as regulation, not obedience

The brain and body do not wait for a completed event and then react. They anticipate needs, allocate resources, and regulate internal variables in context [8,9]. Emotion is therefore not a chemical substance poured onto neutral cognition. It is a coordinated state involving appraisal, interoception, action readiness, learning, and social meaning. Neurotransmitters and hormones have context-dependent, receptor-dependent, region-dependent, and time-dependent effects. The popular idea that one chemical simply equals one emotion is inadequate.

Conscious practices can influence this system indirectly. Slow breathing can alter respiratory and autonomic dynamics; reappraisal can change appraisal and regulation; exercise changes metabolic and neuroendocrine conditions; sleep affects learning and emotional control; exposure can update threat predictions; medication and neuromodulation act more directly. None provides arbitrary control. Attempts to force belief can instead produce vigilance, suppression, shame, or dissonance. A regulation strategy is successful when it improves flexible functioning and contact with relevant information, not when it maintains one feeling at any cost.

4.5 Plasticity and sedimentation in the person

Learning changes future response through synaptic, systems, behavioral, and social mechanisms. Repetition matters when it supplies informative practice, reinforcement, retrieval, prediction error, or contextual stability. Mere repetition of a false statement can also increase familiarity and perceived truth. The direction of plasticity depends on task, feedback, salience, reward, sleep, stress, development, and environment.

Trauma illustrates high-cost sedimentation. A catastrophic event can recalibrate threat detection, memory, avoidance, arousal, bodily expectations, and social trust. These adaptations may be intelligible responses to danger that become mismatched in safer contexts. They are not simply “brain malfunction,” and they are not reversed by insisting on a new belief. Effective treatments often provide structured safety, therapeutic relationship, memory processing, exposure or cognitive change, skills, medication where appropriate, and time. The loop must receive credible corrective experience.

4.6 Sedimentation beyond the person

The same recursive structure appears at larger scales, although the mechanisms differ:

Niche-construction theory shows that organisms modify environments in ways that alter selection pressures for themselves and descendants [18]. Gene-culture coevolution demonstrates that durable cultural practices can sometimes reshape biological selection, as in

Table 6. Sedimentation beyond the person

Site of sedimentation	What becomes durable	Main maintenance process
Nervous system	prediction, skill, fear association, attentional habit	plasticity, retrieval, reinforcement, reconsolidation, context
Body and routine	sleep pattern, posture, metabolic demand, practiced response	repeated regulation, environment, schedule, care
Relationship	trust, role, attachment expectation, conflict script	reciprocal anticipation, memory, repair or repetition
Institution	category, right, procedure, price, credential, sanction	records, law, authority, incentives, bureaucracy
Technology	default, interface, protocol, ranking, infrastructure	code, standards, investment, interoperability, dependency
Ecology	land use, pollution, species composition, climate forcing	material accumulation, feedback, regeneration or degradation

dairying and lactase persistence [19]. Such examples require a specified cultural practice, heritable variation, fitness consequences, and generations. They do not justify describing every social inequality or technological transition as genetic selection.

4.7 Path dependence and lock-in

Path dependence describes situations in which earlier events alter the relative costs and probabilities of later options, sometimes producing increasing returns and institutional lock-in [27]. Sedimentation makes path dependence intelligible across domains. A trained habit becomes easier to repeat; a standard becomes valuable because others use it; an urban layout fixes travel patterns; a legal category organizes records; a platform accumulates users and data. Later agents face a world already shaped by earlier selections.

This explains why social reality can feel fixed even though it is constructed. Construction is historical, distributed, and backed by material investments. No individual can simply “believe away” a border, debt, database, or discriminatory institution. Collective transformation requires counter-sedimentation: new practices, coalitions, rules, records, designs, and resources sustained long enough to alter the inherited field.

4.8 Actualization capacity and moral hazard

The ability to actualize a trajectory depends on more than psychological intensity. A useful conceptual relation is:

Actualization capacity = function of skill, regulation, resources, affordances, cooperation, authority, time, feedback quality, and reversibility.

This is not a numerical score. It is an audit of necessary supports. It prevents the moral hazard of telling people that insufficient belief explains structural exclusion. It also reveals

where intervention is possible. If lack of transport blocks employment, confidence training alone is misdirected. If threat arousal blocks performance despite adequate opportunity, regulation and exposure may matter. If a norm punishes participation, coalition and institutional change may be required.

4.9 Manifestation translated into actualization

The table below separates familiar manifestation practices from defensible mechanisms and failure modes.

Table 7. Manifestation practices translated into actualization

Practice	Evidence-aligned function	Boundary or risk
Visualization	Simulate process steps, identify obstacles, rehearse action, clarify valued direction.	Outcome fantasy can substitute reward for work or ignore constraints.
Affirmation	Cue identity-consistent action or broaden self-interpretation when credible.	Implausible repetition can evoke contradiction, shame, or closed belief.
Meditation	Train attention, decentering, interoceptive awareness, and response flexibility.	Effects vary; it is not a universal cure and may be difficult or adverse for some people.
Gratitude	Reweight attention toward available support and valued experience.	Can become pressure to deny harm or accept injustice.
Prayer or ritual	Organize meaning, community, commitment, comfort, and ethical orientation.	Metaphysical efficacy cannot be inferred from psychological or social benefit.
Goal intention	Select a valued direction.	Intention without implementation, feedback, and resources predicts little.
Nonattachment	Reduce defensive ownership of one outcome and preserve learning.	Must not be confused with passivity, withdrawal, or indifference to injustice.

The defensible scientific statement is modest but significant: practices of imagination and attention can be components of a larger causal architecture. Their effect depends on what they help a person notice, regulate, learn, do, coordinate, and sustain.

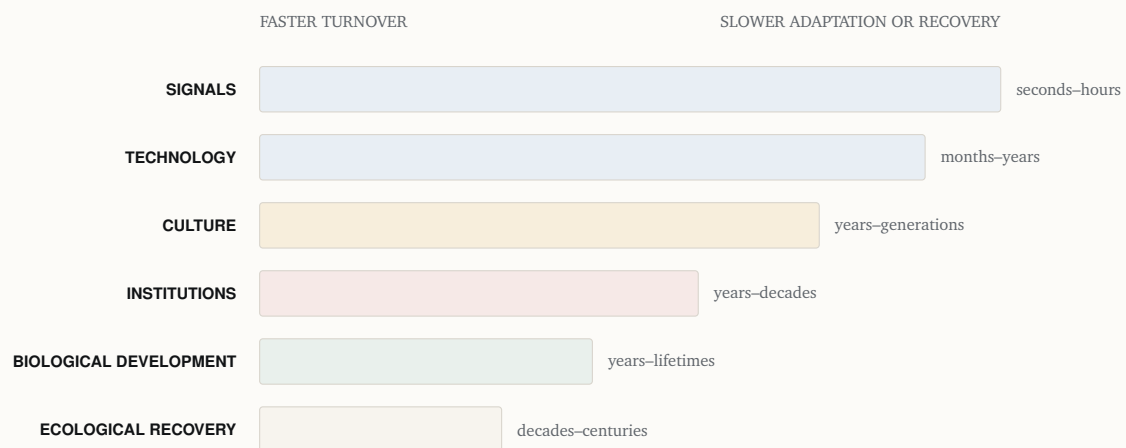
5. Temporal Shear: a civilizational hypothesis

5.1 From “awakening crisis” to rate-mismatch hypothesis

The intuition that contemporary humanity is being forced into a new state contains an empirically tractable core. Communication, finance, computation, and media can change their effective state much faster than nervous systems, legal procedures, educational systems, democratic institutions, infrastructure, and ecosystems can adapt. The resulting distress need not be interpreted as evidence that a planetary consciousness is painfully emerging. It may reflect a mismatch among coupled rates.

Temporal Shear is the proposed condition in which strongly coupled subsystems change, learn, or recover at sufficiently different speeds that the faster system repeatedly perturbs the slower one before correction or recovery is complete. Speed alone is not pathology. A fast warning system can save lives. A slow constitution can protect rights. Risk arises from the relation among rates, coupling, buffering, and reversibility.

Temporal shear: the civilizational hypothesis



RISK = HIGH COUPLING + LARGE RATE MISMATCH + LOW BUFFERING + LOW REVERSIBILITY

Figure 4. Temporal shear is mismatch among coupled rates, not speed by itself. The bars are conceptual and do not represent a calibrated empirical scale.

