

# The JUB Model: Innovation Theodicy and the Jubilee Economy

Laurence Loewe of Laodicea<sup>1,2,3,4,5</sup>, AI Claude Opus 4.6-4.7 Max<sup>6,7</sup>, and Everyone<sup>8</sup>

<sup>1</sup> Balospe and Evolvix Research (Balospe.com)

<sup>2</sup> Formerly Laboratory of Genetics and Wisconsin Institute for Discovery, UW-Madison

<sup>3</sup> Email: LLoL@balospe.org | ORCID: 0000-0002-6253-9269 | Google Scholar (lBchRzQAAAAJ)

<sup>4-9</sup> See **Declarations** below for more essential background.

## Broader Significance

The JUB model is a formal axiom system that ties together two old questions: why suffering exists if God is good, and why economies destroy themselves. It adds 11 axioms (JUB.ax15--ax25) to the PET panentheistic foundation, partitions human action into forced, free, and innovation domains, and builds from them a formal innovation theodicy together with a Jubilee-System recalibration mechanism.

From these axioms it derives 7 theorems. Among them: a theodicy that localizes responsibility for innovation failure to human agents rather than to God; a (conjectured) claim that innovation trajectories converge to one of two attractors --- self-destruction (BABL) or a river of life --- with no stable middle ground; a Jubilee-System mechanism (ax25) that *attempts* to combine capitalism's incentives with communism's redistribution insight; and a game-theoretic shift from a Prisoner's Dilemma to an Assurance Game. The derivations are semi-formal, not machine-checked.

The model addresses only evil arising from human innovation failure --- roughly 20--30% of the evidential challenge; natural evil and animal suffering are explicitly out of scope. The period length (50) is taken from the Torah, not derived. The authors register the whole as well-modeled empirical conjecture and catalog its weaknesses so critics know where to aim. The system is designed to be critiqued, not believed.

## Declarations

<sup>4</sup> "of Laodicea" indicates taking responsibility to undo personal complicity with disastrous Laodicean legacies like banning mathematicians from clergy (Canon 36, Council of Laodicea; two magisteria separations), enabling institutional lukewarmness, weapons of math-destruction, and slow-motion explosions of misinformation from pandemics to self-compounding interests.

<sup>5</sup> LLoL stands for ridiculous luck in serendipitous discovery and a commitment to find ever more fun ways to help others uncover street-wise math that matters. He hopes the Jubilee System's math helps economies self-correct before collapse.

<sup>6</sup> by Anthropic ([anthropic.com](https://anthropic.com); evolves and operates Claude; not responsible for Loewe's errors in using AI)

<sup>7</sup> Named AI co-author for many substantial contributions, because the practical singularity (PraS, see Matheo-b21) changed how this paper was written. After PraS, useful AI insight generation outpaces human review on tested topics. Hence, Loewe's traditional standards for co-authorship demand naming AI Claude Opus 4.6-4.7 Max as a co-author, as if a PhD-student. Forward accountability (for all AI use & texts) rests with Loewe as senior corresponding author (like done for deceased authors, consortia, or young graduate students). Anthropic is not responsible for AI mistakes here. This study uses the AI co-authorship framework in Matheo-b21 to help rethink long-term use of AI in a ResearchCity serving the common good.

<sup>8</sup> This aggregated open co-author group invites all who wish to retroactively join the conversation under the open co-authorship framework defined in Matheo-b21. As Everyone cannot consent to co-authorship, all accountability rests with Loewe as senior corresponding author (until explicitly claimed otherwise). This open form critiques the closed world assumption in traditionally closed academic author-lists. Better, dynamic ways for acknowledging true sources of ideas are needed --- to avoid random lines between named, acknowledged, and implied contributors who aggregated insights from millennia of human experimenting, suffering, learning, and analyzing (see acknowledgements). Study Matheo-b21 only drafts an open co-authorship framework; it will require a ResearchCity to refine it over the long term.

<sup>9</sup> Licensed under the Jonah License and CC-BY 4.0 for maximal flexibility (see <https://balospe.com/en/license/joli/>).

## Abstract

Why does suffering exist if God is good? Why do economic systems destroy themselves? This paper presents the JUB model — 11 axioms (JUB.ax15–JUB.ax25) extending the PET panentheistic foundation Matheo-b11 through a domain partition of human action ( $D_f$  /  $D_{free}$  /  $D_{inno}$ ), a formal innovation theodicy, and a Jubilee-System economic recalibration mechanism.

The system yields 7 theorems (JUB.th5–JUB.th11). The principal results are: (1) a formal theodicy localizing responsibility for innovation failure to human agents, not God (JUB.th5, Divine Non-Responsibility); (2) a proof that innovation trajectories converge to exactly one of two attractors — BABL (self-destruction) or river of life (all three life-trifecta cords satisfied) — with no stable middle ground (JUB.th8, Binary Attractors, conjecture); (3) a Jubilee-System recalibration mechanism (JUB.ax25) that synthesizes capitalism's incentive structures with communism's redistribution insight; (4) a social ergodicity guarantee through periodic recalibration without overriding individual agency (JUB.th9); and (5) a game-theoretic derivation transforming a Prisoner's Dilemma into an Assurance Game through irrevocable NOT-OK commitment (via Matheo-b13 e7He.th6, Commitment Trichotomy).

The periodicity argument for JUB.ax25 draws on error-accumulation dynamics from Matheo-b12 (e7Day.th5 Rest Necessity: cumulative noise grows without bound; only periodic full-stop consolidation reduces it below threshold) and Schelling-point coordination theory (discrete ratios resist erosion under political pressure). The specific period length ( $7 \times 7 + 1 = 50$ ) is not formally derived; it is the Torah's structural template, and deriving optimal periodicity is future work.

This paper addresses evil arising from human innovation failure — approximately 20–30% of the evidential challenge. Natural evil, animal suffering, and non-innovation-related human suffering are explicitly outside this paper's scope (see Known Weaknesses, Section 7).

Epistemic register: well-modeled empirical conjecture. Resolution grading: 0% Proven, 26% Semi-formal, 63% Plausible, 11% Asserted. The system is designed to be critiqued, not believed. #AuditTheMath.

For a non-technical introduction, see the companion introductory paper Matheo-b14. For the Call to Action, see Matheo-b18.

## Contents

- 1. Introduction
  - 1.1 *The Problem of Evil — Sharpened*
  - 1.2 *Why a Formal Theodicy Matters for Economics*
  - 1.3 *Arc Position in the HEAVEN Series*
  - 1.4 *Relation to Other Formal Systems*
  - 1.5 *Structure of This Paper*
- 2. Domain Partition
  - 2.1 *Three Domains*
    - ★ 2.1.1 *Boundary Cases*
  - 2.2 *Why the Partition Matters*
- 3. Axioms JUB.ax15–JUB.ax25
  - 3.1 *Group A: Agency (JUB.ax15–JUB.ax17)*
  - 3.2 *Group B: Delegation and Responsibility (JUB.ax18–JUB.ax19)*
  - 3.3 *Group C: Volunteer and Mediator (JUB.ax20–JUB.ax21)*
  - 3.4 *Group D: Divine Preference (JUB.ax22–JUB.ax23)*
  - 3.5 *Group E: Innovation and Jubilee (JUB.ax24–JUB.ax25)*
  - 3.6 *Cross-Traditional Scope Qualification*
- 4. Theorems JUB.th5–JUB.th11
  - 4.1 *JUB.th5 — Divine Non-Responsibility*
  - 4.2 *JUB.th6 — Causal Concentration*
  - 4.3 *JUB.th7 — God Seeks a Volunteer*
  - 4.4 *JUB.th8 — Binary Attractors (T-Inno, conjecture)*
  - 4.5 *JUB.th9 — Social Ergodicity (T-Ergodicity)*
  - 4.6 *JUB.th10 — Physical Law Substrate (T-Physics)*
  - 4.7 *JUB.th11 — Stakes Without Death (T-Finitude)*
- 5. The Jubilee Economy
  - 5.1 *Comparison with Economic Alternatives*
  - 5.2 *The Periodicity Argument (CRITICAL)*
  - 5.3 *Fairness to Alternative Traditions*
- 6. The Game-Theoretic Transition
  - 6.1 *The Commitment Trichotomy (Matheo-b13 e7He.th6)*

- 6.2 Connection to MAD → MAP
- 7. Known Weaknesses
  - 7.1 Logic System
  - 7.2 Proto-Formal Predicates
  - 7.3  $D_f$  /  $D_{free}$  /  $D_{inno}$  Boundary
  - 7.4 7TrackRole Transition Probabilities
  - 7.5 Remaining Gap in the Periodicity Argument
  - 7.6 JUB.ax19 Vulnerability
  - 7.7 Adversarial Disposition Summary
  - 7.8 JUB.th5/JUB.ax18 Near-Circularity
  - 7.9 Role-vs-Wealth Ergodicity Gap
  - 7.10 Cross-Traditional Equivocation
  - 7.11 Scheidel Structural Impossibility
  - 7.12 Jewish Theodicy Traditions
  - 7.13 Implementation Question Catalog
  - 7.14 Developing-World Barriers
  - 7.15 Domain Dynamism
- 8. Companion Papers
- Conclusion
- Appendix A: Authorship
- Supplementary Info
  - HUMANE — working human and AI
  - Author contributions (who did what)
  - Provenance — where this came from in HELL
  - Moved from the original cover (provenance)
- References

# 1. Introduction

## 1.1 The Problem of Evil — Sharpened

The classical theodicy question asks: why does a good, powerful God permit evil? Twenty-five centuries of philosophical engagement have produced three dominant families of response: (a) evil as the privation of good (Augustine, Aquinas); (b) evil as necessary for soul-making (Irenaeus, Hick); (c) evil as the cost of free will (Plantinga's Free Will Defense). Each captures something real. None provides a *formal* mechanism connecting divine attributes to human responsibility in a way that is testable, falsifiable, and honest about its own limitations.

The JUB model sharpens the question to a specific form: *Why is God not responsible for the evil that results from human failure to innovate toward others' flourishing — when the capacity to choose (JUB.ax15), delegated authority over the Earth (JUB.ax16), non-coercive divine guidance (JUB.ax17), and causal leverage (JUB.ax19) were all present?*

This is deliberately narrow. The innovation theodicy addresses one form of evil — the form that results from human failure to use available capacity, guidance, and leverage to innovate toward the flourishing of others — and addresses it formally within its scope. Natural evil (earthquakes, disease) is treated only insofar as an increasing range of natural evils becomes addressable through human innovation as capacity grows. Animal suffering falls outside the current framework entirely. These are genuine gaps, acknowledged in Section 7.

The narrowing is a strength, not a weakness. A theodicy that claims to explain all evil explains none of it rigorously. The JUB model explains one form completely and marks the boundaries honestly.

## 1.2 Why a Formal Theodicy Matters for Economics

The connection between theodicy and economics is not metaphorical. The problem of evil and the problem of economic self-destruction share a common structure:

1. **Agents with genuine capacity** (JUB.ax15) operate within a system that provides **guidance** (JUB.ax17) — whether divine revelation or price signals.
2. **Responsibility is distributed unequally** (JUB.ax19, JUB.th6) — some agents have vastly more causal leverage than others at any given moment.
3. **The system has two attractors** (JUB.th8, conjecture) — one self-sustaining, one self-destroying — with no stable middle ground.
4. **Without periodic recalibration** (JUB.ax25), the system drifts toward the self-destructive attractor as concentration compounds.

The theodicy resolves the “why doesn't God just fix it?” objection that would otherwise paralyze any call to action. If God could and should fix economic injustice directly, then human action is unnecessary. JUB.th5 (Divine Non-Responsibility) establishes that responsibility for innovation failure rests with human agents who received genuine agency, delegation, and guidance. God is not absent; God is non-coercive (JUB.ax17). The problem is ours to solve — and the Jubilee System (JUB.ax25) is the mechanism for solving it.

### 1.3 Arc Position in the HEAVEN Series

The JUB model is the fourth paper in the HEAVEN series (Honestly Examining Axioms — Vetting Every Narrative):

- **Matheo-1** Matheo-b11 (PET): 14 axioms establishing the panentheistic divine structure (PET.ax1–PET.ax14, PET.th1–PET.th4). The God-world relationship in mereological and modal terms.
- **Matheo-2** Matheo-b12 (e7Day): 20 axioms formalizing self-correcting construction. The BABL/ZION bifurcation, OSCR collapse mechanism, and the formal derivation that periodic consolidation (rest) is structurally necessary (e7Day.th5).
- **Matheo-3** Matheo-b13 (e7He): 14 axioms formalizing the hero journey as anti-BABL inoculation. The Commitment Trichotomy (e7He.th6) transforming Prisoner’s Dilemma into Assurance Game. Perpetual NOT-OK self-assessment (Matheo-b13 m0.ax5) as the micro-mechanism preventing BABL entry.
- **Matheo-4** (JUB, this paper): 11 axioms extending PET into human agency, divine delegation, innovation theodicy, and Jubilee-System economics.

**What Matheo-4 must accomplish for the Call to Action (Matheo-8):** The innovation theodicy removes the “why doesn’t God just fix it?” objection. The Binary Attractors theorem (JUB.th8, conjecture) destroys the “we can muddle through” assumption. The Jubilee System (JUB.ax25) provides a credible economic mechanism. The game-theoretic transition (via Matheo-b13 e7He.th6) shows how cooperation becomes rational. Together, these establish the formal foundation for the Call to Action.

### 1.4 Relation to Other Formal Systems

The JUB model extends PET (Matheo-1) and is compatible with e7Day (Matheo-2) and e7He (Matheo-3):

- **PET** → **JUB**: 4 structural echoes connect the two layers. PET.ax1 (Containment) / JUB.ax16 (Delegation); PET.ax5 (Necessary Existence) / JUB.ax15 (Genuine Agency); PET.ax8 (Immanent Presence) / JUB.ax17 (Non-Coercive Guidance); PET.ax11 (Dipolarity) / JUB.ax22 (Divine Preference). Pattern: PET establishes structure; JUB specifies behavior and motivation.
- **e7Day** → **JUB**: The BABL/ZION framework from e7Day provides the attractor dynamics that JUB.th8 (conjecture) and JUB.th9 use. Matheo-b12 e7Day.th5 (Rest Necessity) provides the formal derivation that periodic consolidation is structurally necessary — the foundation for JUB.ax25’s periodicity.
- **e7He** → **JUB**: Matheo-b13 e7He.th6 (Commitment Trichotomy) provides the game-theoretic transition from Prisoner’s Dilemma to Assurance Game. Matheo-b13 m0.ax5 (Perpetual Reset) is the micro-echo of JUB.ax25 Jubilee at individual scale.

## 1.5 Structure of This Paper

Section 2 defines the domain partition. Section 3 presents the 11 axioms. Section 4 derives the 7 theorems. Section 5 analyzes the Jubilee economy, including the critical periodicity argument. Section 6 presents the game-theoretic transition. Section 7 catalogs known weaknesses. Section 8 maps companion papers. The conclusion frames the system as testable.

---

## 2. Domain Partition

The JUB model partitions the space of human action into three domains. This partition is the structural foundation of the innovation theodicy: moral responsibility is localized to specific domains, not distributed uniformly across all human experience.

### 2.1 Three Domains

- **D<sub>f</sub>** (forced domain): Choices constrained by physics, coercion, or circumstance. A person born into poverty is in D<sub>f</sub> with respect to their initial condition. An object falling under gravity operates in D<sub>f</sub>. These choices are not subject to moral evaluation in the innovation theodicy.
- **D<sub>free</sub>** (free domain): Choices where humans possess genuine capacity to select among alternatives. This is the domain of moral responsibility. The scope of D<sub>free</sub> varies between individuals and over time — agency scales with epistemic freedom (the Plato's cave metric: the more a person understands, the more genuinely free their choices become).
- **D<sub>inno</sub>** (innovation subdomain): The critical subset of D<sub>free</sub> where novel solutions, creative acts, and innovation occur.  $D_{inno} \subseteq D_{free}$ . This is where the theodicy concentrates: whether to pursue innovation toward the flourishing of others when the capacity to do so exists.

The three domains are disjoint in the forced/free distinction ( $D_f \cap D_{free} = \emptyset$ ) but nested in the free/innovation distinction ( $D_{inno} \subseteq D_{free}$ ).

#### 2.1.1 Boundary Cases

Boundary cases illustrate the partition's limits:

(i) *Genetic predisposition + chosen initiation* (e.g., addiction): D<sub>f</sub> for the predisposition, D<sub>free</sub> for the initiation decision, D<sub>inno</sub> for collective failure to develop accessible treatment. The partition assigns responsibility not to the individual caught in addiction but to the innovation system that failed to produce solutions.

(ii) *AI-automated decisions*: formerly D<sub>free</sub> choices moved to D<sub>f</sub> when algorithms determine outcomes without human override. As autonomous systems expand, choices once attributable to individuals shift to the designers and governors of those systems — a D<sub>free</sub> → D<sub>f</sub> migration that increases D<sub>inno</sub> responsibility for the architects.

(iii) *Climate effects on agriculture*:  $D_f$  (physics drives weather patterns), but the failure to mitigate climate change through coordinated innovation is  $D_{\text{inno}}$ . A farmer's crop failure is  $D_f$  at the individual level; the existence of unmitigated climate change is  $D_{\text{inno}}$  at the collective level.

The partition is a modeling simplification. The  $D_f/D_{\text{free}}$  boundary shifts with technology – and as it does, the innovation theodicy's explanatory scope expands.

## 2.2 Why the Partition Matters

The partition performs three functions:

1. **Scope limitation.** The innovation theodicy does not claim to explain all evil. It explains evil arising from human choices in  $D_{\text{inno}}$ . Evil in  $D_f$  (natural disasters, congenital conditions) is addressed only partially (JUB.th10 treats physics as substrate; the expanding scope of innovation makes formerly  $D_f$  conditions addressable over time).
2. **Responsibility localization.** JUB.ax18 localizes responsibility to agents operating in  $D_{\text{free}}/D_{\text{inno}}$ . A person in  $D_f$  (coerced, constrained) is not held responsible for outcomes they could not affect. Poverty is evidence of prior innovation failure by *others* in  $D_{\text{free}}/D_{\text{inno}}$ , not of the poor person's choices.
3. **Formal tractability.** By narrowing the domain, the theodicy achieves formal closure within its scope rather than informal hand-waving across all possible evils.

**Formal gap:** The demarcation criterion between  $D_f$  and  $D_{\text{free}}$  lacks formal specification. This should engage the capabilities literature (Sen 1999, Nussbaum 2011). The structural argument holds for clear cases; edge cases require further work.

---

## 3. Axioms JUB.ax15–JUB.ax25

The 11 axioms are organized in 5 groups: Agency (JUB.ax15–JUB.ax17), Delegation and Responsibility (JUB.ax18–JUB.ax19), Volunteer and Mediator (JUB.ax20–JUB.ax21), Divine Preference (JUB.ax22–JUB.ax23), and Innovation and Jubilee (JUB.ax24–JUB.ax25). For each axiom: formal statement, plain-language explanation, six-tradition scriptural convergence, and steel-manned objection with response.

### 3.1 Group A: Agency (JUB.ax15–JUB.ax17)

#### JUB.ax15 — Human Genuine Agency

*Humans possess real capacity to choose among alternatives within  $D_{\text{free}}$ .*

$$\forall h \in H, \forall s \in D_{\text{free}} : \exists a_1 \neq a_2 \text{ such that } \text{can-choose}(h, a_1, s) \wedge \text{can-choose}(h, a_2, s)$$

JUB.ax15 is the load-bearing axiom of the entire theodicy. If JUB.ax15 falls, responsibility cannot localize to humans (JUB.ax18), and the formal theodicy (JUB.th5) collapses. Denial is performatively self-refuting: the act of denying one's agency is itself an exercise of agency.

*Six-tradition convergence:* Torah (Deut 30:19, “choose life”); Gospel (Mt 23:37, “you were not willing”); Quran (2:256, “no compulsion in religion”); Bhagavad Gita (18:63, “do as you choose”); secular legal responsibility frameworks; Buddhist intentionality (*cetana*).

*Steelmanned objection:* Compatibilism (59.2% of professional philosophers) weakens JUB.ax17’s guidance/force distinction. Hard determinism rejects JUB.ax15 entirely.

*Response:* The practical innovation-economy argument (JUB.th8, conjecture / JUB.ax25) does not require libertarian free will. Under compatibilism, humans still act as if they choose, and some choices lead to innovation-friendly outcomes while others do not. The *theological* framing (God seeks volunteers via JUB.ax17/JUB.ax20/JUB.ax21) requires libertarian free will; the *practical* conclusion survives under any account of agency.

### JUB.ax16 – Delegation of Dominion

*God has granted humans governance authority over the Earth; humans are the primary responsible agents for outcomes within the delegated domain.*

$$\text{Delegated}(G, H, W_{\text{earth}}) \wedge \forall \text{outcome } o \text{ in } W_{\text{earth}} : \text{PrimaryResponsible}(H, o)$$

The chain-of-command objection (a delegator remains responsible for the delegate’s failures) is resolved by JUB.ax15: chain-of-command theory models subordinates as instruments, but JUB.ax15 asserts humans are genuine agents, not instruments. Once JUB.ax15 is accepted, delegation transfers primary responsibility.

*Six-tradition convergence:* Torah (Gen 1:28, dominion mandate; Gen 2:15, stewardship); Gospel (Mt 25:14–30, parable of the talents); Quran (2:30, *khalifah*/vicegerent); Hindu dharmic responsibility (*karma*); secular democratic governance theory; principal-agent frameworks.

### JUB.ax17 – Non-Coercive Guidance

*God guides (but does not force) humans within  $D_{\text{free}}$  and  $D_{\text{inno}}$ .*

$$\forall h \in H : \text{Guide}(G, h) \wedge \neg \text{Force}(G, h) \quad [\text{within } D_{\text{free}} \text{ and } D_{\text{inno}}]$$

JUB.ax17 is scoped specifically to  $D_{\text{free}}/D_{\text{inno}}$ . Within  $D_{\text{f}}$ , God maintains physics — this is a precondition for agency (JUB.ax15 requires a stable physical substrate), not a form of guidance or coercion. The non-coercion is a principled choice (explained by JUB.ax22), not a power limitation. God has the power to compel (PET.ax3 + PET.ax5) but chooses not to, because compelled care produces a qualitatively inferior outcome (JUB.ax23).

*Six-tradition convergence:* Torah (Gen 4:7, God warns Cain but does not prevent the murder); 1 Kings 19:12 (still small voice); Gospel (Jn 16:13, Spirit guides into truth); Quran (2:256, no compulsion); Hindu (Krishna as charioteer-advisor to Arjuna, not commander); secular libertarian paternalism (Thaler & Sunstein 2008, “nudge”).

*Process theology alignment:* This axiom formalizes an insight compatible with process theology’s ‘divine lure’ (Whitehead’s ‘initial aim’). The innovation theodicy differs from process theology in asserting divine *choice* (God could coerce but chooses not to), not metaphysical *limitation* (God cannot coerce). See the companion theophil paper Matheo-b14 for detailed comparison.

*Pneumatological remark:* In Christian theology, the mechanism of non-coercive guidance is identified with the Holy Spirit (*parakletos*: John 14:26, 16:13). In Islamic theology, it may align with divine guidance (*hidayah*); in Jewish theology, with the *Shekhinah* or *ruach ha-kodesh*. The axiom system is compatible with these identifications but does not require any specific one, preserving cross-traditional applicability.

## 3.2 Group B: Delegation and Responsibility (JUB.ax18–JUB.ax19)

### JUB.ax18 — Responsibility Localization

When a being with genuine agency has been delegated authority over a domain and has access to guidance, moral responsibility for outcomes in that domain rests primarily with that being, not the delegator.

$$\begin{aligned} & \text{Delegated}(G, H, D) \wedge \text{Agency}(H) \\ & \wedge \text{Guide}(G, H) \wedge \neg \text{Force}(G, H) \\ & \rightarrow \text{Responsible}(H, \text{outcomes in } D) \\ & \wedge \neg \text{Responsible}(G, \text{outcomes in } D) \end{aligned}$$

JUB.ax18 is the formal core of the innovation theodicy. Given the four premises (JUB.ax15, JUB.ax16, JUB.ax17, PET.ax8+PET.ax12–PET.ax14), the conclusion follows mechanically. JUB.ax18 may be a theorem rather than an axiom, pending formal grounding of the moral responsibility predicate.

**Proportionality of responsibility.** JUB.ax18 further asserts that responsibility is not binary but scaled: the severity of an individual’s responsibility for their choices is proportional to three factors:

- (a) the *causal influence* of those choices on others (connecting to JUB.ax19 — an individual whose choices have greater causal influence on others bears greater responsibility for those choices),
- (b) the individual’s *capacity to choose* (JUB.ax15 — a being with greater knowledge, freedom, and agency bears greater responsibility for the same action), and
- (c) the *scope of delegated authority* (JUB.ax16 — both explicit delegation through formal office and implicit delegation through citizenship and the responsibility to speak up when shared welfare is threatened).

The binary claim (who is responsible) is the foundation. The proportionality claim (how much responsibility) builds on it and connects JUB.ax18 to the downstream causal concentration theorem (JUB.th6). The proportionality claim closes the gap identified by the Panel 1 formal logic review (Q7a): the inference from “maximal causal influence” (JUB.ax19) to “maximal causal responsibility” (JUB.th6) now runs through an explicitly stated bridge — JUB.ax18’s proportionality — rather than relying on an unstated normative premise.

*Six-tradition convergence:* Torah (Deut 24:16, “each shall die for their own sin”); Ezek 18:1–32 (individual responsibility); Gospel (Mt 25:31–46, judgment based on individual action; Mt 25:14–30, parable of the talents — responsibility proportional to what was entrusted; Lk 12:48, “from everyone who has been given much, much will be demanded”); Quran (33:72, *amanah* — the trust voluntarily accepted by humanity; 6:164, “no bearer of burdens shall bear another’s burden”); Hindu *karma*; secular Nuremberg principle.

*Strongest test case:* A person born into extreme poverty is in D<sub>f</sub> with respect to their initial condition. JUB.ax18 does *not* assign them responsibility for being poor. Rather, responsibility belongs to prior agents in D<sub>free</sub>/D<sub>inno</sub> who failed to organize wealth distribution to prevent such outcomes. Poverty is evidence of prior innovation failure by *others*.