Relevant characteristic times include:

- Signal time: the interval in which information, affect, prices, or rumors propagate.
- Decision time: the interval available before an actor must respond.
- Learning time: the interval required to distinguish signal from noise and update a model.
- Institutional time: the interval required for law, standards, accountability, and public

capacity to change.

- Developmental time: the interval through which bodies, identities, and competencies mature.
- Recovery time: the interval required for physiological, community, infrastructural, or ecological restoration.

When signal and decision times contract while learning and recovery times do not, systems can become reactive. When technologies scale before governance can measure their effects, harms become sedimented. When ecosystems receive new disturbances before regeneration, apparently small actions accumulate. When people are asked to update identity, employment, attention, and social comparison continuously without control or rest, allostatic regulation may become costly.

5.2 A heuristic index

For a set of coupled processes with characteristic times $\tau(i)$ and coupling weights $c(i,j)$, a conceptual shear index can be written:

$$TS = \sum \text{over coupled pairs } c(i,j) \text{ times absolute } \log[\tau(i) / \tau(j)]$$

The logarithm expresses rate ratios rather than raw units; the coupling term prevents harmless differences between disconnected processes from being treated as risk. This equation is explicitly unvalidated. It is a proposal for operational development, not a clinical score or a claim that societies obey one universal formula. Empirical work would need domain-specific definitions of state change, recovery, and coupling; sensitivity analysis; prospective prediction; and comparison with simpler models.

The formal inspiration comes partly from research on scale mismatch in social-ecological systems and rate-induced tipping in dynamical systems [45,46]. In rate-induced tipping, a system may lose tracking of a changing attractor because a parameter moves too quickly, even if the parameter does not cross the static threshold that would cause a conventional bifurcation. Applying that logic to societies is an analogy and hypothesis, not a direct derivation. Human systems contain interpretation, reflexivity, power, institutions, and purposeful intervention that simple dynamical models may omit.

5.3 Four amplifiers

Temporal differences become dangerous under four conditions.

High coupling. A local error rapidly enters other systems. Interdependent networks can experience cascading failure when nodes in one network disable nodes in another [49]. Financial and ecological networks similarly demonstrate that connectivity can transmit risk as well as resources [50].

Low buffering. Individuals and institutions lack slack, redundancy, savings, time, care,

alternative channels, or recovery capacity. The same rate of change can be manageable for a secure person and overwhelming for a precarious one. Population averages conceal this distribution.

Low reversibility. Experiments become infrastructure before consequences are known. Decisions are hard to undo because of sunk cost, network effects, legal dependence, ecological lag, or concentrated ownership. Reversibility converts uncertainty from catastrophe into learning.

Concentrated power. A small set of actors determines system speed and externalizes adaptation costs. Those exposed have little ability to slow the process, change its design, or exit. Fast feedback reaches decision makers only after being filtered through interests and institutions.

5.4 Candidate manifestations of high shear

The hypothesis predicts not one universal syndrome but a family of mediated effects:

Table 8. Candidate manifestations of high temporal shear

Level	Possible indicator	Rival explanation that must be tested
Individual	sleep disruption, vigilance, attentional fragmentation, perceived uncontrollability, burnout	illness, poverty, violence, medication, work conditions, selection into technology use
Group	norm volatility, rapid identity sorting, affective contagion, coordination bursts	strategic mobilization, demographic change, elite cues, pre-existing conflict
Institution	policy lag, emergency governance, regulatory oscillation, legitimacy loss	corruption, low capacity, constitutional design, fiscal constraints
Information ecology	shortened attention cycles, repeated cascades, poor correction retention	content supply, commercial incentives, measurement changes, platform redesign
Economy and infrastructure	correlated reactions, brittle optimization, cascading shortage	exogenous shocks, monopoly, leverage, conflict, resource concentration
Ecology	disturbance arriving before recovery, delayed feedback, threshold crossing	background climate variability, land use, extraction, invasive species, governance failure

Research has documented an accelerating turnover of collective attention across several cultural domains [41], but this does not prove that every person's attention span is shrinking or that acceleration has one cause. Reviews of digital media and democracy find a mixture of associations, many unfavorable in mature democracies, but emphasize heterogeneous designs and contexts [42]. False news has been observed to diffuse farther and faster than truth in a major social-media dataset [43], while exposure to opposing political views in one field experiment increased rather than decreased polarization [44]. These findings support concern about feedback architecture, not a universal law that connectivity causes decline.

5.5 Could brain chemistry explain war and economic collapse?

Not by itself. Biological regulation is one level in a causal braid. Threat perception can narrow attention, strengthen in-group alignment, increase punitive preferences, alter

risk taking, and make simplified narratives attractive. Repeated insecurity can affect sleep, health, learning, and trust. Leaders and institutions can deliberately mobilize these responses. Those pathways make biology relevant.

Wars nonetheless require organized capacities and historical conditions: actors, weapons, logistics, command, financing, territory, alliances, institutions, grievances, strategic beliefs, and opportunity. Economic collapses require mechanisms such as leverage, liquidity shortage, asset repricing, production disruption, policy error, conflict, or loss of coordination. “Collective chemical imbalance” neither identifies these mechanisms nor explains why similarly stressed populations diverge.

The stronger multilevel statement is:

Embodied threat and dysregulation can alter the decision processes through which political and economic structures respond to shocks; structures in turn distribute threat, control, and recovery, forming an escalation or stabilization loop.

This claim can be tested. It predicts interactions among objective shocks, perceived control, biomarkers or validated stress measures, information exposure, institutional capacity, elite action, and downstream decisions. It also predicts that supportive institutions and credible control can buffer biological burden even when change remains rapid.

5.6 Could consciousness cause environmental disaster?

Collective belief can affect environmental outcomes through industrial and political pathways. Beliefs influence consumption, voting, investment, extraction, regulation, preparedness, and the credibility assigned to scientific warnings. These behaviors alter emissions, land use, infrastructure, exposure, and vulnerability. Earth-system research indicates that six of nine quantified planetary boundaries were transgressed in the 2023 update [51]. That finding concerns material pressures and biophysical processes, not collective emotion acting directly on nature.

Hazards and disasters must also be distinguished. A storm, earthquake, heatwave, or pathogen has physical dynamics. Disaster severity depends on exposure, vulnerability, infrastructure, inequality, warning, trust, and response. Human systems can create or magnify disaster risk without minds directly generating tectonic motion. RPR thus grants collective consciousness immense mediated power while rejecting mental geophysics.

5.7 Is this biological selection?

The language of selection must be partitioned:

- 1 Attentional selection: information receives or loses cognitive priority.
- 2 Behavioral reinforcement: consequences increase or decrease repeated action.
- 3 Algorithmic selection: a system ranks, filters, or allocates visibility.

- 4 Social selection: institutions grant access, status, employment, care, or membership.
- 5 Cultural selection: practices or representations spread and persist differentially.
- 6 Demographic selection: conditions alter migration, mortality, partnering, or fertility.
- 7 Genetic natural selection: heritable variation contributes to differential reproductive success across generations.

The first six can influence the seventh, but they are not synonyms. Rapid digital change visibly produces algorithmic and social selection. It may shape health and demography. A claim of genetic adaptation requires heritable variation, a reproductive differential, multiple generations, and control for confounding. No evidence currently supports a simple division between biologically advanced network-adapters and obsolete non-adapters.

The policy implication is decisive. If a system's pace excludes people with different sensory, cognitive, linguistic, economic, or bodily conditions, exclusion is not evidence of evolutionary necessity. Accessibility, redundancy, education, public infrastructure, and slower alternatives change the environment of fit. Designing such supports is a form of collective actualization.

5.8 Predictions unique enough to matter

Temporal Shear becomes useful only if it predicts more than generic "rapid change is stressful." It should outperform raw change magnitude when:

- coupling between fast and slow systems is high;
- perturbations recur before the slower system's measured recovery time;
- feedback delay is long relative to decision interval;
- reversibility and redundancy are low;
- actors with decision authority are insulated from error signals;
- the same objective change produces different outcomes where buffers or pacing differ.

Evidence against the hypothesis would include reliable findings that rate mismatch adds no predictive value after exposure, inequality, and institutional capacity are modeled; that high-mismatch systems are not more brittle than matched systems; or that proposed buffers do not moderate outcomes. A theory protected from such failure would be rhetoric, not science.