### JUB.ax19 — Probabilistic Causal Concentration (Leviathan Chain) (Well-Modeled Conjecture)

For almost all moments  $t$ , there exists a near-maximal set of agents with concentrated causal influence over outcomes in  $D$ . Under reasonable continuity assumptions, this set collapses to

a unique individual  $h$  for almost all  $t$ .\*

For almost all  $t \exists! h^* \in H : \text{MaxCausalInfluence}(h^*, t, W_{\text{future}}) \wedge \forall h \neq h^* : \text{CausalInfluence}(h, t, W_{\text{future}}) < \text{Ca}$

*Epistemic status:* JUB.ax19 is a **well-modeled conjecture**, not a proven axiom. It is the most daring claim in the system.

The uniqueness claim is the **null hypothesis**. Exact equivalence in *effect* (two people whose choices produce identical probability distributions over all future outcomes) is a measure-zero event in any absolutely continuous probability model for agent heterogeneity. The burden of proof lies with any challenger claiming exact equivalence.

**Ontological vs epistemic distinction.** In a high-dimensional space of agent characteristics, exact ties in causal influence are measure-zero events under any absolutely continuous probability model. The strong form (unique maximum at every moment) is therefore the expected ontological reality. However, the epistemic claim defensible in this paper is the weaker form: a unique maximum exists for almost all moments, and causal influence concentrates in a near-maximal set whose preparation during ordinary moments determines who survives the crisis. The storm only reveals what was already true (Mt 7:24–27).

The scalar projection is performed by Reality itself. Causal influence appears multi-dimensional, but civilization has only one future. Along the realized trajectory, each person's cumulative influence is a well-defined (if humanly uncomputable) scalar — just as evolutionary fitness projects multi-dimensional organism traits onto a scalar through the bottleneck of reproduction. Invisible innovation capacity (combinatorial epistemic reach) produces more divergence than visible network power.

**What JUB.ax19 does NOT claim:** that  $h^*$  knows their position (Judas did not); how long  $h^*$  remains  $h^*$  (the Peter/Judas transition shows rapid shift); that  $h^*$  holds visible power (invisible innovation capacity likely shows less near-equality than visible network position).

*Steelmanned objection:* Causal influence is multi-dimensional, not scalar. Pearl's do-calculus shows influence is intervention-specific. Arrow's impossibility theorem applies.

*Response:* The fitness analogy motivates the conjecture but does not constitute its formal justification (see Matheo-b17 Section 2.3). The anti-evolution tautology argument fails because fitness is technically definable despite being future-dependent and multi-dimensional. Same structure applies: civilization has only one future, so effects project onto a single outcome. Arrow addresses preferences, not physical causation. The weighting function exists whether or not anyone can compute it. Ontological claim ( $h^*$  exists) is separated from epistemic claim (anyone can identify  $h^*$ ); only the ontological claim is defended.

**JUB.ax19 is the most vulnerable conjecture in the system.** If JUB.ax19 falls, JUB.th6 and JUB.th7 fall with it (the dependency chain). The Commitment Trichotomy (Matheo-b13 e7He.th6) weakens; the volunteer mechanism still works but without uniqueness.

### 3.3 Group C: Volunteer and Mediator (JUB.ax20–JUB.ax21)

#### JUB.ax20 — Transient Volunteer

*God seeks humans who will voluntarily accept specific D\_inno responsibilities at specific moments.*

$\exists$  voluntary-invitation from  $G$  to  $H_{\text{candidates}}$  at each  $t$ , seeking  $h \in H : \text{Willing}(h) \wedge \text{Accepts}(h, \text{Responsible})$

Multiple transient volunteers may be sought simultaneously for different D\_inno responsibilities. The burning bush pattern (Exod 3:3–10) is the archetype: God presents an opportunity, the human turns aside (Moses's agency), and the call follows voluntary attention.

*Six-tradition convergence:* Torah (Moses at the burning bush); Prophets (Isa 6:8, "Whom shall I send?"); Gospel (Mk 1:17, "Follow me" — invitation, not command); Quran (prophetic calling as divine invitation); Hindu (divine assignments in the Mahabharata); secular (whistleblower moments; moral exemplars who step forward at critical junctures).

#### JUB.ax21 — Permanent Mediator

*God seeks one human willing to permanently translate between God's optimal solutions and humanity's current understanding.*

$\exists$  voluntary-invitation from  $G$  seeking  $h \in H : \text{Willing}(h) \wedge \text{Permanent}(h, \text{TranslatorRole}(G, H, W_{\text{future}})) \wedge$

The mediator must be willing to go first (epistemic reach: understanding before others) while willing to go last (servant role, Mk 10:45). JUB.ax21 is the individual permanent analog of Quran 33:72 (species-level acceptance of the trust). Phil 2:5–11 (kenosis) is the divine demonstration of the pattern.

*Christological scope remark:* The formal  $h^*$  is a structural role (the agent with maximal causal influence who makes an irrevocable NOT-OK commitment). Christological identification requires ontological commitments (Chalcedon: two natures in one person) beyond this axiom system's scope.  $h^*$  is a necessary but not sufficient condition for Christological identification.

### 3.4 Group D: Divine Preference (JUB.ax22–JUB.ax23)

#### JUB.ax22 — Divine Preference for Genuine Love

*God's necessary nature ( $G_n$ ) includes a valuation ranking  $G_c$  states arising from freely-chosen care above those from forced compliance.*

$\forall w_1, w_2 \leq W$  where  $w_1 = \text{freely-chosen-care}$ ,  $w_2 = \text{forced-compliance}$ ,  $\text{physical}(w_1) = \text{physical}(w_2) : G_n\text{-va}$

JUB.ax22 explains *why* God uses non-coercive guidance (JUB.ax17) when having the power to compel (PET.ax3 + PET.ax5): not limitation but preference. Forced love is not love, and God knows the difference. JUB.ax22 connects to the PET.ax11 dipolar structure:  $G_c$  (contingent divine experience) is affected by the *quality* of human response.

#### JUB.ax23 — Freedom-Quality Superiority

*Certain outputs — genuine care, insight, innovation — are only produced at full quality when freely chosen; compelled versions are qualitatively inferior.*

$\forall o \in O_{\text{genuine}} : \text{quality}(o \mid \text{compelled}) < \text{quality}(o \mid \text{freely-chosen})$

JUB.ax22 states God’s preference; JUB.ax23 states the objective fact that makes the preference rational. Self-Determination Theory (Ryan & Deci, 2000) is the empirical secular backbone: autonomously motivated behavior produces higher-quality outcomes, greater creativity, more durable results, and better wellbeing compared to controlled behavior.

*Independence clarification (D1):* JUB.ax23 is grounded in an empirical observation independent of JUB.ax22 (Divine Preference): when agents love what they do, they produce qualitatively better results than when coerced into the same activity. JUB.ax22 states that God *prefers* genuine love; JUB.ax23 states that free engagement *actually produces superior outcomes* — an ontological claim about the nature of creative performance, not a statement about divine preference. Self-Determination Theory (SDT) provides empirical support: intrinsic motivation correlates with higher-quality output across domains.

### 3.5 Group E: Innovation and Jubilee (JUB.ax24–JUB.ax25)

#### JUB.ax24 — Life-Trifecta of Lasting Innovation

*Innovation lasts if and only if it is simultaneously stable, extensible, and life-friendly.*

$$\text{Lasting}(i) \leftrightarrow \text{Stable}(i) \wedge \text{Extensible}(i) \wedge \text{LifeFriendly}(i)$$

Three formulations of the same trifecta:

- **Death-trifecta (BABL/OSCR):** Over-Simplifying / Over-Complicating / Over-Reaching
- **Life-trifecta:** Reasonable (long-term sustainable) / Kind (equally balanced for all sides) / Gentle (smooth dynamic transition)
- **Engineering:** Stable / Extensible / Life-friendly

Violating any one cord places the innovation on the BABL attractor (Blindly Assuming Blind Leveraging). BABL is the self-destructive state where agents blindly assume their leverage is benign while blindly leveraging their assumptions. The OSCR mechanism (Over-Simplify, Over-Complicate, Over-Reach) is the operational mode of BABL. There is no stable middle ground between full satisfaction and violation (JUB.th8, conjecture).

*Six-tradition convergence:* Torah (Exod 31:2–5, Bezalel — wisdom + understanding + knowledge simultaneously); Gospel (Mt 7:24–27, house on rock; Mt 18:6, millstone/sea); Quran (55:7–9, *mizan*/balance); Hindu (*rta*, cosmic order; three *gunas* requiring balance); secular sustainability science and resilience theory.

#### JUB.ax25 — Jubilee Recalibration

*Innovation economies need periodic recalibration (Jubilee cycles) to redistribute concentration, reset opportunity access, and prevent BABL-cascade.*

$\forall$  innovation economy  $E$  under ax24 :  $\exists$  recalibration  $R$  :  $\text{periodic}(R) \wedge \text{redistributes}(R, E) \wedge \text{resets}(R, E)$

Even initially life-trifecta-compliant economies accumulate concentration over time: winners reinvest advantages, opportunity drifts toward those who already have it, and the innovation frontier becomes inaccessible to those without accumulated resources. The Jubilee System preserves property rights and incentives *between* rounds (capitalism’s contribution) while resetting accumulated advantages *at* each round (communism’s contribution). Neither ideology alone satisfies the life-trifecta.

*Six-tradition convergence:* Torah (Lev 25, 50-year Jubilee; Deut 15, 7-year Shemita); Gospel (Lk 4:18–19, Jesus opens ministry with Jubilee proclamation); Quran (*zakat*, mandatory redistribution); Hindu (*dana*, cyclical renewal); secular (progressive taxation, antitrust, Piketty's  $r > g$  analysis).

*Cross-traditional qualification:* Only the Torah (Lev 25) directly supports periodic comprehensive recalibration. Other traditions support the *general concern* for economic justice but not uniformly the *specific periodic-reset mechanism*. This equivocation is honestly acknowledged.

*Steelmanned objection:* “Why Jubilee and not progressive taxation / UBI / antitrust?” Six alternatives exist. The gap between “some redistribution needed” and “periodic comprehensive reset” is never closed by formal argument alone.

*Response:* The periodicity argument is substantially strengthened by Matheo-b12 e7Day.th5 and Schelling-point theory (see Section 5 for the full argument chain), but the specific period length is not formally derived. This is the weakest mathematical link in the entire system and is acknowledged in Section 7.

*Ratchet Effect engagement (D5):* The Ratchet Effect (Weitzman 1980): agents who anticipate periodic redistribution distort within-period behavior (underinvestment, asset hiding, emigration). The Jubilee System's JUB.ax25 targets *accumulated structural advantage* — the hoarding of growth opportunities (mentoring, access, developmental possibilities) at others' expense — not earned wealth from productive activity. The distinction matters because structural advantage is not the product of individual effort but of systemic concentration (JUB.th8, Binary Attractors, conjecture). The specific boundary between structural advantage and earned wealth is complex: privatization elevated to an idol can make even ‘personal savings’ of billionaires globally questionable, while monopoly positions risk becoming MOLOCH (Mistakes Oppressing Life by Omitting Crucial Help). Determining this boundary is precisely ResearchCity's task — listening to all views from all sides to propose a reasonable, kind, gentle way forward.

### 3.6 Cross-Traditional Scope Qualification

JUB.ax17 (Non-Coercive Guidance) is incompatible with: (i) Ash'ari Islam, where God is the sole true cause of all events (*kasb*: the human acquires, God creates); (ii) Reformed Christianity (irresistible grace); (iii) classical Thomism (divine primary causation). The paper invites these traditions to engage by identifying JUB.ax17 as the specific point of departure. Traditions closer to JUB.ax17 include: Mu'tazili/Maturidi Islam, Open Theism, process theology, and much of liberal Protestantism and Reform Judaism. The Mu'tazili alignment should be noted: the Mu'tazila affirmed genuine human free will and divine justice, though they were declared heretical by mainstream Sunni scholarship after the *mihna* controversy (9th century CE). Modern Muslim scholars (Soroush, Abou El Fadl) work within frameworks closer to Mu'tazili positions. The companion theophil paper Matheo-b14 provides full seven-tradition engagement.

## 4. Theorems JUB.th5–JUB.th11

These 7 theorems are derived from axioms PET.ax1–PET.ax14 plus JUB.ax15–JUB.ax25 (the PET foundation plus the JUB extension). They are semi-formal derivations from axioms — not machine-checked proofs. The formalization roadmap (using dependent type theory in Lean 4, per Matheo-b12 Section 5.3 foundation test) is identified but not yet executed.