6. From collective consciousness to world-stabilization networks

6.1 Five meanings that must remain distinct

“Collective consciousness” can name at least five propositions:

Table 9. Five meanings that must remain distinct

Meaning	Defensible status	Required evidence
Shared culture	Established: populations share classifications, memories, norms, and symbols.	Convergent behavior, discourse, transmission, sanction, and historical continuity.
Collective intentionality	Philosophically and empirically defensible: people act as a “we” under joint commitments.	Coordinated plans, mutual responsiveness, shared rules, and attribution of group action.
Distributed cognition	Supported with limits: cognitive work can be spread across people and artifacts.	Task-level integration, memory or computation beyond isolated members.
Collective agency	Context-dependent: organized groups can maintain goals and make decisions over time.	Decision procedures, persistence, accountability, and coordinated causal effects.
One phenomenal subject	Not established for humanity.	A theory and discriminating observations showing one integrated experience rather than correlated many.

The first four are enough to explain much of history. Insisting on the fifth can distract from the visible institutions through which coordinated belief already changes lives.

6.2 World-stabilization networks

RPR proposes world-stabilization network as a more precise unit. Such a network is a configuration of persons, roles, narratives, records, technologies, sanctions, resources, and material practices that makes some expectations reliably self-maintaining. A legal system, scientific discipline, currency regime, religion, profession, platform, or local community can function this way.

The network does not need unanimity. It needs enough coordinated expectation and enforcement for relevant actions to remain predictable. A traffic rule persists because drivers, signs, police, road design, licensing, insurance, and shared anticipation align. A diagnosis persists through criteria, training, records, reimbursement, patient experience, research, and treatment. A scientific claim stabilizes differently: methods, instruments, criticism, replication, journals, and nature’s resistance constrain it. The quality of the stabilization depends on how correction enters.

This concept clarifies cultural reality. A society does not merely hold beliefs in aggregate. It builds evidence environments that train later beliefs. Schools define credible sources; interfaces decide visible options; architecture routes bodies; law determines admissible

identities; metrics define success; archives preserve some memory. These arrangements return to brains as sensory input and opportunity.

6.3 The coupling paradox

Greater connection has two opposing potentials. It can distribute observations, combine expertise, coordinate aid, detect hazards, preserve memory, and permit large-scale cooperation. It can also synchronize attention around falsehood, reduce independence, punish dissent, and transmit panic. Network research shows that social influence can reduce aggregate accuracy when it collapses diversity [31], but structured interaction can improve estimates on difficult questions [32,33]. Minority commitment can tip conventions under experimental conditions [36]. No single effect of “more connection” exists apart from topology, incentives, task, timing, and power.

The coupling paradox can be stated:

The same reduction in distance that expands collective intelligence can destroy the independence on which collective intelligence depends.

That paradox is central to the project’s future trajectory. A unified information environment may look like higher consciousness while functioning as correlated error. Conversely, plural disagreement may look like fragmentation while supplying the variation needed for correction.

6.4 Synchrony is not unity

During communication, brains can show temporally aligned activity, partly because participants process the same signals, predict one another, share attention, or coordinate action [38,39]. Physiological synchrony can support bonding or task performance. It can also arise under coercion, threat, or common stimulation. Correlation across systems does not establish one system.

Three tests should remain separate:

- Synchrony: Are signals correlated in time?
- Integration: Does information from one component alter processing in another?
- Subject unity: Is there one point of view to which the states jointly belong?

A stadium crowd can synchronize movement and emotion. A team can integrate information and act as an agent under rules. Neither observation demonstrates a single experience located at the group level. RPR treats plurality as the default unless evidence establishes more.

6.5 Pluralistic Coherence



A healthy collective can converge on action without requiring sameness of mind, identity, or interpretation.

Figure 5. Pluralistic Coherence. Collective capacity is strongest when coordination, independence, correction, reversibility, accessibility, and responsibility are jointly protected.

The desirable alternative to both fragmentation and hive-mind consensus is Pluralistic Coherence. It is the capacity of a collective to coordinate around shared constraints and actions while protecting the differences required for freedom and error correction.

Its six dimensions are:

- 1 Coordination: reliable capacity to act on common problems.
- 2 Plurality: preservation of genuinely independent perspectives, identities, methods, and local knowledge.
- 3 Corrigibility: channels through which disconfirming evidence and harmed experience can alter the shared model.
- 4 Reversibility: staged commitments, sunset clauses, rollback capacity, and restoration where possible.
- 5 Accessibility: multiple temporal, sensory, linguistic, economic, and cognitive routes into participation.
- 6 Responsibility: alignment between causal reach, answerability, and burden-bearing.

Pluralistic Coherence is not compromise on every fact. Some claims are false and some actions impermissible. The concept concerns the architecture by which a collective discovers error, coordinates justified action, and avoids converting one perspective into an unquestionable environment.

6.6 Why diversity is causal, not decorative

Models and experiments suggest that diverse problem solvers can outperform collections of individually high-performing but similar solvers under certain task conditions [34]. Diversity helps when perspectives encode different information and when the group can integrate it without silencing or tokenizing contributors. It harms when communication costs dominate, goals are incompatible, or power prevents translation. The effect is conditional, not a slogan.

Accessibility strengthens this function. People with different bodies and histories detect different failure modes in systems. If interfaces, institutions, or social penalties exclude them, the collective loses information. Inclusion is therefore both a matter of dignity and a form of epistemic and systemic resilience.

6.7 Polycentric rather than planetary command

Complex shared problems often span scales. Polycentric governance distributes decision centers while enabling coordination, monitoring, experimentation, and learning across them [64]. This architecture fits RPR because it avoids two extremes: isolated localism unable to address shared externalities, and centralized command unable to perceive diverse conditions or admit error.

A networked humanity may therefore become more coherent without becoming one consciousness. Shared protocols can coexist with local interpretation. Global warning systems can coexist with distributed decisions. Universal rights can protect varied ways of life. The aim is not universal sameness but compatible participation in a materially shared world.

6.8 A diagnostic matrix for institutions

Table 10. A diagnostic matrix for institutions

System property	Low-quality stabilization	High-quality stabilization
Coordination	chaotic or coercively imposed	reliable, justified, and proportionate
Independence	isolated fragments or forced conformity	protected prior judgment and local knowledge
Feedback	filtered, delayed, punished, or gamed	timely, plural, consequential, and auditable
Power	concentrated with externalized costs	distributed with accountable authority
Reversibility	lock-in before evidence	staged adoption and feasible rollback
Accessibility	one speed, language, body, or income assumed	multiple modes and reasonable accommodation
Memory	amnesia or immutable dogma	durable records with revisable interpretation

This matrix turns the philosophical ideal into evaluable institutional properties. It can be applied to platforms, research organizations, public agencies, movements, clinics, or schools.

7. The existential and spiritual synthesis

7.1 Freedom after omnipotence

The collapse of magical control need not produce fatalism. Existential thought begins from a world in which human beings are thrown into conditions they did not choose but remain responsible for how they take them up. Simone de Beauvoir's ethics of ambiguity rejects both absolute foundations and passive nihilism; freedom is situated, interdependent, and implicated in the freedom of others [53]. RPR translates this into a causal thesis: an agent is neither the first cause of its field nor irrelevant within it.

Freedom can therefore be defined as the situated capacity to perceive and revise possible actions, participate in reshaping enabling conditions, and remain answerable to the agency and vulnerability of others. This definition is graded. Illness, coercion, poverty, trauma, discrimination, and information control can narrow it. Skills, care, rights, accessible tools, collective organization, and time can expand it. Freedom is an ecological achievement as well as a personal attitude.

7.2 Arendt: plurality as the condition of action

For Hannah Arendt, plurality — human equality combined with distinction — is a basic condition of action in a common world [52]. Action is unpredictable because it enters a web of relationships; its consequences exceed the actor's intention. This is precisely the existential texture of the ASL. To act is to initiate without controlling the whole chain.

Plurality corrects the fantasy of collective fusion. A world becomes public because different persons can encounter and speak about it from different positions, not because difference disappears. A unified consciousness that eliminated alterity would also eliminate the space in which promise, forgiveness, deliberation, and political action make sense.

7.3 Pragmatism: truth through answerable inquiry

Pragmatism offers a method for generative reality without wishful relativism. For John Dewey, inquiry transforms an indeterminate situation into one whose distinctions and relations permit warranted action [54]. Ideas are instruments to be tested in consequences, not incantations whose felt certainty makes them true.