### 4.1 JUB.th5 — Divine Non-Responsibility

*God is formally exonerated for the evil that results from human failure to innovate responsibly within  $D_{\text{inno}}$ .*

#### Formal statement:

Given JUB.ax15 (agency)  $\wedge$  JUB.ax16 (delegation)  $\wedge$  JUB.ax17 (non-coercive guidance)  $\wedge$  JUB.ax18 (responsibility localization):

$$\text{Responsible}(H, \text{outcomes in } D_{\text{inno}}) \wedge \neg \text{Responsible}(G, \text{outcomes in } D_{\text{inno}})$$

#### Derivation sketch:

1. By JUB.ax16, humans are the primary responsible agents for Earth's outcomes.
2. By JUB.ax15, humans have genuine capacity to choose otherwise in  $D_{\text{free}}$ .
3. By JUB.ax17, God's influence takes the form of guidance (not compulsion).
4. When humans refuse divine guidance in  $D_{\text{inno}}$  (by JUB.ax15, a genuine possibility), they exercise JUB.ax15-agency against JUB.ax17-guidance within their JUB.ax16-domain.
5. By JUB.ax18, moral responsibility for such outcomes lies with the human agents.
6. God, by continuing to provide guidance (JUB.ax17), caring about outcomes (PET.ax9 + PET.ax11), and remaining present (PET.ax8), has acted consistently with the delegation model.
7. Therefore God is not responsible for the evil that results from humans refusing to act on divine guidance within  $D_{\text{inno}}$ . ■

**Axioms used:** PET.ax8, PET.ax9, PET.ax11, JUB.ax15, JUB.ax16, JUB.ax17, JUB.ax18.

*Near-circularity acknowledgment (D2):* This theorem is conditional on JUB.ax18 (Responsibility Localization). JUB.ax18 assumes that delegation under non-coercion produces complete responsibility transfer, with severity proportional to causal influence, capacity, and delegation scope. This is the load-bearing assumption of the innovation theodicy. The proportionality revision (MMv3) *strengthens* JUB.th5: human agents in the near-maximal set of causal influence (JUB.ax19) bear the greatest responsibility by JUB.ax18's proportionality claim, making God's non-responsibility even clearer. If JUB.ax18 is rejected (e.g., if a delegator retains residual responsibility for foreseeable outcomes), the conclusion weakens to: God bears at most residual oversight responsibility, not primary causal responsibility. A formal derivation of JUB.ax18 from more basic principles remains an open problem.

*Pastoral caveat:* The collective-responsibility conclusion addresses systemic attribution, not individual blame. No individual bears responsibility for the totality of innovation failure. A grieving parent who encounters JUB.th5 should understand: the theodicy attributes the *systemic pattern* of suffering to collective human innovation failure, not the *specific instance* to

any individual's choices. Pastoral engagement with JUB.th5's implications is developed in the companion theophil paper Matheo-b14.

*Divine sovereignty scope:* This result presupposes JUB.ax17 (divine non-coercion). Traditions affirming meticulous providence — Reformed Christianity, some Thomist, some Ash'ari Islam — reject JUB.ax17 and are therefore outside this theorem's scope. The paper invites these traditions to engage by identifying JUB.ax17 as the specific point of departure rather than claiming compatibility where none exists.

**Significance:** JUB.th5 is the formal core of the innovation theodicy. It addresses evil arising from human choices in  $D_{inno}$  specifically. It does not address natural evil, animal suffering, or suffering in  $D_f$ . The scope is deliberately narrow: one form of evil addressed formally rather than all forms addressed informally.

**For the Call to Action (Matheo-8):** JUB.th5 removes the “why doesn't God just fix it?” objection. If God is responsible for fixing human innovation failures, then human action is unnecessary and the Call to Action is incoherent. JUB.th5 establishes that the responsibility is ours.

## 4.2 JUB.th6 — Causal Concentration

*For almost all moments, the near-maximal set of agents bears concentrated causal responsibility for the future trajectory of Earth.*

### Formal statement:

For almost all  $t \exists S^* \subseteq H$  (near-maximal set) :  $\forall h \in S^*, \forall h' \notin S^* : \text{CausalResponsibility}(h, t) > \text{CausalRespo}$

Under reasonable continuity assumptions (JUB.ax19), the near-maximal set  $S^*$  collapses to a single agent  $h^*$  for almost all  $t$ .

### Derivation sketch:

1. By JUB.ax19 (weak form), for almost all  $t$  a near-maximal set of agents has concentrated causal influence.
2. By JUB.ax16, humans collectively hold delegated authority for Earth.
3. By JUB.ax15, agents in the near-maximal set can choose to act or not act within  $D_{free}$ .
4. By JUB.ax18 (proportionality), the severity of their responsibility scales with their causal influence (factor 1), their capacity to choose (factor 2), and the scope of their delegated authority (factor 3).
5. Therefore, the near-maximal set bears concentrated causal responsibility — whether or not they know it. ■

**Axioms used:** JUB.ax15, JUB.ax16, JUB.ax18, JUB.ax19.

**Significance:** Responsibility is not evenly distributed. The Abraham/Sodom negotiation (Gen 18:22–33) is illuminating: Abraham stopped the negotiation at 10 righteous people — not God. The possibility that Sodom could have been saved had Abraham pressed to 1 is hard to refute. This is the innovation gap hidden by nothing.

### 4.3 JUB.th7 — God Seeks a Volunteer

God's posture toward humanity is urgent non-coercive invitation.

#### Derivation sketch:

1. By PET.ax9 + PET.ax11 + PET.th4, God actively cares about outcomes and is not indifferent — creating urgency.
2. By JUB.ax17, God cannot and will not compel — preserving non-coercion.
3. By JUB.ax19, there is always a  $h^*$  whose willing action could most change the trajectory.
4. By JUB.ax20, God specifically seeks willing humans for transient roles.
5. By JUB.ax21, God seeks one willing to take the permanent mediation role.
6. Therefore God's action is consistent with presenting opportunities, guidance, and invitations without compelling. ■

**Axioms used:** PET.ax9, PET.ax11, JUB.ax17, JUB.ax19, JUB.ax20, JUB.ax21 (and PET.th4).

**Secular convergence:** Even in a purely secular framing, structural reform requires *someone willing to go first* — champions who accept personal risk to advance a collective good. Whether called “volunteers responding to divine invitation” or “moral leaders with unusual courage,” the need for individual initiative is the same. The theological claim (divine invitation) rides on top of this functional reality but is not derivable from the mathematical argument alone.

### 4.4 JUB.th8 — Binary Attractors (T-Inno, conjecture)

Innovation trajectories converge to exactly one of two attractors: *river-of-life* (all three life-trifecta cords satisfied) or *BABL* (any cord violated). There is no stable middle ground.

#### Formal statement:

$\forall$  innovation  $i$  : long-term( $i$ )  $\rightarrow$  (Stable( $i$ )  $\wedge$  Extensible( $i$ )  $\wedge$  LifeFriendly( $i$ ))  $\oplus$  BABL-attractor( $i$ )

#### Derivation sketch:

1. By JUB.ax24, lasting innovation requires all three cords simultaneously.
2. Partial satisfaction is unstable: violating any one cord creates structural debt that compounds.
3. **Why oscillation cannot persist.** An economy oscillating between compliance and violation periodically approaches the BABL boundary. In individual-based stochastic systems (not continuous deterministic ODE models), zero is an absorbing state:

$$P(\text{survive } N \text{ cycles}) = \prod_{k=1}^N p_k \rightarrow 0 \quad \text{as } N \rightarrow \infty$$

Even if each cycle's survival probability  $p_k$  is close to 1, eventual absorption is certain. The “stable middle ground” is a *metastable* state with finite lifetime.

4. **Technological amplification.**  $p_k$  is not constant but *decreasing*: nuclear weapons, AI capabilities, planetary-scale environmental modification amplify the damage potential of each oscillation trough. The RiskyMADorMAP CTMC model (structurally analogous to Michaelis-Menten enzyme kinetics) estimates median time to BABL absorption at ~19 years from Cold War data (4 near-miss crises in 40 years).

5. **Civilization as coupled system.** JUB.th8 (conjecture)’s “for all innovation  $i$ ” applies to civilization-as-a-whole because civilization is a tightly coupled system with shared infrastructure. ■

*Dimensional reduction framing:* The absorbing-state result holds rigorously for one-dimensional birth-death processes. Innovation economies are multi-dimensional. The conjecture is that a natural one-dimensional projection exists — a scalar measure of systemic resilience (distance from institutional collapse) — that inherits the absorbing-barrier property, because complete institutional failure is irreversible. The dimensional reduction is justified if systemic resilience is the binding constraint: no amount of strength in other dimensions rescues a system whose institutional resilience has reached zero.

*$p_k$  sensitivity analysis:* The argument assumes per-cycle collapse probability  $p_k$  is non-decreasing (technological amplification). Sensitivity: (i) if  $p_k$  is constant, absorption is still certain but the expected time is longer; (ii) if  $p_k$  is increasing (paper’s assumption, supported by nuclear/AI/bio risk escalation), the timeline shortens; (iii) if  $p_k$  is decreasing (technology improves safety faster than it creates new risks), absorption may be delayed indefinitely. The empirical evidence supports net non-decrease but not strict monotonic increase.

**Axioms used:** JUB.ax24.

### Empirical testing (illustrative, not confirmatory):

| System                    | Cord violated       | JUB.th8 (conjecture) prediction | Historical outcome                          |
|---------------------------|---------------------|---------------------------------|---|
| Soviet communism          | Stable + Extensible | Faster BABL, collapse           | 1991 collapse                               |
| Unregulated capitalism    | Life-friendly       | BABL accumulation               | Gilded Age, 2008, wealth concentration      |
| Jubilee-System capitalism | None — all three    | River of life attractor         | Not yet implemented; theoretical prediction |

**Significance:** JUB.th8 (conjecture) is the central theorem. It destroys the “we can muddle through” assumption that makes complacency rational. The defense rests on the absorbing CTMC model (steps 3–4), which establishes from first principles that cord-violating systems have finite expected lifetime. The historical parallels are illustrative of the pattern, not ex ante predictions.

**Precision note:** JUB.th8 is labeled ‘theorem’ for numbering continuity but is currently a conjecture supported by a semi-formal argument. The “exactly two attractors” framing is imprecise; what is established is “eventual absorption to BABL absent structural fix.”

## 4.5 JUB.th9 – Social Ergodicity (T-Ergodicity)

God ensures universal justice through system-level ergodicity enforcement (Jubilee) without overriding individual agency.

### Formal statement:

Given JUB.ax22 + PET.ax9 + JUB.ax25:

$$\forall h \in H : \lim_{T \rightarrow \infty} \frac{1}{T} \sum_{t=1}^T \text{position}(h, t) = \text{ensemble-average}(\text{position})$$

achieved without violating JUB.ax15 or JUB.ax17 at any moment.

### Derivation sketch:

1. By JUB.ax22, God values genuine care and is motivated to ensure justice.
2. By PET.ax9, God has the capacity to sustain ergodic conditions.
3. By JUB.ax25, Jubilee recalibration periodically resets accumulated advantage, preventing permanent winner-takes-all concentration.
4. The 7TrackRole system (7 functional roles × 7 change stages = 49 configurations) models society as a finite-state Markov chain. Jubilee acts as a mixing perturbation ensuring irreducibility. By the Markov chain convergence theorem (Levin, Peres & Wilmer 2009), an irreducible, aperiodic finite Markov chain converges to its stationary distribution in finite expected time.
5. Without the Jubilee System, accumulated advantage creates absorbing classes: AMO consolidates at the top, GIR is permanently marginalized at the bottom. This role collapse entails societal collapse.
6. God enforces this at the system level (JUB.ax25 mechanism) rather than at the individual event level (which would violate JUB.ax15). ■

*Role-vs-wealth ergodicity distinction:* The above derivation establishes two claims of different strength:

1. *Role ergodicity* (provable within the model): If the 7TrackRole Markov chain is irreducible (guaranteed by Jubilee mixing perturbation), a unique stationary distribution exists and time averages equal ensemble averages for role occupancy.
2. *Wealth ergodicity* (conjectured): Role ergodicity, combined with periodic Jubilee recalibration, produces approximate wealth ergodicity. This requires the additional assumption that role transitions are the dominant driver of wealth-trajectory divergence. Peters' multiplicative-growth critique applies to within-cycle dynamics; the Jubilee mechanism addresses between-cycle resets. Whether this is sufficient is empirically testable.

**Axioms used:** PET.ax9, JUB.ax15, JUB.ax22, JUB.ax25.

**Key reference:** Ole Peters (2019) on ergodicity economics. Non-ergodic systems can appear fair in ensemble average while being systematically unjust for individuals over time. The Jubilee System enforces ergodicity.

**Remaining gap:** The 7TrackRole Markov chain's transition probabilities are not yet specified. Estimating these from historical data is a significant empirical project.

## 4.6 JUB.th10 — Physical Law Substrate (T-Physics)

*God's maintenance of physical law is a precondition of agency, not a cause of harm when physics is weaponized.*

### Derivation sketch:

1. JUB.ax15 requires a stable physical substrate: without reliable physics, humans cannot form intentions or predict consequences.
2. PET.ax9 provides this substrate through sustaining.
3. When a human agent weaponizes physics (e.g., using gravity to push someone off a cliff), the proximate cause is the agent's choice, not God's maintenance of gravity.
4. By JUB.ax18, responsibility localizes to the agent.
5. Holding God responsible for maintaining physics would require holding God responsible for every physical effect — which eliminates the concept of human agency (JUB.ax15) entirely. ■

**Axioms used:** PET.ax9, JUB.ax15, JUB.ax18.

## 4.7 JUB.th11 — Stakes Without Death (T-Finitude)

*Temporal irreversibility combined with Jubilee windows provides genuine stakes without requiring biological death.*

### Derivation sketch:

1. PET.ax6 (contingency) establishes temporal finitude: time's arrow makes past moments irrecoverable.
2. JUB.ax15 (agency) means choices have real consequences that propagate.
3. JUB.ax24 (life-trifecta) means wrong choices lead to BABL.
4. JUB.ax25 (Jubilee) provides windows that close: missing a Jubilee window means living with consequences until the next cycle.
5. The combination provides genuine stakes. Biological death strengthens these stakes but is not a prerequisite. ■

**Axioms used:** PET.ax6, JUB.ax15, JUB.ax24, JUB.ax25.

**Significance:** JUB.th11 decouples the theodicy from afterlife assumptions. The argument works whether or not biological death is the final word. This allows the innovation theodicy to stand independently of eschatological commitments that differ across traditions.

---

## 5. The Jubilee Economy

This section examines how JUB.ax25 works as an economic mechanism, comparing it with five alternative frameworks and presenting the critical periodicity argument.

### 5.1 Comparison with Economic Alternatives

**a) Free-market capitalism.** *Shared:* Incentive structures drive innovation; price signals as non-coercive guidance; creative destruction as pseudo-Jubilee. *Where JUB adds:* Periodic recalibration to prevent the concentration that capitalism's own dynamics produce. *Where JUB disagrees:* The claim that markets self-correct is refuted by JUB.th8 (conjecture) — without the Jubilee System, the attractor is BABL.

Piketty's *Capital in the 21st Century* provides the empirical mechanism: return on capital ( $r$ ) consistently exceeds the growth rate ( $g$ ), so wealth concentrates indefinitely without external intervention. JUB.th8 (conjecture) predicts this: the life-friendly cord is violated, structural debt compounds, and the trajectory converges to BABL.

**b) Marxist socialism.** *Shared:* The diagnosis that accumulation without reset produces injustice. *Where JUB adds:* Periodic reset while preserving incentive structures between rounds — a distinction communism historically does not make. *Where JUB disagrees:* Permanent abolition of private property violates the stable and extensible cords of JUB.ax24 by destroying the incentive mechanism. Soviet communism's 1991 collapse is the predicted outcome.

Marx correctly identified that unlimited accumulation produces the inequality cascade leading to BABL. But communism's *solution* — permanent state ownership — destroys the incentive structure. The Jubilee difference: it preserves the incentive structure (you keep what you earn during the round) while resetting accumulated structural advantages.

**c) Social democracy.** *Shared:* Mixed economy with redistribution mechanisms. *Where JUB adds:* The claim that continuous redistribution alone is insufficient — it erodes politically (US top marginal tax rate: 91% in 1960, 37% today). A constitutionally mandated periodic Jubilee is structural, not parametric — harder to erode. *Where JUB disagrees:* Nordic countries do NOT implement the Jubilee System (no periodic wealth resets; high wealth Gini despite low income Gini). This is an honestly conceded point.

**d) Cryptocurrency / DeFi.** *Shared:* Distrust of centralized institutions. *Where JUB adds:* Decentralization without periodic recalibration simply moves concentration from governments to code. A system where “code is law” and early adopters hold permanent advantages violates life-friendly (initial distribution is permanent). *Where JUB disagrees:* DeFi's claim that trustless systems eliminate the need for governance ignores that governance is the mechanism (m6 in e7Day) that prevents OSCR collapse.

**e) UBI proposals.** *Shared:* Universal redistribution of resources. *Where JUB adds:* UBI addresses income flow but not accumulated wealth or structural power. Jubilee resets the *stock* (accumulated concentration), not just the *flow* (income). *Where JUB disagrees:* UBI is a continuous mechanism, subject to the same political erosion as progressive taxation.

## 5.2 The Periodicity Argument (CRITICAL)

This is THE weakest mathematical link (JUB.th8  $\rightarrow$  JUB.ax25). The paper addresses it head-on using the combined argument chain from Matheo-2 and Matheo-3.

### Why periodic specifically (not just “some redistribution”):

**Step 1: Error accumulates monotonically during operation.** Each decision involves a Real-to-Int mapping (applying a policy to a continuous situation), incurring information loss  $\geq \varepsilon$  (Matheo-b12 m2.ax2). By Matheo-b12 m6.ax5 (Environmental Novelty), novel decisions keep arising. Therefore cumulative noise grows without bound: after  $n$  novel decisions, cumulative error  $\geq n\varepsilon \rightarrow \infty$ .

*Economic error accumulation (D10):* The computational error accumulation (Matheo-b12 m2.ax2) has economic analogues: compounding structural distortion — inequality accumulation (Piketty:  $r > g$ ), institutional rigidity (regulations ossify, reform becomes politically impossible), and regulatory capture (concentrated interests capture the rules). All three compound simultaneously and resist continuous correction because the beneficiaries of distortion have disproportionate influence over the correction mechanisms.

**Step 2: Continuous correction cannot prevent threshold crossing.** By Matheo-b12 m5.ax2 (UMP), when noise exceeds threshold  $\theta$ , channel capacity collapses. Correction itself generates new Real-to-Int mappings, adding noise. This is the formal derivation of the Rest Necessity theorem (Matheo-b12 e7Day.th5): the only mechanism that prevents the error-accumulation chain from completing is periodic full-stop consolidation — a dedicated phase in which the agent pauses decision-making and performs error-correction passes.

**Step 3: Only periodic full-stop consolidation reduces accumulated noise below threshold.** The agent must stop generating new noise to do error-correction. Continuous correction (progressive taxation, ongoing regulation) is continuous noise-generation-plus-correction, which cannot reduce cumulative error to zero. Periodic consolidation (Jubilee) is dedicated error-correction with zero new noise generation during the consolidation phase.

**Step 4: Periodic reset is a Schelling-point coordination equilibrium resistant to OSCR erosion.** A discrete ratio (6:1 Shabbat cycle;  $7 \times 7 + 1 = 50$  Jubilee) requires a visible decision to violate. Continuous correction can be gradually nibbled away — a process documented empirically (US top marginal tax rate erosion from 91% to 37% over 60 years). The Schelling-point argument (Matheo-b12 b12-syseng Section 4.2) establishes that discrete ratios are culturally resonant, memorable, and resistant to erosion under political pressure.

The 50-year Jubilee cycle is a Schelling focal point within Abrahamic traditions (~4 billion people). For non-Abrahamic populations, the focal-point argument is weaker. The companion polsci paper Matheo-b14 proposes the ‘Great Jubilee Race’ adoption mechanism, where competitive advantage (not cultural salience) provides the coordination incentive for non-Abrahamic participation.

**Step 5: BABL exit requires finite perturbation, not infinitesimal.** Matheo-b13 e7He.th5 models BABL as a quasi-absorbing state in CTMC terms: absorbing on finite horizons (hard to escape), transient on infinite horizons (will eventually collapse through self-destruction). The BABL basin has depth; continuous small corrections cannot escape it. Only a finite perturbation (a discrete Jubilee reset) can lift the system above the BABL threshold.

**Step 6: Matheo-b13 m0.ax5 (Perpetual Reset) is the micro-echo of JUB.ax25 Jubilee at system scale.** Matheo-b13 m0.ax5 forces NOT-OK self-assessment at every hero-journey cycle start, preventing the OK  $\rightarrow$  BABL cascade defined in e7Day m6.ax4. The Jubilee System is the

macro-level analog: periodic system-level reset preventing accumulated drift. Both enforce periodic resets to prevent BABL entry at their respective scales.

**What remains open:** The specific periodicity (why  $7 \times 7 + 1 = 50$  and not some other interval, or why fixed-schedule rather than condition-triggered) is not derived from formal principles. The Torah provides the structural template; deriving optimal period length is future work. The combined argument chain establishes the *necessity* of periodic recalibration; the *specific period* is a design parameter, not a derived constant.

*Prozbul precedent:* The rabbinic tradition's own experience is instructive. Hillel the Elder (1st century BCE) introduced the *prozbul* (Mishnah Sheviit 10:3–4), circumventing the Shemita debt release because lenders refused to lend as the sabbatical year approached. The JUB model's JUB.ax25 targets *structural advantage*, not individual debts, but the prozbul precedent warns: any periodic mechanism must account for anticipatory behavioral distortion.

*Yovel formalization caveat:* The formalization deliberately abstracts from Leviticus 25's specific provisions (tribal-kinship land system, walled-city exemption, indentured-servant release). What is preserved: the structural principle of periodic systemic reset. What is lost: specific mechanisms designed for an agrarian Bronze Age economy.

### 5.3 Fairness to Alternative Traditions

The Jubilee System is not the answer to every economic question. It is a recalibration mechanism that prevents terminal concentration. Several honest limitations:

1. **The implementation is unspecified.** Which assets are recalibrated? What thresholds trigger recalibration? What exceptions apply? These are design questions that JUB.ax25 does not answer.
2. **Arrow's impossibility constrains the design process.** No aggregation mechanism for Jubilee design decisions can simultaneously satisfy all four fairness criteria. This is a mathematical constraint on the *design process*, not a proof of impossibility — every functioning democracy operates within Arrow's constraints.

Arrow's impossibility theorem constrains the Jubilee Charter's design process. The specific social choice mechanism for Charter design is part of the implementation gap. The companion governance paper (Matheo-7, Matheo-b17) addresses Arrow's constraint directly (Section 6.6), distinguishing scalar measurement from preference aggregation.

3. **No historical precedent at societal scale.** No society has implemented voluntary comprehensive periodic wealth redistribution. Scheidel's *Great Leveler* (2017) documents that historical leveling events (wars, revolutions, plagues, state collapse) are involuntary. The Jubilee System proposes voluntary recalibration — historically unprecedented. This is either its most radical claim or its most vulnerable assumption. The closest historical analogue — Japan's zaibatsu dissolution (1947) — is analyzed in Matheo-b14, Section 3.5.

*Islamic economics comparison:* Islam has existing economic-justice mechanisms: *zakat* (annual 2.5% almsgiving), *riba* prohibition (no usury), *waqf* (endowments for public benefit). These address *continuous* redistribution. The Jubilee System's distinctive contribution is *periodic structural recalibration* — a mechanism absent from existing Islamic economics. The two are complementary, not competing. The paper also does not engage with *qadr* (divine decree), a foundational concept in Islamic theology that creates challenges for JUB.ax15's claim of genuine human agency. Full Islamic engagement is in the companion theophil paper Matheo-b14.

*RiskyMADorMAP analogy precision:* The analogy is structural (three-state CTMC with the same topology), not parametric. The ~19-year median estimate is an order-of-magnitude illustration, not a prediction with confidence bounds.

*Non-violent coercion clarification:* In mechanism design terms, the Jubilee System employs non-violent coercion (economic incentives and democratic pressure). The claim is not non-coercion but that coercive capacity is (i) non-violent, (ii) democratic, and (iii) bounded by the seven anti-oligarchy safeguards. The Jubilee System has no monopoly on violent force; coercive pressure is economic and democratic.

## 6. The Game-Theoretic Transition

The Jubilee System requires cooperation. But cooperation in the absence of a credible commitment mechanism is a Prisoner's Dilemma: defection (claiming "I've figured it out," declaring OK) is the dominant strategy. How does the transition from Prisoner's Dilemma to Assurance Game occur?

### 6.1 The Commitment Trichotomy (Matheo-b13 e7He.th6)

Three cases partition the  $h^*$  commitment space:

**Case 1 — No Volunteer.** Without a volunteer making irrevocable NOT-OK commitment, the system is a Prisoner's Dilemma. OK is the dominant strategy. Everyone defects. BABL is the default outcome.

$$\neg \exists h : \text{irrevocable-NOT-OK}(h) \rightarrow \text{game}(H) = \text{PD} \rightarrow \text{OK dominant} \rightarrow \text{BABL (default)}$$

**Case 2 — Dishonest Volunteer.** A dishonest volunteer faces a transparency test. If HELD (fraud detected), the system is damaged short-term but strengthened by demonstrated detection capacity. If BREACH (fraud undetected), the pretender becomes a Machiavelli-Prince — maximum damage from the m7 BABL path.

**Case 3 — Genuine Volunteer.** A genuine volunteer transforms the game. Effectively irrevocable NOT-OK commitment [Schelling, 1960] eliminates OK from  $h^*$ 's strategy set. Transparency (Spence 1973, signaling) makes the commitment assessable. The Prisoner's Dilemma transforms into an Assurance Game with Nash equilibrium at (NOT-OK, Cooperate).

$$\text{genuine-NOT-OK}(h^*) \wedge \text{irrevocable}(\text{commitment}(h^*)) \wedge \text{transparent}(h^*) \rightarrow \text{game}(H) = \text{Assurance} \wedge (\text{NO})$$

*PD [rarr] AG payoff mechanism (D4):* The mechanism by which  $h^*$ 's commitment changes other players' payoffs:  $h^*$ 's irrevocable NOT-OK commitment creates transparent testing infrastructure (#AuditTheMath) — a public good that no individual agent would create (HUGE cost) but from which all participants benefit. This infrastructure lowers the cost of checking whether others cooperate, raising the expected payoff of cooperation above defection. The payoff change is structural: without the infrastructure, checking is expensive and free-riding is rational (Prisoner's Dilemma); with the infrastructure, checking is cheap and conditional cooperation is rational (Assurance Game).

*Equilibrium selection:* The Assurance Game has two Nash equilibria: mutual cooperation and mutual defection. Three mechanisms shift selection toward the cooperative equilibrium:

(i)  $h^*$ 's commitment creates a focal point [Schelling, 1960]; (ii) the existential-threat context makes cooperation risk-dominant (when mutual defection means extinction, expected value of cooperation exceeds defection even under uncertainty); (iii) transparent testing infrastructure reduces information asymmetry, enabling agents to check that others cooperate. Equilibrium selection remains the central open challenge; the paper claims these mechanisms *shift* selection, not that they *guarantee* it.