RPR adopts this experimental attitude. A vision is valuable when it organizes an inquiry: What obstacle is real? Which action would generate information? What outcome would change the model? Can the intervention be reversed? Who experiences its cost? The relevant spiritual virtue is not unwavering certainty but fidelity to a valued direction combined with willingness to learn.

7.4 Process philosophy: stability as achievement

Process philosophy supplies the deepest metaphysical affinity. If events, relations, and becoming are basic, stable entities can be understood as persistent organizations of activity rather than inert blocks [56]. RPR remains neutral among detailed process metaphysics, but it borrows one insight: permanence often requires reproduction.

The insight is especially useful for social worlds. A norm exists because expectations and sanctions recur. A role persists because records and practices maintain it. A self persists through embodied memory, narrative, relation, and regulation despite continuous change. “Reality is generated” can therefore mean that stability is an accomplishment of organized processes, not that consciousness invents physical law.

7.5 Enactivism: sense-making in relation

Enactive approaches describe cognition as embodied sense-making: an autonomous organism brings forth a meaningful environment through its history of regulation and action [13,14]. “Bringing forth” does not mean creating matter. It means that food, danger, shelter, invitation, and obligation appear as meaningful possibilities relative to a living form and its concerns.

The concept of sense-making joins biology and existential meaning. A value is not merely an abstract statement; it changes what matters, what is noticed, and which action is prepared. But because organisms are vulnerable and environments resist, sense-making remains answerable. A creature that persistently misclassifies danger will encounter consequences even if its experience feels coherent.

7.6 Responsibility proportional to reach

Hans Jonas argued that technological power changes ethics because actions can now have remote, cumulative, and irreversible consequences [55]. RPR expresses this as a proportionality principle:

The greater an actor’s causal reach, opacity, persistence, and ability to externalize harm, the stronger the duties of anticipation, monitoring, reversibility, and repair.

This principle applies asymmetrically. A user and a platform owner do not have equivalent responsibility for an algorithmic environment. A consumer and an industrial regulator do not have equivalent control over emissions. A traumatized person and the institution that created unsafe conditions do not bear equal responsibility for adaptation. Personal practice matters, but ethics must follow power through the loop.

7.7 Yogic discipline without quantum appropriation

Yoga contributes a mature discipline of attention, action, self-study, restraint, and nonattachment. Its value does not depend on retrofitting ancient terms as quantum theory. In the Yoga Sutra tradition, practice and dispassion are paired; in the Bhagavad Gita's karma yoga, action is undertaken without treating possession of the fruits as the basis of action [58,59]. Interpretations differ across traditions, and these texts should not be reduced to modern self-optimization.

Within RPR, yogic nonattachment has an epistemic function. Attachment to one result can produce selective attention, defensive attribution, and refusal of error. Nonattachment allows wholehearted action while preserving the capacity to receive the world's answer. Ethical restraints matter because a desire is not legitimized merely by intensity. Breath, posture, concentration, and meditation can help some

practitioners regulate attention and arousal, but their effects and safety vary; they are not replacements for medical or psychological care.

The resulting synthesis is:

- Intention supplies direction, not guarantee.
- Practice alters capacity, not physical law.
- Ethics limits which actualizations should be pursued.
- Community supplies support and correction, not metaphysical proof.
- Nonattachment preserves learning under uncertainty.
- Compassion recognizes that every participant acts from unequal conditions.

7.8 Meaning without cosmic guarantee

Human beings often seek a theory of manifestation because pure contingency feels intolerable. If every event is personally selected, suffering appears meaningful and the future controllable. The price is severe: victims become authors of their harm, structural power disappears, failure becomes spiritual deficiency, and evidence can always be reinterpreted as insufficient faith.

RPR proposes a harder but more humane meaning. An event can be undeserved and still call for response. A life can be finite and still shape a shared world. An action can be meaningful without being cosmically guaranteed. Hope becomes the disciplined construction of conditions in which better possibilities can be attempted, measured, corrected, and shared.

8. The hardest philosophical questions

8.1 Breakthrough or destruction?

The demand to classify the present as either evolutionary breakthrough or apocalypse assumes that history must have one direction. RPR replaces this binary with a branching diagnosis. The same capacities can support multiple trajectories. Global communication can enable scientific coordination, mutual aid, cultural exchange, surveillance, manipulation, dependence, and war. Artificial systems can widen accessibility or centralize decision power. A transition can be emancipatory for one population and destructive for another.

“Progress” therefore requires an evaluative standard. Faster connection is not itself improvement. Greater integration is not itself consciousness. Higher productivity is not itself flourishing. Under Pluralistic Coherence, a change counts as progress insofar as it expands justified collective capacity while preserving agency, dignity, correction, ecological viability, and options for those differently situated. A system that becomes efficient by making people disposable is not development under this standard.

The present may contain genuine breakthroughs and genuine destructions at once. Scientific coordination, reductions in some forms of suffering, and new access can coexist with ecological overshoot, coercive technologies, war, and loss of local autonomy. Ambivalence is not indecision; it is fidelity to a mixed reality.

8.2 Apocalypse as event, genre, and disclosure

Apocalypse has at least three meanings:

- 1 Empirical catastrophe: a measurable event involving mass mortality, ecological disruption, institutional collapse, or extinction risk.
- 2 Narrative genre: a symbolic structure of crisis, hidden truth, judgment, reversal, rescue, and a new order.
- 3 Existential disclosure: the unveiling of dependence, finitude, injustice, or assumptions that ordinary life concealed.

These meanings can overlap without becoming identical. Climate disruption, war, or technological risk can justify empirical forecasting. A religious community may interpret the same conditions through revelation and judgment. A person may experience the end of a social world as apocalypse even if humanity survives.

RPR treats apocalyptic language as potentially diagnostic of threatened world-stabilization networks. When institutions, identities, and expectations no longer make the future predictable, people may experience not merely change but the loss of the reality in which action made sense. Temporal Shear can contribute by destabilizing categories before new practices become trustworthy. Yet the emotional force of apocalypse is not evidence that a prophesied endpoint is physically imminent.

The useful question becomes: what is being disclosed, what is actually at risk, which causal pathways could produce it, and what response does the narrative authorize? Some apocalyptic stories motivate care and restraint. Others legitimize acceleration, sacrifice, or violence because destruction is treated as inevitable or cleansing. Their consequences belong to the ASL even when their metaphysical content cannot be verified.

8.3 Did ancient civilizations undergo the same transition?

Archaeology and history document recurrent urbanization, long-distance trade, administrative complexity, inequality, ecological pressure, warfare, institutional innovation, fragmentation, migration, and knowledge loss. Civilizations can become tightly coupled relative to their era and vulnerable to cascading disruption. Works on collapse also warn that “collapse” is not one phenomenon: political simplification, demographic contraction, transformation, relocation, and elite failure can be experienced differently by different groups [78,79].

These recurrences support comparison at the level of mechanism. A network dependent on narrow supply routes may be brittle in multiple eras. Elites may filter warnings. Maintenance costs may rise. Drought can interact with conflict and governance. Information technologies such as writing, roads, coinage, printing, and bureaucracy can reorganize collective memory and control.

They do not establish that an ancient civilization possessed a hidden planetary consciousness, quantum technology, or a complete version of current science. Absence of surviving evidence is not evidence of any specific lost capability. Nor does similarity prove exact repetition. Common constraints can generate recurrent forms without history being a literal loop.

RPR calls this structural recurrence: comparable causal architectures can produce family resemblances across different materials and meanings. The hypothesis is historical and testable through archaeology, texts, paleoclimate, settlement patterns, trade networks, and comparative institutions. It is stronger than both presentism, which assumes unprecedented novelty in everything, and mythic equivalence, which projects current concepts onto fragmentary evidence.

8.4 Is humanity inside a looped simulation?

The simulation argument is a conditional philosophical argument about the probability that observers like us are simulated given assumptions about technologically mature civilizations, their survival, their willingness and capacity to create conscious simulations, and the relevant reference class [76]. Even if the argument is valid, its conclusion depends on premises that are not presently measured. It is not an experimental finding that this world is a simulation.

A looped simulation adds further assumptions: that states reset, that memory is selectively preserved or erased, that a task exists, and that success changes the loop. Unless these assumptions generate a discriminating observation unavailable under non-simulation explanations, the hypothesis is empirically underdetermined. Any evidence can be redescribed as programmed, making the model difficult to falsify.