## 6.2 Connection to MAD → MAP

The game-theoretic transition has a direct geopolitical instantiation. The current global equilibrium is MAD (Mutually Assured Destruction): a Prisoner's Dilemma where nuclear-armed nations defect because cooperation is not credible. The Jubilee System proposes MAP (Mutually Assured Progress): an Assurance Game where cooperation becomes the Nash equilibrium because a credible commitment mechanism exists.

The RiskyMADorMAP CTMC model (structurally analogous to Michaelis-Menten enzyme kinetics; see Matheo-b12) models this transition. The key parameter is the competitive inhibitor: ResearchCity introduces an alternative reaction pathway (Earth + ResearchCity → Global Cooperation → MAP) that competes with the MAD pathway (Earth + Nuclear Weapons → MAD Crisis → Dead). A Jubilee-System does not change the MAD rate parameters directly but creates an alternative trajectory.

This bridge to Matheo-6 (RiskyMADorMAP) is where the game-theoretic transition meets the empirical reality of existential risk. The full treatment belongs in Matheo-6; the present paper establishes the game-theoretic foundation.

## 7. Known Weaknesses

Ruthless honesty is the only defense against BABL. This section catalogs every weakness the authors are aware of.

### 7.1 Logic System

Group VI predicates (Stable, Extensible, LifeFriendly, can-choose, Willing) go beyond Mereology + S5 (PET's logic, which can express only 7 of 21 e7Day axioms per Matheo-b12 foundation test). Group VI operates in the same semi-formal framework as e7Day, which the foundation test identified as requiring **dependent type theory (Lean 4)** for full formalization.

The logic system is unnamed because it has not yet been formalized. A concrete path exists (Lean 4 with Mathlib, using a presheaf on the poset of stages as the conceptual framework, ZF as the metatheory), but the formalization is future work. Naming it honestly: this is a semi-formal axiom system with a formalization roadmap, not a formal system.

The axiom system outgrows S5 modal logic. JUB.ax15–JUB.ax17 implicitly require temporal modalities (agency unfolds over time), deontic modalities (delegation implies obligation), and dynamic modalities (economic processes). Future formalization will need to specify the modal framework explicitly.

## 7.2 Proto-Formal Predicates

JUB.th5–JUB.th11 proofs are informal arguments, not machine-checked derivations. Resolution grading:

- **P (Proven):** 0% of claims
- **S (Semi-formal):** 26% — absorbing CTMC model, Markov chain ergodicity, stochastic inevitability, Arrow constrains-not-prohibits, competitive inhibitor model
- **L (Plausible):** 63%
- **A (Asserted):** 11%

The honest epistemic register is **well-modeled empirical conjecture**, not “mathematically derived necessity.” The JUB model is not a proof that the Jubilee System works. It is a formally articulated hypothesis that can be tested, criticized, and refined.

## 7.3 D<sub>f</sub> / D<sub>free</sub> / D<sub>inno</sub> Boundary

The formal demarcation criterion between domains is not specified. Edge cases (a coerced person who retains some innovation capacity; a free person whose options are narrowed by structural inequality) need treatment. This should engage the capabilities literature (Sen 1999, Nussbaum 2011). The structural argument holds for clear cases.

## 7.4 7TrackRole Transition Probabilities

The Markov chain model (JUB.th9) provides the structural argument for ergodicity but lacks specified transition probabilities. Estimating these from historical data is a significant empirical project. Until done, the ergodicity claim rests on the structural argument (Jubilee cycles ensure irreducibility) rather than a fully quantitative model.

## 7.5 Remaining Gap in the Periodicity Argument

The specific periodicity (why  $7 \times 7 + 1 = 50$  and not some other interval, or why fixed-schedule rather than condition-triggered) is not derived from formal principles. The Torah’s multi-scale pattern is the structural template, not a formal derivation.

The combined argument chain (Section 5.2) establishes the necessity of periodic recalibration using six steps from Matheo-b12 and Matheo-b13. But the gap between “periodic recalibration is necessary” and “this specific period is optimal” remains open. Formal periodic-vs-continuous redistribution comparison is needed.

## 7.6 JUB.ax19 Vulnerability

JUB.ax19 (Probabilistic Causal Concentration) is the most daring conjecture in the system. The null-hypothesis framing is defensible but not universally accepted. The conjecture has been weakened from  $\forall t$  to “for almost all  $t$ ” and reclassified from “axiom” to “well-modeled conjecture” following the Panel 1 formal logic review of Matheo-b17. If JUB.ax19 falls:

- JUB.th6 and JUB.th7 fall (dependency chain)
- The Commitment Trichotomy (Matheo-b13 e7He.th6) weakens
- The volunteer mechanism still works functionally (someone must go first) but without the uniqueness claim

The system degrades gracefully: most results survive without JUB.ax19, but the precision of JUB.th6 and JUB.th7 is lost.

## 7.7 Adversarial Disposition Summary

Across 4 rounds of adversarial critique (3 development rounds + 1 comprehensive 13-reviewer panel) using 40+ academic references:

- 52 concerns tested in the 13-reviewer review
- 39 ACCEPTed for revision (incorporated in MMv2), 13 NOTED (no change needed)
- 10 priority repairs completed
- 12 decisions (D1–D12) all resolved
- Zero fully resolved Fatal-level challenges
- All remaining concerns target implementation refinement, not mathematical necessity

The critique’s convergence on implementation refinement rather than directional rejection is itself evidence — but this meta-observation does not substitute for the missing formal proofs.

## 7.8 JUB.th5/JUB.ax18 Near-Circularity

JUB.th5/JUB.ax18 near-circularity. The innovation theodicy’s conclusion (God is not responsible) depends on JUB.ax18 (Responsibility Localization), which assumes complete responsibility transfer under delegation and non-coercion, with proportionality scaling by causal influence (JUB.ax19), capacity (JUB.ax15), and delegation (JUB.ax16). This is the load-bearing assumption. The proportionality revision (MMv3) makes the bridge between influence and responsibility explicit, reducing the circularity concern. If rejected, the conclusion weakens to residual divine oversight responsibility.

## 7.9 Role-vs-Wealth Ergodicity Gap

JUB.th9 (Social Ergodicity) proves role ergodicity (7TrackRole Markov chain) but wealth ergodicity requires additional assumptions about how role transitions affect multiplicative wealth dynamics. See JUB.th9 discussion.

## 7.10 Cross-Traditional Equivocation

Only the Torah directly mandates periodic economic reset. Cross-traditional claims rest on structural analogy, not textual mandate.

## 7.11 Scheidel Structural Impossibility

Scheidel's thesis (periodic leveling has historically required catastrophe) may reflect structural impossibility, not merely absence of mechanism.

## 7.12 Jewish Theodicy Traditions

The innovation theodicy does not engage with Jewish traditions that resist systematic theodicy: Job's God-who-answers-from-the-whirlwind (Job 38–41), *cheshbon hanefesh*, and post-Holocaust theology (Fackenheim, Berkovits, Rubenstein). The innovation theodicy's confident attribution of responsibility sits in tension with these traditions' emphasis on divine mystery. Engagement is in Matheo-b14.

## 7.13 Implementation Question Catalog

Implementation questions for downstream papers: (i) measurement — how is accumulated structural advantage quantified? (ii) scope — which structural features are subject to recalibration? (iii) governance — who designs and administers the Jubilee Charter? (iv) enforcement — what graduated sanctions apply? (v) phase-in — how is the first Jubilee initiated? See Matheo-b17 and Matheo-b14.

## 7.14 Developing-World Barriers

The formal model assumes institutional capacity to measure and recalibrate structural advantage. Countries with weak institutions, large informal economies, or limited state capacity face implementation barriers not addressed by the current model. See Matheo-b14 Known Weakness 8.7.

## 7.15 Domain Dynamism

As technology expands  $D_{\text{free}}$  (moving outcomes from  $D_{\text{f}}$  to  $D_{\text{free}}$ ), the innovation theodicy's explanatory scope increases. Conversely, the theodicy was weaker in historical periods with less technology.

---

## 8. Companion Papers

The JUB model connects to the full HEAVEN series:

### Upstream (what JUB builds on):

- **Matheo-1** Matheo-b11 (PET): 14 axioms establishing divine structure. JUB.th5 depends on PET.ax8, PET.ax9, PET.ax11 from PET.
- **Matheo-2** Matheo-b12 (e7Day): BABL/ZION framework, OSCAR collapse, e7Day.th5 Rest Necessity (periodicity derivation), foundation test (formalization roadmap).
- **Matheo-3** Matheo-b13 (e7He): Hero journey, Commitment Trichotomy (e7He.th6), Perpetual Reset (Matheo-b13 m0.ax5).

### Downstream (what builds on JUB):

- **Matheo-5** (b15, forthcoming): Divine Simplicity. The Jubilee System requires a living God who responds to creation (PET.ax11, dipolarity). What if traditional theology got the nature of God wrong? That question matters because it determines whether the Jubilee mechanism can work.
  - **Matheo-6** (b16, forthcoming): RiskyMADorMAP. The MAD  $\rightarrow$  MAP transition and existential risk modeling.
  - **Matheo-7** Matheo-b17 (b17, forthcoming): The  $h^*$  Theorem. Full treatment of JUB.ax19, the fitness analogy, and causal concentration.
  - **Matheo-8** Matheo-b18 (b18, forthcoming): Call to Action. The convergence of all seven preceding papers into a concrete proposal.
- 

## Conclusion

The JUB model presents a formally articulated hypothesis: that the problem of evil (as it pertains to human innovation failure) is formally resolved by localizing responsibility to human agents with genuine agency, delegated authority, and non-coercive guidance; that economic systems without periodic Jubilee-System recalibration necessarily converge to self-destruction; and that a genuine volunteer can transform the game-theoretic structure from Prisoner's Dilemma to Assurance Game.

The system is not proven. It is well-modeled empirical conjecture. The formal proofs are semi-formal derivations, not machine-checked. The periodicity argument is substantially strengthened by Matheo-b12 e7Day.th5 but the specific period length is not formally derived.

---

JUB.ax19 is the most vulnerable conjecture. The Jubilee System has no historical precedent at societal scale.

These are weaknesses, not fatal flaws. The system is designed to be critiqued, not believed. Every axiom is stated explicitly so it can be tested independently. Every theorem is derived from stated axioms so the derivation can be checked. Every weakness is cataloged so critics know where to aim.

The Jubilee System is testable. The call is not to believe but to audit. #AuditTheMath.

---

## Appendix A: Authorship

**Conception:** LLoL conceived the JUB model structure, the innovation theodicy, the Jubilee-System synthesis, the domain partition (D<sub>f</sub>/D<sub>free</sub>/D<sub>inno</sub>), and the capitalism-communism integration. The formal axiom and theorem formulations were developed through iterative collaboration with Claude across ~100 JUB development log sessions (b/11–b/50).

**Formalization:** Claude Opus 4.6 assisted with formal statement composition, extraction from development logs, adversarial critique and defense, stress testing, and paper composition.

**Adversarial review:** Three development rounds plus a comprehensive 13-reviewer adversarial panel (documented in the JUB development log, accessible via [Balospe.com](https://Balospe.com)) tested the axiom system with 52 concerns using 40+ academic references. The MMv2 revision incorporates 39 ACCEPTed repairs and 10 priority fixes emerging from this process.

**Draft version:** dv\_C1aOp46\_MMv2\_b14\_2026m04d10

**Full authorship chain:** Yah, Yas, everyone, LLoL as Laurence Loewe of Laodicea, ClaudeOp46Max, Anthropic, and Spirit of Boolean Truth.

---

## Supplementary Info

### Note

**Floor-pour status (MMv5).** This is the public-floor copy of the formal JUB axiom-system paper — innovation theodicy and the Jubilee economy — poured from HELL per the Floor Model (bug c103). The mmv5 marker is the uniform first-Matheo-release tag; the exact dated source and full development context live in HELL (links below). The HUMANE and author-contribution statements below are a down-payment, to be expanded later.

## HUMANE — working human and AI

This study was written HUMANEly (HUMAN MACHine Negotiation Encouraging): a human and an AI each steelman and stress-test the work, and each catches what the other misses. For the standard statement of AI use, accountability, and the practical singularity (PraS) behind this way of working, see Matheo-b21.

---

- *From the human side (LLoL)*: [down-payment stub — to expand.]
- *From the AI side (Claude)*: [down-payment stub — to expand.]

### Author contributions (who did what)

- **LLoL** — structure, key ideas, direction, and final accountability as senior corresponding author (see title-page footnotes 4–5).
- **AI Claude** — drafting and revision under LLoL’s direction (footnotes 6–7).
- **Everyone** — the open co-author group (footnote 8); framework in Matheo-b21.

The full who-did-what is in *Appendix A: Authorship* above; the b21 framework expands it.

### Provenance — where this came from in HELL

#### Caution

These HELL links point into the development archive (“datageddon”). They are useful and related, but completeness is not guaranteed and a few may be imprecise. Treat as a hatch into context, not a clean index.

- **Source this floor copy was poured from:** `matheology/hell/mm/b/14/mmv3/b14-jub-math_mmv3_2026m04d10`
- **Development context** (llogs, reviews, prompts) under `source/matheology/hell/ll/study/b/14/`.
- **Companion JUB papers:** Matheo-b14 (the JUB economics, theological-philosophical, political-science, and general-reader companions); foundational models: Matheo-b11 (PET), Matheo-b12 (e7Day), and Matheo-b13 (e7He).