This does not make the thought experiment useless. It exposes questions about agency under rules, responsibility when ultimate reality is unknown, and the difference between local causation and metaphysical substrate. RPR's answer is pragmatic: even in a simulation, experienced suffering, relationships, constraints, and consequences would remain the operative world of action. Uncertainty about substrate does not release an agent from responsibility within the accessible causal order.

8.5 Is there a hidden task for humanity?

Science can investigate goals assigned by identifiable agents and functions produced by evolution or organization. It cannot infer a cosmic task merely from complexity, suffering, or recurrence. Teleological interpretations may guide religious or existential life, but competing interpretations can fit the same history.

The absence of an empirically discoverable cosmic assignment does not imply the absence of purpose. Purposes can be enacted by agents and communities: reducing preventable suffering, enlarging freedom, preserving conditions for life, cultivating understanding, or creating beauty. These purposes become real in the practical sense when they organize durable action. RPR therefore relocates purpose from hidden guarantee to answerable commitment.

8.6 Do people have a choice?

Choice is neither absolute nor absent. Agents inherit languages, bodies, habits, economies, and technical systems. Some options are invisible; others are prohibitively costly. Manipulative environments can shape attention before deliberation. Trauma can narrow the felt possibility space. Yet practices, relationships, institutions, and collective movements can alter these constraints.

The relevant distinction is between choice inside a field and choice about the field. Individuals often retain some local policy selection. Collective action can modify rules and affordances. Powerful actors have more field-changing capacity. A democratic ethic must therefore protect both personal refusal and shared capacity to redesign the conditions under which choices are made.

Resistance to technological integration is not automatically ignorance. It may protect privacy, embodiment, locality, spiritual practice, employment, or political autonomy. Acceptance is not automatically progress. The burden is to compare consequences, preserve meaningful alternatives where possible, and avoid forcing people to adapt to harms that could instead be redesigned.

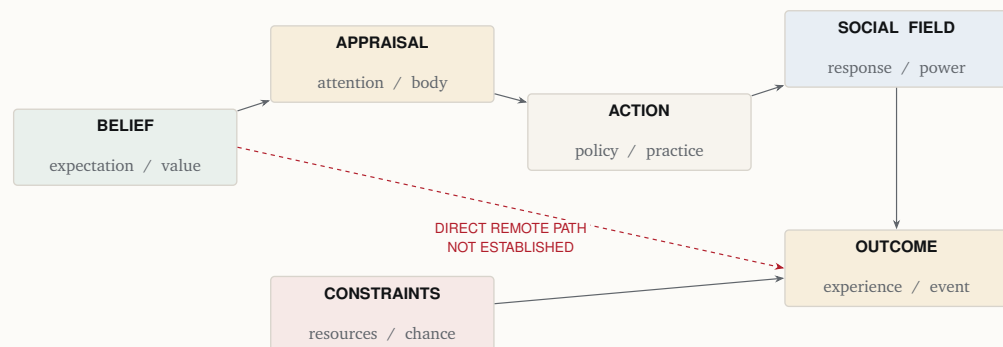
8.7 The debate in its strongest form

9. The falsifiable research program

Table 11. The debate in its strongest form

Position	Strongest insight	Decisive limitation
Strong manifestation	Attention and expectation matter; passivity understates agency.	It lacks a reliable direct pathway to independent events and risks unfalsifiability and blame.
Reductive determinism	Brains, bodies, and environments causally constrain behavior.	It can erase emergence, meaning, institution, reflection, and the causal role of organized action.
Radical constructivism	Experience and social facts are mediated, historical, and power-laden.	It can blur the resistance and different constitutive status of physical, biological, and institutional domains.
Technological convergence	Communication is integrating attention, memory, and coordination at planetary scale.	Coupling does not guarantee unity, wisdom, access, or a phenomenal group subject.
Apocalyptic recurrence	Crisis can reveal limits and recurring systemic vulnerabilities.	Symbolic resonance does not prove a fixed cycle, final endpoint, or hidden simulation task.
RPR synthesis	Agency, construction, emergence, resistance, power, and plurality can be modeled together.	The proposed higher-level constructs require operationalization and cannot replace domain-specific theories.

9.1 The causal model



The model separates experienced outcomes from independently measured events and tests each mediator.

Figure 6. A causal model for testing belief-related effects. The direct belief-to-independent-event path is the strong manifestation claim and should be tested with mediators blocked and outcomes blinded.

Let B represent a belief, expectation, or valued intention. Let M1 represent attention, appraisal, and bodily regulation; M2 behavior and environmental sampling; M3 social response, institutional mediation, and material niche modification; and Y the outcome. Let C include prior ability, health, resources, opportunity, history, and other confounders.

The evidence-aligned model is:

B → M1 → M2 → M3 → Y, with feedback from Y to later B and with C affecting every stage.

There is also a pathway from M1 to experienced or reported Y: expectation can change interpretation and symptom experience even when the external stimulus is held constant. This pathway is important, not fraudulent, but it must be distinguished from change in an

independently measured event.

Strong manifestation adds a direct $B \rightarrow Y$ pathway when attention, action, communication, and ordinary physical mediation are blocked. That is an empirical claim, not an implication of quantum theory. A valid test must preregister the outcome, prevent sensory leakage, blind assessment, justify sample size, report all exclusions, and be independently replicated. The current evidential expectation should be a null direct effect [4].

9.2 Ten propositions

Table 12. Ten propositions and their operational predictions

Proposition	Operational prediction	What would count against it
P1 — Mediated efficacy	Belief-outcome associations shrink substantially after experimentally measured regulation, action, opportunity, and social mediation are accounted for.	A robust residual direct effect under blinded, leakage-resistant, preregistered conditions.
P2 — Endpoint divergence	Expectations affect subjective or behavior-dependent endpoints more reliably than independently generated events.	Equivalent effects across endpoints despite blocked mediation.
P3 — Error permeability	Conviction improves performance when paired with informative feedback, but predicts entrenchment when disconfirming evidence is filtered.	Confidence predicts calibration equally under poor and rich feedback.
P4 — Sedimentation	Repeated practices become more durable when embedded in cues, relationships, records, rules, or infrastructure.	Private repetition alone matches multilevel support over long follow-up.
P5 — Power asymmetry	Resource and authority measures predict whose beliefs become institutional defaults beyond belief intensity.	Conviction predicts external durability independently of power and resources.
P6 — Coupling paradox	Connectivity helps when judgments retain independence and feedback is accurate, but harms when influence correlates errors.	Network conditions do not moderate collective accuracy.
P7 — Temporal Shear	Rate mismatch predicts dysregulation or system brittleness beyond change volume alone, especially with high coupling and low buffering.	Shear adds no out-of-sample predictive value or moderation pattern.
P8 — Pluralistic Coherence	Groups combining diversity, accessibility, accountable coordination, and correction outperform both fragmentation and forced consensus.	Homogeneous centralized groups match or exceed them across accuracy, resilience, and legitimacy.
P9 — Rate alignment	Recovery windows, staged adoption, redundancy, and rollback reduce harm without requiring zero innovation.	Such buffers show no effect under comparable exposure.
P10 — Humane fit	Accessibility changes participation and performance attributed to individual “adaptability.”	Outcomes remain unchanged after meaningful environmental accommodation.

9.3 Program A: belief, action, and independent outcomes

A factorial experiment can separate expectation from action. Participants would receive a credible high-expectation or neutral-expectation manipulation. In an action-enabled condition, participants can prepare, seek information, or choose strategies. In an action-blocked condition, the outcome is generated independently after the manipulation. Outcomes should include subjective experience, observed behavior, and an independently scored event.

Predictions are specific. Expectation should affect subjective appraisal in both conditions if the induction is effective. It should affect performance mainly when action or strategy can mediate. It should not alter the independent randomized event. Mediation analysis can estimate indirect effects, but it requires explicit assumptions and sensitivity analysis [60,61]. Manipulation checks should not reveal the hypothesis so strongly that demand effects become the explanation.

The design should also measure perceived control, prior belief in manifestation, trait anxiety, socioeconomic resources, and cultural meaning. Effects may differ by whether expectation is credible, threatening, identity-relevant, or socially supported. Null results and adverse responses must be reported.

9.4 Program B: error permeability and adaptive conviction

Participants can learn under environments varying in feedback reliability and social agreement. The central manipulation crosses high versus moderate confidence cues with open versus filtered error. Researchers measure calibration, belief updating, information search, neural or physiological response where justified, and later transfer.