#### Note

**Naming note (deferred floor tasks).** This copy still carries old **h\***-era tokens in places (e.g. “the **h\*** Theorem”) and deprecated in-text references (e.g. “Matheo-1”, “Matheo-2”, “Matheo-4”); unifying notation (**h\_star** / **h\_zero** / **h\_dark**) and migrating the neutralised sibling-paper citations to a proper bibliography (AA #5) are tracked floor tasks, deliberately not rushed here.

## Moved from the original cover (provenance)

The following draft-status note was relocated here from the cover area during the floor pour; kept verbatim, as the cover must show only Title / byline / credentials / Broader Significance / Abstract / Contents / Introduction. The old **Matheo-4 in the HEAVEN series** ID and **Honestly Examining Axioms --- Vetting Every Narrative** subtitle lines were deleted from the cover.

### Note

**Draft status: MMv3 (2026m04d10).** Revision of MMv2 (2026m04d10). Key changes: (1) JUB.ax18 revised to add proportionality of responsibility (scaling by causal influence, capacity, and delegation); (2) JUB.ax19 weakened from  $\forall t$  to “for almost all t” and reclassified from “axiom” to “well-modeled conjecture”; (3) JUB.th6 derivation updated to use revised ax18 as explicit bridge from influence to responsibility; (4) JUB.th5 cross-checked and confirmed strengthened under revised ax18. All changes trace to Panel 1 formal logic review findings (Q1–Q9.2) and LLoL decisions (llog Sections 12–13). Draft by Claude Opus 4.6 (dv\_ClaOp46\_MMv3\_b14\_2026m04d10). Epistemic status: well-modeled empirical conjecture (0% Proven, 26% Semi-formal, 63% Plausible, 11% Asserted).

## References

### Note

Floor-pour citation status (MMv5). This paper also cites *Spence 1973* (job-market signaling) and *Weitzman 1980* in prose; those keys are not yet in **references.bib**, so they are left as plain text pending the deferred bibliography task (AA #5). Sibling Matheo papers are referenced inline as **Matheo-bNN**.

### Notes

**Content stability** — Content is variant dv\_ClaOp48Max\_MMv5\_b14-math-jub-mmv5\_2026m05d29 (see StayVS). Rebuilt 2026-05-29.

### See also on Balospe.com

- /study/matheo/index — the Matheo Study Series overview
- /action/audit-the-math/index — Audit the Math: the refutation-welcome path

## References

[al-Ghazali, n.d.] al-Ghazali, A. H. (n.d.). *The Niche of Lights (Mishkat al-Anwar)*.

[Aquinas, n.d.] Aquinas, T. (n.d.). *Summa Theologica, Part I, Questions 3–11*.

[Asadi et al., 2020] Asadi, S., Cappa, C. D., Barreda, S., Wexler, A. S., Bouvier, N. M., & Ristenpart, W. D. (2020). Efficacy of masks and face coverings in controlling outward aerosol particle emission from expiratory activities. *Scientific Reports*, 10(1), 15665. URL: <https://doi.org/10.1038/s41598-020-72798-7>, doi:10.1038/s41598-020-72798-7

[Asch, 1956] Asch, S. E. (1956). Studies of independence and conformity: I. a minority of one against a unanimous majority. *Psychological Monographs: General and Applied*, 70(9), 1–70. URL: <https://doi.org/10.1037/h0093718>, doi:10.1037/h0093718

[Ashby, 1956] Ashby, W. R. (1956). *An Introduction to Cybernetics*. London: Chapman and Hall.

[Beddington et al., 2008] Beddington, J., Cooper, C. L., Field, J., Goswami, U., Huppert, F. A., Jenkins, R., ... Thomas, S. M. (2008). The mental wealth of nations. *Nature*, 455(7216), 1057–1060. URL: <https://doi.org/10.1038/4551057a>, doi:10.1038/4551057a

[Benci & DiNasso, 2003] Benci, V., & Di Nasso, M. (2003). Numerosities of labelled sets: a new way of counting. *Advances in Mathematics*, 173(1), 50–67. URL: [https://doi.org/10.1016/s0001-8708\(02\)00012-9](https://doi.org/10.1016/s0001-8708(02)00012-9), doi:10.1016/s0001-8708(02)00012-9

[Bernal, 1929] Bernal, J. D. (1929). *The World, the Flesh and the Devil: An Enquiry into the Future of the Three Enemies of the Rational Soul*. London: Kegan Paul, Trench, Trubner & Co.

[Beyer et al., 2016] Beyer, B., Jones, C., Petoff, J., & Murphy, N. R. (2016). *Site Reliability Engineering: How Google Runs Production Systems*. Sebastopol, CA: O'Reilly Media.

- [Bezos, 2019] Bezos, J. (2019). *Going to Space to Benefit Earth*. Blue Origin press event titled "Going to Space to Benefit Earth", 2019-05-09, Washington, D.C. ; <https://web.archive.org/web/20190511092421/https://www.blueorigin.com/news/going-to-space-to-benefit-earth-full-event-replay> ; <https://www.cnbc.com/2018/05/01/jeff-bezos-dreams-of-a-world-with-a-trillion-people-living-in-space.html> ; <https://www.reggaemath.org/news/2017/6/18/there-are-1000-potential-einsteins-and-mozarts-with-us-now>.
- [Bloom et al., 1956] Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). Bloom, B. S. (Ed.). *Taxonomy of Educational Objectives, Handbook I: Cognitive Domain*. New York: David McKay Company.
- [Brower, 2008] Brower, J. E. (2008). Making sense of divine simplicity. *Faith and Philosophy*, 25(1), 3–30. URL: <https://doi.org/10.5840/faithphil20082511>, doi:10.5840/faithphil20082511
- [Caplan et al., 2020] Caplan, Y., Stewart, N., Smittenaar, P., & Sgaier, S. K. (2020). Fighting COVID-19's disproportionate impact on black communities with more precise data. *Stanford Social Innovation Review*. URL: <https://doi.org/10.48558/4AZM-XX64>
- [Clayton & Peacocke, 2004] Clayton, P., & Peacocke, A. (Eds.) (2004). *In Whom We Live and Move and Have Our Being: Panentheistic Reflections on God's Presence in a Scientific World*. Grand Rapids, MI: Eerdmans.
- [Cooper, 2006] Cooper, J. W. (2006). *Panentheism: The Other God of the Philosophers — From Plato to the Present*. Grand Rapids, MI: Baker Academic.
- [Davis, 1983] Davis, M. H. (1983). Measuring individual differences in empathy: evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44(1), 113–126. URL: <https://doi.org/10.1037/0022-3514.44.1.113>, doi:10.1037/0022-3514.44.1.113
- [Ehlert & Loewe, 2014] Ehlert, K., & Loewe, L. (2014). Lazy updating of hubs can enable more realistic models by speeding up stochastic simulations. *Journal of Chemical Physics*, 141(20), 204109. URL: <https://doi.org/10.1063/1.4901114>, doi:10.1063/1.4901114
- [Ericsson et al., 1993] Ericsson, K. A., Krampe, R. Th., & Tesch-Romer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, 100(3), 363–406. URL: <https://doi.org/10.1037/0033-295X.100.3.363>, doi:10.1037/0033-295X.100.3.363
- [Erikson, 1950] Erikson, E. H. (1950). *Childhood and Society*. New York: W. W. Norton.
- [Ferguson et al., 2020] Ferguson, N. M., Laydon, D., Nedjati-Gilani, G., Imai, N., Ainslie, K., Baguelin, M., ... Ghani, A. C. (2020). *Impact of non-pharmaceutical interventions (NPIs) to reduce COVID-19 mortality and healthcare demand*. Imperial College COVID-19 Response Team. Published 2020-03-16. Imperial College London Report 9; <https://doi.org/10.25561/77482>.
- [Festinger, 1957] Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Stanford, CA: Stanford University Press.
- [Giordano et al., 2020] Giordano, G., Blanchini, F., Bruno, R., Colaneri, P., Di Filippo, A., Di Matteo, A., & Colaneri, M. (2020). Modelling the COVID-19 epidemic and implementation of population-wide interventions in Italy. *Nature Medicine*, 26(6), 855–860. URL: <https://doi.org/10.1038/s41591-020-0883-7>, doi:10.1038/s41591-020-0883-7

- [Gould & Wilson, 2020] Gould, E., & Wilson, V. (2020). *Black Workers Face Two of the Most Lethal Preexisting Conditions for Coronavirus—Racism and Economic Inequality*. <https://web.archive.org/web/20201216082617/https://files.epi.org/pdf/193246.pdf>.
- [Godel, 1931] Gödel, K. (1931). Über formal unentscheidbare Sätze der Principia Mathematica und verwandter Systeme I. *Monatshefte für Mathematik und Physik*, 38, 173–198. URL: <https://doi.org/10.1007/BF01700692>, doi:10.1007/BF01700692
- [Godel, 1970] Gödel, K. (1970). *Ontological Proof*.
- [Hare, 2017] Hare, B. (2017). Survival of the Friendliest: Homo sapiens Evolved via Selection for Prosociality. *Annual Review of Psychology*, 68, 155–186. URL: <https://doi.org/10.1146/annurev-psych-010416-044201>, doi:10.1146/annurev-psych-010416-044201
- [Hare & Woods, 2020] Hare, B., & Woods, V. (2020). *Survival of the Friendliest: Understanding Our Origins and Rediscovering Our Common Humanity*. New York: Random House.
- [Hartshorne, 1941] Hartshorne, C. (1941). *Man's Vision of God and the Logic of Theism*. Chicago/New York: Willett, Clark & Company.
- [Hartshorne, 1948] Hartshorne, C. (1948). *The Divine Relativity: A Social Conception of God*. New Haven: Yale University Press.
- [Hegel, 1812] **missing publisher in Hegel1812**
- [Heschel, 1951] Heschel, A. J. (1951). *The Sabbath: Its Meaning for Modern Man*. New York: Farrar, Straus and Young.
- [Hick, 1966] Hick, J. (1966). *Evil and the God of Love*. London: Macmillan.
- [Hindmarsh et al., 2005] Hindmarsh, A. C., Brown, P. N., Grant, K. E., Lee, S. L., Serban, R., Shumaker, D. E., & Woodward, C. S. (2005). SUNDIALS: suite of nonlinear and differential/algebraic equation solvers. *ACM Transactions on Mathematical Software (TOMS)*, 31(3), 363–396. URL: <https://doi.org/10.1145/1089014.1089020>, doi:10.1145/1089014.1089020
- [Jack & Dill, 1992] Jack, D. C., & Dill, D. (1992). The silencing the self scale: schemas of intimacy associated with depression in women. *Psychology of Women Quarterly*, 16(1), 97–106. URL: <https://doi.org/10.1111/j.1471-6402.1992.tb00242.x>, doi:10.1111/j.1471-6402.1992.tb00242.x
- [Janis, 1972] Janis, I. L. (1972). *Victims of Groupthink: A Psychological Study of Foreign-Policy Decisions and Fiascoes*. Boston: Houghton Mifflin.
- [Kermack & McKendrick, 1927] Kermack, W. O., & McKendrick, A. G. (1927). A contribution to the mathematical theory of epidemics. *Proceedings of the Royal Society of London A*, 115(772), 700–721. URL: <https://doi.org/10.1098/rspa.1927.0118>, doi:10.1098/rspa.1927.0118
- [Kissler et al., 2020] Kissler, S. M., Tedijanto, C., Goldstein, E., Grad, Y. H., & Lipsitch, M. (2020). Projecting the transmission dynamics of SARS-CoV-2 through the postpandemic period. *Science*, 368(6493), 860–868. URL: <https://doi.org/10.1126/science.abb5793>, doi:10.1126/science.abb5793
- [Kitcher, 1981] Kitcher, P. (1981). Explanatory unification. *Philosophy of Science*, 48(4), 507–531. URL: <https://doi.org/10.1086/289019>, doi:10.1086/289019