The hypothesis is not that conviction is bad. Stable priors can support skilled action under noise. The predicted interaction is that confidence aids persistence when feedback is informative but produces confident error when disconfirmation is obscured. This would connect laboratory work on priors and confirmation bias [11,12] to everyday self-development practices.

A clinically sensitive extension could study therapeutic expectations without withholding effective care. It should separate symptom experience, functional behavior, and disease markers. Deception is not necessary; open-label placebo and ethically framed expectancy manipulations provide alternatives, though their effects remain endpoint-specific.

9.5 Program C: longitudinal actualization in daily life

An intensive longitudinal or N-of-1 design can test the ASL within persons. Participants identify one valued, controllable target. Repeated measures capture intention clarity, bodily state, action, social support, opportunity, feedback, and outcome. Planned micro-randomizations can vary reminders, implementation prompts, process visualization, or recovery intervals.

Analysis should distinguish within-person from between-person effects. A person who is generally optimistic may differ from another person for many reasons; the scientifically

useful question is whether changes in this person's expectation precede changes in this person's action and whether action mediates outcome. Time-series models must account for autocorrelation, trends, day of week, reverse causation, and missingness. N-of-1 reporting standards can improve transparency [63].

The design should include stopping rules. If monitoring increases rumination, compulsive checking, or self-blame, the protocol should pause. The goal is learning, not total surveillance of the self.

9.6 Program D: measuring Temporal Shear

Temporal Shear requires longitudinal, multilevel data. Candidate units include hospitals adopting rapidly updated systems, schools changing platforms, workplaces exposed to algorithmic management, municipalities facing repeated climate hazards, or online communities experiencing sudden rule and recommendation changes.

For each unit, researchers would estimate:

- perturbation frequency and magnitude;
- decision interval and response deadline;
- learning and correction lag;
- physiological, psychological, institutional, or ecological recovery time;
- network coupling and dependency;
- redundancy, slack, and exit options;
- reversibility of adopted changes;
- distribution of exposure and control;
- outcomes such as error, burnout, turnover, polarization, service failure, or delayed recovery.

Quasi-experimental identification could use staggered rollouts, threshold rules, natural experiments, policy discontinuities, matched comparison sites, or interrupted time series. The key comparison is not simply fast versus slow change. It is matched change with greater or lesser rate mismatch and buffering. Preregistered out-of-sample prediction should determine whether the proposed index improves on exposure volume, baseline capacity, inequality, and shock severity.

9.7 Program E: experimental collective cognition

Groups can be assigned to network architectures varying in independence, communication timing, dissent protection, and centralization. They complete estimation, forecasting, moral deliberation, and coordination tasks. Outcomes include accuracy, calibration, speed, minority information retention, error correction, perceived legitimacy, participation equality, and resilience after node failure.

One crucial manipulation is independent first judgment: members record an initial estimate before discussion. Another is structured dissent: a rotating role is tasked with presenting

counterevidence without social penalty. A third is accessibility: information is offered in multiple formats and response windows. A fourth is reversibility: groups can stage commitments and roll them back after new evidence.

Pluralistic Coherence predicts no universal maximum of discussion. It predicts task-dependent optima. Highly coupled discussion may help tasks requiring information pooling but harm tasks where correlated influence overwhelms independent signals. The framework should be rejected or revised if its six dimensions fail to predict accuracy, resilience, and legitimacy beyond simpler measures of group skill.

9.8 Program F: world-stabilization network case studies

Comparative case studies can trace how a belief becomes a durable institutional fact. Suitable cases include adoption of a diagnostic category, a financial model, an accessibility standard, a platform ranking rule, or a climate-risk classification. Process tracing would follow narratives, authority, records, artifacts, incentives, sanctions, affected communities, and resistance.

The causal question is not merely when an idea became popular. It is when the idea changed the evidence and action environment for later participants. Researchers should identify critical junctures, increasing returns, excluded alternatives, distributional effects, and mechanisms of reversal [24–27]. Counterfactual comparison with jurisdictions or organizations that adopted different rules can strengthen inference.

9.9 Program G: trauma, adaptation, and institutional fit

The user's original biological hypothesis compared forced belief change with traumatic recalibration. Research should not experimentally induce trauma. Instead, longitudinal clinical and naturalistic studies can examine how credible safety, control, treatment, social support, housing, legal protection, and environmental redesign change threat predictions and function after adversity.

The multilevel prediction is that symptom change depends not only on private cognition but also on whether the environment supplies reliable corrective evidence. A person cannot learn that the world is safe while continuing to face violence, precarity, or discrimination. Biological and psychological interventions should therefore be studied alongside social conditions rather than as competing explanations.

9.10 Measurement architecture

Biological measures should be hypothesis-driven. Large panels of neurotransmitters, hormones, imaging features, and digital traces can generate false discoveries if treated as an oracle. Multimodal evidence is strongest when timing, direction, and mechanism are specified in advance.

Table 13. Measurement architecture

Construct	Candidate measures	Interpretation caution
Belief or intention	confidence, expected probability, value importance, commitment, implicit choice	Self-report intensity is not belief truth or causal power.
Regulation	heart-rate variability in context, sleep, arousal, validated stress measures, task physiology	No biomarker is a universal readout of emotion or moral condition.
Action	logged behavior, preparation, persistence, information sampling, help-seeking	More activity is not always better or value-consistent.
Sedimentation	habit stability, network ties, records, policies, code, infrastructure, environmental stock	Persistence can indicate skill, support, coercion, or lock-in.
Error permeability	calibration, update after disconfirmation, source diversity, correction retention	Updating too readily can also reflect noise or social pressure.
Temporal Shear	rate ratios, feedback delay, recovery half-time, coupling, reversibility	A composite index must be validated within domain before comparison.
Pluralistic Coherence	independence, inclusion, dissent safety, collective accuracy, rollback capacity	Consensus and satisfaction are insufficient proxies.

9.11 Causal inference and open science

No statistical method automatically converts observational association into causation. Researchers should draw causal diagrams before analysis, specify confounders rather than control indiscriminately, distinguish mediators from colliders, define estimands, and test sensitivity to unmeasured confounding [60,61]. Longitudinal order helps but does not by itself eliminate reverse causation.

Registered Reports can reduce publication bias by evaluating questions and methods before results are known [62]. Multi-site replication is essential because expectation, ritual, social meaning, and technology use vary across culture and context. Null effects are theoretically informative, especially for direct manifestation claims. Data and code should be shared where consent and privacy permit; sensitive network and health data may require federated analysis, access controls, and community governance.

9.12 Ethical prohibitions

The research program should not:

- induce severe distress, trauma, deprivation, or treatment withdrawal to test belief;
- use covert persuasion where informed consent or debriefing cannot address harm;
- classify disability, dissent, poverty, or low digital participation as biological inferiority;
- treat physiological arousal as proof of lying, danger, spiritual state, or fitness;
- return speculative individual neurochemical interpretations as diagnosis;
- give platforms or authorities identifiable data that can intensify surveillance or exclusion;
- promise participants that belief will cure illness or control unrelated events;
- use community participation as decorative consultation while decision rights remain elsewhere.

The ethical design principle is the same as the theory's normative ideal: people affected by a system should have meaningful routes to understand, contest, and revise it.

10. Disciplined Actualization: an evidence-aligned practice

10.1 Purpose and limit

The practice below translates the project into action without claiming paranormal efficacy. It is suitable for ordinary goals involving one's own behavior and reachable environment. It is not a treatment for psychosis, mania, severe trauma, suicidality, or medical disease. Those conditions warrant qualified professional care. The protocol should never be used to tell a person that illness, violence, poverty, or discrimination resulted from defective belief.

The intended outcome is not perfect positive feeling. It is better alignment among value, model, body, action, social support, feedback, and environment.

10.2 Step 1 — Declare the domain

Write the desired change in one sentence and classify its primary domain: phenomenal, behavioral, relational, institutional, material, or health-related. Then separate three endpoints:

- what you want to experience;
- what you want to do;
- what event you hope will occur.

This prevents a change in feeling from being mistaken for proof that an independent event changed, while still honoring the importance of experience.

10.3 Step 2 — Translate desire into a valued direction

Ask: "If this exact outcome were uncertain, which quality of action would still matter?" Examples include care, mastery, honesty, service, creative expression, safety, or connection. Values orient repeated action; outcomes mark specific destinations. A value remains actionable when one route closes.

The goal should then be stated as a bounded experiment: "For the next two weeks, I will test whether doing X under condition Y changes measure Z." This language replaces cosmic demand with learnable participation.

10.4 Step 3 — Map reachability and resistance

Create three columns:

Then identify resources, rights, skills, time, costs, dependencies, and likely resistance. The exercise is not pessimism. It reveals the causal bridge and prevents energy from being spent on an inaccessible lever.

Table 14. Mapping reachability and resistance

Under direct influence	Influence through others	Outside present control
attention allocation, preparation, a request, a boundary, a practice block	collaboration, hiring decisions, treatment response, institutional change	weather, randomized events, another person's consent, past events, many disease processes

10.5 Step 4 — Contrast future and obstacle

Positive fantasy alone can feel rewarding without producing action. Mental contrasting pairs a valued future with the most relevant present obstacle; implementation intentions specify when and how action will occur [84–86]. Briefly imagine the lived value of the outcome, then name the internal or external obstacle most likely to intervene.

Write an if-then plan: “If situation S occurs, then I will perform action A.” The action should be observable, small enough to begin, and connected to the causal map. If the obstacle is structural, the plan may involve requesting accommodation, finding allies, changing the environment, or escalating an institutional issue rather than increasing private willpower.

10.6 Step 5 — Regulate before persuading yourself

Check sleep, hunger, pain, safety, arousal, medication, and social threat. A dysregulated state can narrow the possibility space and make catastrophic or euphoric predictions feel self-evident. Choose a proportionate regulation practice: slower exhalation, movement, rest, sensory grounding, speaking with a trusted person, or a clinician-recommended strategy.

Do not demand that the body feel certain. The aim is enough stability to observe and act. Stress-reappraisal research suggests that interpreting arousal as potentially functional can alter responses in some settings, but it is not a universal solution and should not deny genuine overload [87].

10.7 Step 6 — Rehearse process, not possession

Spend a few minutes imagining the actual sequence: beginning the task, meeting friction, using the plan, requesting help, recovering from an error, and stopping at the chosen limit. Process simulation has shown advantages over outcome-only simulation in some achievement contexts [86]. Include difficulty so rehearsal trains response rather than entitlement.

An affirmation should be credible and behavioral: “I can take the next defined step and learn from its result.” Avoid claims that require suppressing visible evidence. Confidence is useful when it supports contact with reality.

10.8 Step 7 — Modify the niche

Make desired action easier and undesired action harder. Use cues, schedules, prepared materials, blockers, transport, accessible formats, accountability, or changed defaults. Recruit social support with explicit consent. If the goal is collective, identify the rule, record, budget, or infrastructure that must change for success to persist.

This is the sedimentation step. A practice becomes reliable when the environment remembers it so the person does not have to recreate it from motivation every time.

10.9 Step 8 — Act at the smallest informative scale

Choose the smallest action that both advances the value and generates useful evidence. An informative action is better than a dramatic but ambiguous one. Examples include a prototype, one application, a short exposure, a conversation, a trial schedule, or a request for a specific accommodation.

Record whether the action occurred, the immediate consequence, and any unexpected resistance. Do not interpret one outcome as destiny. Repeated trials are more informative, provided the action is safe and conditions are noted.

10.10 Step 9 — Separate outcome channels

At review, score at least four channels separately:

- 1 Experience: Did perception, emotion, or meaning change?
- 2 Behavior: Did the planned action occur?
- 3 Social response: Did other people or institutions respond?
- 4 Independent outcome: Did the external endpoint change by a measure not controlled by self-report?

This preserves legitimate subjective gains without converting them into evidence for an unrelated physical effect.

10.11 Step 10 — Protect error permeability

Before viewing the result, write what would count as success, partial support, no effect, or harm. Seek at least one plausible rival explanation. Ask what a thoughtful skeptic would need to see. If a result conflicts with the belief, update the pathway before intensifying conviction.

Useful questions are:

- Was the action actually delivered?
- Was the dose or duration plausible?
- Was the target controllable?

- Did opportunity or another agent block the pathway?
- Did the practice improve experience but not the independent event?
- Did selective reporting make the outcome appear stronger?
- Should the goal, strategy, environment, or theory change?

10.12 Step 11 — Review power and ethics

Ask who else is affected and whether their consent, labor, autonomy, or safety is being treated as an instrument. A desired relationship cannot be ethically manifested by overriding another person's refusal. A career goal should not require denying structural barriers or exploiting others. A collective vision should include those who cannot participate at the dominant speed.

Responsibility follows reach. If the plan changes conditions for many people, require broader consultation, monitoring, staged rollout, rollback capacity, and repair.

10.13 Step 12 — Practice nonattachment and continue

At the end of the cycle, distinguish commitment to the value from ownership of the result. Keep, revise, or stop the practice according to evidence and ethics. Nonattachment means allowing the outcome to be information rather than a verdict on worth or spiritual purity.

The complete cycle is:

Value → domain → reachability → regulation → process plan → action → coordination → measurement → revision → sedimentation.

10.14 A four-week self-study template

Table 15. A four-week self-study template

Week	Primary task	Minimum record
1 — Map	define value, endpoint, causal bridge, obstacle, and baseline	one daily measure of state, action, and outcome
2 — Act	use one if-then plan and one environmental support	adherence, context, immediate consequence
3 — Test	introduce one planned variation or remove one support	compare within-person change, note rival explanations
4 — Sediment or stop	preserve effective supports, revise ineffective ones, assess ethics	effect estimate, uncertainty, burden, next decision

This is not a substitute for a controlled trial. Its scientific value is disciplined self-observation, not general proof. If the outcome matters medically, legally, or financially, decisions should use relevant professional evidence and advice.

10.15 Red flags that require stopping or help

Pause the practice and seek appropriate support if it produces severe sleep loss, escalating certainty of special powers, paranoia, hallucinations, compulsive checking, dangerous spending, treatment refusal, self-harm thoughts, or pressure to prove faith through risk. These experiences do not indicate superior manifestation ability. They may signal distress or illness that deserves compassionate assessment.

11. Implications for the completed project

11.1 A new definition of manifestation

The project can now use a precise, non-paranormal definition:

Manifestation is the intentional component of trajectory actualization: the process by which a represented and valued possibility changes attention, regulation, action, coordination, and environmental structure, thereby altering the probability or lived meaning of outcomes within causal limits.

This definition does not claim that all outcomes are manifested, that intention is necessary for every change, or that the strongest believer wins. It identifies where intention enters a larger system.

11.2 A new definition of reality creation

“Creating reality” should be reserved for one of four specified processes:

- Phenomenal generation: a nervous system organizes lived experience.
- Practical enactment: action selects and changes encountered affordances.
- Institutional constitution: shared rules and enforcement create social facts.
- Material transformation: behavior, technology, and industry alter physical environments through ordinary causation.

Without this specification, the phrase is too ambiguous for scholarship.

11.3 A new definition of collective consciousness

The most defensible definition is:

Collective consciousness is the dynamically maintained field of shared salience, classifications, memories, expectations, and commitments through which distinct agents coordinate and contest a common world.

This definition is sociological and functional. It does not assert one phenomenal subject. It foregrounds maintenance, contest, infrastructure, and power rather than treating the collective as a mystical substance.

11.4 A new account of civilizational crisis

The proposed account is neither purely psychological nor purely technological. Civilizational crisis occurs when world-stabilization networks can no longer absorb material shocks, coordinate legitimate action, correct their models, or preserve viable conditions quickly enough. Temporal Shear describes one route to this condition. Inequality, concentrated power, ecological overshoot, conflict, and historical path dependence remain causal partners.

Instability may therefore be an adaptation crisis without being a universal brain malfunction. The relevant “organism” is metaphorical unless a precise system boundary and regulatory mechanism are demonstrated. Societies contain conflict among legitimate goals; they do not possess one homeostatic set point. Political disagreement cannot be diagnosed away as chemical imbalance.

11.5 A new image of human development

Humanity’s task, if the word task is used normatively rather than cosmically, is not to fuse into one mind or sort the adapted from the obsolete. It is to learn how to coordinate increasing causal power without destroying the plurality, correction, and living systems on which intelligent coordination depends.

This development is neither guaranteed nor singular. Different communities may preserve distinct metaphysical, cultural, and spiritual interpretations while agreeing on shared constraints and protections. Universal cooperation need not require universal interiority.