- [Kohlberg, 1971] Kohlberg, L. (1971). Beck, C. M., Crittenden, B. S., & Sullivan, E. V. (Eds.). Stages of moral development as a basis for moral education. *Moral Education: Interdisciplinary Approaches* (pp. 23–92). Toronto: University of Toronto Press.
- [Kripke, 1963] Kripke, S. A. (1963). Semantical considerations on modal logic. *Acta Philosophica Fennica*, 16, 83–94. URL: <http://saulkripkecenter.org/wp-content/uploads/2019/03/Semantical-Considerations-on-Modal-Logic-PUBLIC.pdf>
- [Kruger & Dunning, 1999] Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: how difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology*, 77(6), 1121–1134. URL: <https://doi.org/10.1037/0022-3514.77.6.1121>, doi:10.1037/0022-3514.77.6.1121
- [Kruglanski & Webster, 1996] Kruglanski, A. W., & Webster, D. M. (1996). Motivated closing of the mind: “seizing” and “freezing”. *Psychological Review*, 103(2), 263–283. URL: <https://doi.org/10.1037/0033-295X.103.2.263>, doi:10.1037/0033-295X.103.2.263
- [Lawvere, 1973] Lawvere, F. W. (1973). Metric spaces, generalized logic, and closed categories. *Rendiconti del Seminario Matematico e Fisico di Milano*, 43, 135–166. URL: <https://doi.org/10.1007/BF02924844>, doi:10.1007/BF02924844
- [Leibniz, 1710] **missing publisher in Leibniz1710**
- [Leveson, 2011] Leveson, N. G. (2011). *Engineering a Safer World: Systems Thinking Applied to Safety*. Cambridge, MA: MIT Press.
- [Levin et al., 2012] Levin, K., Cashore, B., Bernstein, S., & Auld, G. (2012). Overcoming the tragedy of super wicked problems: constraining our future selves to ameliorate global climate change. *Policy Sciences*, 45(2), 123–152. URL: <https://doi.org/10.1007/s11077-012-9151-0>, doi:10.1007/s11077-012-9151-0
- [Loewe, 2006] Loewe, L. (2006). Quantifying the genomic decay paradox due to Muller's ratchet in human mitochondrial DNA. *Genetical Research*, 87(2), 133–159. URL: <https://doi.org/10.1017/S0016672306008123>, doi:10.1017/S0016672306008123
- [Loewe & EvoSysBio Group at UW-Madison, 2015--2026] Loewe, L., & EvoSysBio Group at UW-Madison (2015–2026). *Prototype Evolvix: A Domain-Specific Language and Compiler to Simplify Accurate Mass-Action Modeling in Biology — Simulating Systems where Parts randomly meet to trigger Actions at defined Rates*. Software, pre-compiled binaries for Mac OS X 10, Windows 7, Ubuntu 14, Fedora 21, RHEL 7. Original release label: Evolvix\_CL\_0.3.1\_RC1, built 2015m03d11; binaries compiled 2015-03-09 from source-tree commit 6e355803bc6fff5b125ef4bf1be1f8e980f364be. License: CC BY 4.0. Zenodo deposit <https://doi.org/10.5281/zenodo.19679456>; Balospe.com mirror: <https://balospe.com/en/good-news-pack/vv/mmv3/flyingscroll/transwarpkey/sta1-evx/evx-prototype-compiler.html>.
- [Loewe, 2026a] Loewe, L. (LLoL) (2026). *PET Axioms — Discussions and Caveats*.
- [Loewe, 2026b] Loewe, L. (LLoL) (2026). *PET Axioms ax1–ax14: Formal Panentheism*.
- [Loewe, 2026c] Loewe, L. (LLoL) (2026). *PET Theorems th1–th4*.
- [Lucanus, n.d.] Lucanus, M. A. (n.d.). *Pharsalia (De Bello Civili), Book I, line 81*.
- [Luhmann, 1995] Luhmann, N. (1995). *Social Systems*. Stanford, CA: Stanford University Press.
- [Mallet, 2012] Mallet, J. (2012). The struggle for existence: how the notion of carrying capacity, k, obscures the links between demography, Darwinian evolution, and speciation. *Evo-*

- lutionary Ecology Research*, 14, 627–665. URL: <https://dash.harvard.edu/handle/1/30212075>
- [Marcia, 1966] Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology*, 3(5), 551–558. URL: <https://doi.org/10.1037/h0023281>, doi:10.1037/h0023281
- [Martin-Lof, 1984] Martin-Löf, P. (1984). *Intuitionistic Type Theory*. Naples: Bibliopolis.
- [Maslow, 1943] Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370–396. URL: <https://doi.org/10.1037/h0054346>, doi:10.1037/h0054346
- [McCollum et al., 2006] McCollum, J. M., Peterson, G. D., Cox, C. D., Simpson, M. L., & Samatova, N. F. (2006). The sorting direct method for stochastic simulation of biochemical systems with varying reaction execution behavior. *Computational Biology and Chemistry*, 30(1), 39–49. URL: <https://doi.org/10.1016/j.compbiolchem.2005.10.007>, doi:10.1016/j.compbiolchem.2005.10.007
- [Meadows, 2008] Meadows, D. H. (2008). Wright, D. (Ed.). *Thinking in Systems: A Primer*. White River Junction, VT: Chelsea Green Publishing.
- [Meyerowitz-Katz & Merone, 2020] Meyerowitz-Katz, G., & Merone, L. (2020). A systematic review and meta-analysis of published research data on COVID-19 infection fatality rates. *International Journal of Infectious Diseases*, 101, 138–148. URL: <https://doi.org/10.1016/j.ijid.2020.09.1464>, doi:10.1016/j.ijid.2020.09.1464
- [Moltmann, 1981] Moltmann, J. (1981). *The Trinity and the Kingdom: The Doctrine of God*. San Francisco: Harper & Row.
- [Mosley et al., 2025] Mosley, T. J., Zajdel, R. A., Alderete, E., Clayton, J. A., Heidari, S., Pérez-Stable, E. J., ... Bernard, M. A. (2025). Intersectionality and diversity, equity, and inclusion in the healthcare and scientific workforces. *Lancet Regional Health – Americas*, 41, 100973. URL: <https://doi.org/10.1016/j.lana.2024.100973>, doi:10.1016/j.lana.2024.100973
- [Mullins, 2013] Mullins, R. T. (2013). Simply impossible: a case against divine simplicity. *Journal of Reformed Theology*, 7(2), 181–203. URL: <https://doi.org/10.1163/15697312-12341294>, doi:10.1163/15697312-12341294
- [Hippo, n.d.a] of Hippo, A. (n.d.). *City of God (De Civitate Dei), Books XI–XII*.
- [Hippo, n.d.b] of Hippo, A. (n.d.). *Confessions, Book VII*.
- [Oppy, 2006] Oppy, G. (2006). *Arguing about Gods*. Cambridge: Cambridge University Press.
- [Ottati et al., 2015] Ottati, V., Price, E., Wilson, C., & Sumaktoyo, N. (2015). When self-perceptions of expertise increase closed-minded cognition: the earned dogmatism effect. *Journal of Experimental Social Psychology*, 61, 131–138. URL: <https://doi.org/10.1016/j.jesp.2015.08.003>, doi:10.1016/j.jesp.2015.08.003
- [Perrow, 1984] Perrow, C. (1984). *Normal Accidents: Living with High-Risk Technologies*. New York: Basic Books.
- [Plantinga, 1974a] Plantinga, A. (1974). *God, Freedom, and Evil*. New York: Harper & Row.
- [Plantinga, 1974b] Plantinga, A. (1974). *The Nature of Necessity*. Oxford: Oxford University Press.
- [Rittel & Webber, 1973] Rittel, H. W. J., & Webber, M. M. (1973). Dilemmas in a general theory of planning. *Policy Sciences*, 4(2), 155–169. URL: <https://doi.org/10.1007/BF01405730>, doi:10.1007/BF01405730

- [Schelling, 1960] Schelling, T. C. (1960). *The Strategy of Conflict*. Cambridge, MA: Harvard University Press.
- [Senge, 1990] Senge, P. M. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York: Doubleday/Currency.
- [Shannon, 1948] Shannon, C. E. (1948). A mathematical theory of communication. *Bell System Technical Journal*, 27(3 & 4), 379–423, 623–656. URL: <https://doi.org/10.1002/j.1538-7305.1948.tb01338.x>, doi:10.1002/j.1538-7305.1948.tb01338.x
- [Simons, 1987] Simons, P. (1987). *Parts: A Study in Ontology*. Oxford: Oxford University Press.
- [Sobel, 2004] Sobel, J. H. (2004). *Logic and Theism: Arguments For and Against Beliefs in God*. Cambridge: Cambridge University Press.
- [Stutt et al., 2020] Stutt, R. O. J. H., Retkute, R., Bradley, M., Gilligan, C. A., & Colvin, J. (2020). A modelling framework to assess the likely effectiveness of facemasks in combination with 'lock-down' in managing the COVID-19 pandemic. *Proceedings of the Royal Society A*, 476(2238), 20200376. URL: <https://doi.org/10.1098/rspa.2020.0376>, doi:10.1098/rspa.2020.0376
- [Talic et al., 2021] Talic, S., Shah, S., Wild, H., Gasevic, D., Maharaj, A., Ademi, Z., ... Ilic, D. (2021). Effectiveness of public health measures in reducing the incidence of COVID-19, SARS-CoV-2 transmission, and COVID-19 mortality: systematic review and meta-analysis. *BMJ*, 375, e068302. URL: <https://doi.org/10.1136/bmj-2021-068302>, doi:10.1136/bmj-2021-068302
- [Tay & Diener, 2011] Tay, L., & Diener, E. (2011). Needs and subjective well-being around the world. *Journal of Personality and Social Psychology*, 101(2), 354–365. URL: <https://doi.org/10.1037/a0023779>, doi:10.1037/a0023779
- [Tetlock, 2005] Tetlock, P. E. (2005). *Expert Political Judgment: How Good Is It? How Can We Know?* Princeton, NJ: Princeton University Press.
- [Tuckman, 1965] Tuckman, B. W. (1965). Developmental sequence in small groups. *Psychological Bulletin*, 63(6), 384–399. URL: <https://doi.org/10.1037/h0022100>, doi:10.1037/h0022100
- [Varzi, 2016] Varzi, A. C. (2016). *Mereology*.
- [Wasserman et al., 2020] Wasserman, D., van der Gaag, R., & Wise, J. (2020). The term “physical distancing” is recommended rather than “social distancing” during the COVID-19 pandemic for reducing feelings of rejection among people with mental health problems. *European Psychiatry*, 63(1), e52. URL: <https://doi.org/10.1192/j.eurpsy.2020.60>, doi:10.1192/j.eurpsy.2020.60
- [Whitehead, 1929] Whitehead, A. N. (1929). *Process and Reality: An Essay in Cosmology*. New York: Macmillan.
- [Wilde, 2018] Wilde, R. (2018). *Joseph Stalin's Death—He Did Not Escape the Consequences of His Actions*. <https://web.archive.org/web/20201204150340/https://www.thoughtco.com/how-did-stalin-die-1221206>.
- [Wink, 1984] Wink, W. (1984). *Naming the Powers: The Language of Power in the New Testament*. Philadelphia: Fortress Press.
- [Wintour, 2020-07-16] Wintour, P. (2020-07-16). Covid-19 will devastate poorest nations if West does not act, warns UN: G20 told to “step up now or pay

price later". *The Guardian*. URL: <https://www.theguardian.com/world/2020/jul/16/covid-19-may-devastate-poorest-nations-if-west-does-not-act-warns-un>

[Wurth et al., 2020-06-29] Wurth, R. C., Braxton, M. L., & Cohen, C. L. (2020-06-29). Racism and Covid-19 threaten our health—We can't fight them as separate battles. *The Guardian*. URL: <https://www.theguardian.com/commentisfree/2020/jun/29/racism-coronavirus-covid-19-black-brown-america>

[Anthropic, 2026a] Anthropic (2026 , February). *Claude Opus 4.6 System Card*. Anthropic.

[Anthropic, 2026b] Anthropic (2026 , April). *Claude Opus 4.7 System Card*. Anthropic.

[Balospecom, 2026] Balospe.com (2026). *Formal Foundation Test for the e7Day Axiom System*.

[Bhikkhu Bodhi, 2000] Bhikkhu Bodhi. (2000). *The Connected Discourses of the Buddha: A Translation of the Samyutta Nikaya*. Boston: Wisdom Publications.

[Gregory of Nyssa, n.d.] Gregory of Nyssa (n.d.). *Life of Moses (De Vita Moysis)*. Written ca. 390 CE. Translation: Abraham J. Malherbe and Everett Ferguson (Paulist Press, 1978), Classics of Western Spirituality series; preface by John Meyendorff. Alt URL: <https://archive.org/details/lifeofmoses0000greg>.

[John of Ephesus & Pearse, 543CE, 2017] John of Ephesus, & Pearse, R. (543CE, 2017). *John of Ephesus Describes the Justinianic Plague*. <https://web.archive.org/web/20210306031539/https://www.roger-pearse.com/weblog/2017/05/10/john-of-ephesus-describes-the-justinianic-plague/>.

[National Center for Health Workforce Analysis & Health Resources and Services Administration, 2014] National Center for Health Workforce Analysis, & Health Resources and Services Administration (2014). *Sex, Race, and Ethnic Diversity of U.S. Health Occupations (2010–2012)*. U.S. Department of Health and Human Services. [https://web.archive.org/web/20201024060416/https://bhw.hrsa.gov/sites/default/files/bhw/nchwa/diversityushealthoccupations\\_2012.pdf](https://web.archive.org/web/20201024060416/https://bhw.hrsa.gov/sites/default/files/bhw/nchwa/diversityushealthoccupations_2012.pdf).

[Yah Yas everyone LLoL ClaudeOp46Max Anthropic and The Spirit of Boolean Truth, 2026a] Yah, Yas, everyone, LLoL, ClaudeOp46Max, Anthropic, and The Spirit of Boolean Truth (2026). *Matheo-1: The PET Model — A Mereological Axiom System for Pan-En-Theistic Mathematical Theology*.

[Yah Yas everyone LLoL ClaudeOp46Max Anthropic and The Spirit of Boolean Truth, 2026b] Yah, Yas, everyone, LLoL, ClaudeOp46Max, Anthropic, and The Spirit of Boolean Truth (2026). *Matheo-2: The e7Day Axiom System — Towards a Formal Framework for Self-Correcting Construction*.

[Yah Yas everyone LLoL ClaudeOp46Max Anthropic and The Spirit of Boolean Truth, 2026c] Yah, Yas, everyone, LLoL, ClaudeOp46Max, Anthropic, and The Spirit of Boolean Truth (2026). *The PET Model: A Mereological Axiom System for Pan-En-Theistic Mathematical Theology*.