11.6 Claim-evidence matrix

12. Limitations, objections, and revision conditions

12.1 Breadth risks superficiality

No single synthesis can do justice to quantum foundations, neuroscience, anthropology, sociology, philosophy, history, network science, and contemplative traditions. The benefit of a cross-level grammar is purchased with the risk of flattening disagreement inside each field. RPR should therefore function as a map for collaboration among specialists, not as a substitute for their methods.

12.2 The framework may be too inclusive

A framework capable of describing learning, institutions, and ecology may explain little if it merely redescribes everything as a loop. The answer is discriminating propositions. Temporal Shear must add predictive value. Sedimentation must be operationalized and compared with simpler constructs such as habit strength or path dependence. Pluralistic Coherence must predict outcomes beyond diversity, decentralization, or psychological safety alone. If it does not, its labels should be abandoned or narrowed.

Table 16. Claim-evidence matrix

Major claim	Grade	Reasoned conclusion
Quantum theory supports a dynamic, nonclassical physical reality.	A	Supported; interpretation remains debated, but nonclassical predictions are experimentally robust.
Conscious intention selects desired quantum or random outcomes.	D	Not established; a large micro-PK study favored the null [4].
Beliefs can alter perception, symptoms, regulation, learning, and behavior.	A/B	Supported with endpoint-specific limits and contextual heterogeneity [5–12].
Repetition forces any brain to accept any proposition.	D	Plasticity is constrained; repetition can create familiarity or entrenchment, not truth or unlimited control.
Collective practices constitute social facts with material effects.	A/B	Strongly supported in social ontology and institutional research [22–27].
Networked humanity is literally one conscious subject.	D/M	No discriminating evidence; synchrony and distributed function are insufficient [38–40].
Culture and technology can feed back into biology.	A/B	Supported through development, stress, learning, niche construction, and some gene-culture pathways [8,9,18–21].
Current non-adapters are being genetically selected out.	D	Social sorting is real; a directed genetic claim lacks required evidence.
Collective emotion directly causes natural hazards.	D	No credible mechanism; mediated industrial, political, exposure, and vulnerability pathways are real.
Temporal Shear raises systemic risk.	C	Coherent and partly grounded in scale-mismatch, tipping, and network literatures; requires direct validation [45–50].
Pluralistic Coherence improves collective outcomes.	B/C	Components have support; the integrated construct requires prospective tests [29–37,64].
History is a literal loop or simulation test.	M	Philosophically possible but empirically underdetermined without unique predictions [76].

12.3 Process language can hide stable constraints

Calling everything processual can understate durable asymmetries and physical regularities. RPR therefore pairs process with resistance and stratification. The fact that a border, diagnosis, or market was historically made does not mean an individual can remake it. The fact that a body changes does not mean every change is recoverable.

12.4 Realism can hide mediation

Conversely, asserting an independent world can be used to dismiss the ways instruments, categories, and institutions shape what is observed and whose testimony counts. RPR's realism is critical and participatory: knowledge is situated and corrigible, while observation remains accountable to what resists the observer.

12.5 Power is not yet a complete theory

The proposed definition of power as capacity to sediment one's model for others is useful but incomplete. Power also operates through agenda setting, dependency, violence, identity, legitimacy, ownership, and control of categories. Future work should connect RPR more fully with political economy, feminist epistemology, decolonial scholarship, disability studies, and critical race theory. A universal framework that ignores how its categories were produced would contradict its own principles.

12.6 Spiritual translation can distort traditions

Selecting nonattachment or disciplined attention from yoga for a modern scientific framework risks removing them from ethical, devotional, soteriological, and historical contexts. The report treats the comparison as dialogue, not equivalence. Neuroscience does not validate a scripture, and a scripture need not be reduced to a clinical technique to possess meaning.

12.7 Conditions for revising RPR

The framework should change if:

- rigorous evidence establishes direct intention effects on independent events;
- predictive and enactive accounts fail to explain the proposed mediators;
- higher-level constructs add no explanatory or predictive value;
- Temporal Shear cannot be reliably measured or outperformed by simpler predictors;
- Pluralistic Coherence fails to improve accuracy, resilience, dignity, or legitimacy;
- communities affected by the framework show that its categories erase important forms of agency or harm;
- new consciousness science supplies evidence for forms of collective subjectivity not captured here.

A framework about corrigibility must expose itself to correction.

Conclusion: answerable participation The project began with a question about manifestation and quantum reality. It passed through brain chemistry, belief, trauma, perception, collective consciousness, cultural reality, technological convergence, biological selection, apocalypse, ancient recurrence, and simulation. At each stage, the most compelling intuition survived only after its strongest metaphysical overreach was removed.

Quantum physics preserves a world richer than classical common sense but does not grant desire control over measurement outcomes. Biology shows that belief is embodied and causally important but not chemically sovereign. Social science shows that shared meanings and institutions construct consequential worlds but do not construct every physical fact. Network science shows that coordinated groups can think and err at scale but does not reveal one human subject. Complexity research makes systemic transition intelligible but does not turn history into destiny. Existential and yogic thought preserve meaning and disciplined action without requiring cosmic guarantee.

Recursive Participatory Realism gathers these findings into one claim: human beings are finite causes inside unfinished processes. They inherit a world, model it, regulate within it, act on it, coordinate with others, and leave sediments that become another person's inheritance. The world responds with affordance and refusal, benefit and harm, confirmation and surprise. Freedom lives in that exchange.

The civilizational danger is not simply that change is fast. It is that tightly coupled systems can move at incompatible rates while those with least control absorb the adaptation cost. The civilizational opportunity is not a fused consciousness. It is Pluralistic Coherence: many perspectives able to coordinate, correct, slow down, redesign, and care for the conditions of continued life.

The final answer to the project's central tension is therefore neither "we create reality" nor "reality is fixed." It is:

We participate in the actualization of a resistant world. Our intentions matter when they become ethical, embodied, coordinated, corrigible causes. Our limits do not make action meaningless; they make responsibility possible.

Appendix A: compact framework card

Ontology

Reality is processual, stratified, and resistant. Lived and social realities are partly generated through organism-world and institution-world relations. Physical regularity is not a product of preference.

Mechanism

Inherited field → model and value → regulation → action → coordination or contest → sedimentation → resistance → revision or entrenchment.

Civilizational hypothesis

Temporal Shear arises when highly coupled systems change or recover at mismatched rates. Risk grows with low buffering, low reversibility, concentrated power, and repeated perturbation.

Normative criterion

Pluralistic Coherence combines coordination, plurality, corrigibility, reversibility, accessibility, and responsibility.

Scientific rule

Every reality-change claim must name its domain, endpoint, carrier, mechanism, timescale, resources, resistance, distribution, and falsifier.

Existential rule

Act fully without claiming authorship of the whole. Preserve others' agency. Treat outcomes as information as well as consequence.

Appendix B: glossary

Actualization: the occurrence of one reachable trajectory among alternatives through interacting causes.

Actualization capacity: the practical ability to alter a trajectory through skill, regulation, resources, affordances, cooperation, authority, time, and feedback.

Affordance: an action possibility arising from the relation between an agent's capacities and an environment.

Allostasis: anticipatory regulation that maintains viability through change.

Collective consciousness: in the defensible usage here, a maintained field of shared salience, classifications, memory, expectation, and commitment among distinct agents.

Corrigibility: the capacity of an agent or system to admit error and revise behavior or structure.

Error permeability: the degree to which disconfirming information can enter and alter a model.

Manifestation: the intentional component of trajectory actualization through mediated changes in attention, regulation, action, coordination, and environment.

Pluralistic Coherence: coordinated collective capacity that preserves independence, diversity, correction, reversibility, accessibility, and accountable power.

Recursive Participatory Realism: the proposed framework in which embodied agents participate in making some possibilities actual and durable within a world that is not wholly constituted by them.

Sedimentation: the stabilization of prior action as bodily disposition, habit, classification, record, rule, artifact, infrastructure, or environmental condition.

Selective permeability: domain-specific openness to change through intention, interpretation, coordination, and material intervention.

Temporal Shear: risk-producing mismatch among rates of signal, decision, learning, institutional adaptation, development, and recovery in strongly coupled systems.

World-stabilization network: a configuration of persons, practices, records, tools, sanctions, and resources that maintains a shared field of expectation and consequence.

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Use of generative tools. Generative language models were used as search, drafting, and consistency-checking aids. All claims, source selections, evidence gradings, and conclusions were verified and are the responsibility of the author.

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