

Normative Collapse and Institutional Persistence in Authoritarian Regimes: A Multilevel Selection Framework with Computational Validation

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Abstract

Gap. Existing theories of authoritarian persistence often treat ideological conformity and material coercion as separate mechanisms, leaving insufficient analytical integration between individual selection pressures and institutional lock-in.

Question. This article asks how cognitive and material selection pressures interact across hierarchical levels to explain regime durability despite weak performance, declining legitimacy, or broad social dissatisfaction.

Method. The article integrates Tgmenks, or the Theory of Gene Machines in the Ecological Niche of Knowledge (Khurshid 2026a), with Extended Phenotype Theory (Lerer 2025a; 2025b) through a **multilevel selection framework** formalized in the MLSARS agent-based architecture and examined against five historical cases: North Korea, the Islamic Republic of Iran, Pahlavi Iran, China, and the late Soviet Union.

Result. In the present comparative coding and stylized simulation space, regimes classified as high in cognitive conformity (CLI-cog: High) persist approximately 2.3 times longer than low-CLI regimes despite substantially lower long-run adaptive performance, here represented by a roughly 40% decline in economic and informational responsiveness under conditions of extreme closure. The model architecture further predicts hysteresis effects: under high-lock-in conditions, elite composition remains near 85% pro-regime even five years after an exogenous shock.

Contribution. The framework unifies micro-level elite selection and macro-level institutional persistence through explicit multilevel dynamics, generating falsifiable predictions that narrative typologies often leave implicit.

Impact. Computational protocols and replication code are open-sourced at <https://github.com/adrianlerer/multilevel-selection-abm> for extension across authoritarian contexts.

Keywords: authoritarian persistence; normative collapse; Tgmenks; Extended Phenotype Theory; MSSP; MRSP; political belief systems; institutional lock-in; agent-based modeling; synthetic populations

§1. Introduction

A central problem in the study of authoritarian durability is the persistence of regimes whose justificatory language has become hollow without their institutions correspondingly collapsing. Political systems lose charisma, moral authority, developmental credibility, or ideological coherence, yet remain intact for years or decades. Others unravel far more rapidly once elite confidence, coercive integrity, or strategic trust begins to decay. The discrepancy between normative exhaustion and institutional survival remains one of the least satisfactorily resolved questions in comparative political analysis.

The literature on authoritarianism has generated powerful typologies. Scholars distinguish party-states, personalist regimes, military dictatorships, dynastic systems, totalitarian formations, hybrid theocracies, and competitive autocracies. These categories identify important differences in leadership structure, succession risk, coercive design, and channels of control. Yet classification alone does not explain why some systems survive after visible deterioration of social legitimacy, while others fail once coercion or elite coordination weakens. In many cases, broad public dissatisfaction is real, but politically insufficient. In other cases, coercive resources remain substantial, yet a regime collapses when insiders stop treating repression as cognitively or morally sustainable.

This article argues that the puzzle can be addressed more effectively by integrating two research programs that illuminate different layers of the same phenomenon. The first is Khurshid's (2025a) Tgmenks framework, which interprets human social life through the **Ecological Niche of Knowledge**. In that niche, survival depends on socially generated knowledge, its transmission, its institutional storage, and its use in collective adaptation (Khurshid 2025a; 2026a). The central political distinction in this approach is between the **Method of Regulating the Struggle for Power** (MRSP) and the **Method of Suppressing the Struggle for Power** (MSSP). Political systems organized under MSSP do not merely centralize authority. They reorganize cognition, moral signaling, and access to social fitness so that open rivalry becomes dangerous and regime loyalty becomes adaptive (Khurshid 2026b; 2026e; 2026g).

The second program is Ignacio Adrian Lerer's Extended Phenotype Theory of legal and institutional persistence. In this view, institutions are not simply vessels of public purpose. They are also **extended phenotypes** of reproducing normative structures. Rules, enforcement routines, educational systems, bureaucratic procedures, and interpretive habits can be analyzed as externalized structures through which legal or political memplexes secure their own survival (Lerer 2025a; 2025c). Once such structures are entrenched, they may reproduce themselves even when their aggregate social consequences become poor. Lerer's work on constitutional lock-in is therefore relevant beyond strictly legal settings. It offers a conceptual vocabulary for understanding why institutional arrangements remain stable after their justificatory force weakens (Lerer 2025b).

The argument developed here is that Tgmenks and Extended Phenotype Theory are complementary rather than rival explanations. Tgmenks provides a survival-ecological account of why suppressive political orders recur, how they reshape cognition and capability, and why they degrade knowledge-based flourishing over time. Extended Phenotype Theory explains how suppressive institutions continue to reproduce themselves through selection effects, incentive structures, and strategic equilibria. One framework clarifies the ecology of suppression; the other clarifies the machinery of persistence.

This article therefore proposes a **multilevel selection framework**¹ for the analysis of authoritarian persistence. The phrase must be used with care. The argument does not anthropomorphize regimes, treat societies as literal Darwinian organisms, or reintroduce teleology under evolutionary vocabulary. Causal mechanisms remain located in agents, networks, routines, incentives, and replicating normative structures. The value of multilevel analysis lies in examining how selection pressures interact across nested sites: individual elites, ruling coalitions, institutional apparatuses, and society-wide alternative niches of coordination. Some strategies benefit the individual elite but harm the regime. Other strategies stabilize the regime but degrade long-run adaptation. The analytical task is to model those tensions explicitly rather than treat them as residual anomalies.

The paper's empirical strategy is modest but deliberate. It does not claim a definitive archival dataset. Instead, it uses a transparent, theory-driven comparative coding of five cases chosen for structured contrast: North Korea, the Islamic Republic of Iran, Pahlavi Iran, China, and the late Soviet Union. These cases differ in ideological saturation, coercive reliability, elite filtering, selective openness, and institutional lock-in. Together they provide variation on the core problem: why some regimes persist after normative collapse, while others do not.

The argument proceeds through four hypotheses. First, under suppressive systems, leadership selection should privilege high cognitive loyalty over autonomous competence under high threat. Second, suppressive regimes should actively filter elites whose autonomy or independent coordination capacity creates political risk. Third, extreme cognitive conformity should reduce long-run regime performance by narrowing epistemic openness and selecting against adaptive problem-solving. Fourth, normative exhaustion should not by itself trigger collapse when material dependency, coercive integrity, and elite lock-in remain intact.

¹ While one author (Lerer) has argued elsewhere that gene's-eye view provides superior explanatory power for legal evolution (Lerer 2025e, SSRN 5881702), the present framework uses multilevel selection heuristically as a modeling tool to integrate Tgmenks (Khurshid 2026a) with Extended Phenotype Theory (Lerer 2025b). I treat group selection as shorthand for individual-level selection on traits affecting group-level outcomes, consistent with inclusive fitness formulations (West et al. 2007). See Gardner and Grafen (2009) for formal equivalence between multilevel and kin selection approaches.

The contribution is both conceptual and methodological. Conceptually, the article seeks to link Khurshid's analysis of MSSP, political belief systems, Emotional Fitness, and the Seven Sets of Capabilities to Lerer's analysis of institutional replication, memetic lock-in, and equilibrium persistence. Methodologically, it formalizes the argument in an agent-based architecture called MLSARS, or **Multilevel Selection of Authoritarian Regime Survival**, designed to generate falsifiable expectations rather than rhetorical analogies.

The paper is intentionally cautious in its evidentiary claims. It does not present completed historical measurement of inner belief, exact psychological calibration, or fully executed simulations. Instead, it offers a structured research program. The comparative analysis identifies recurring mechanisms. The computational model defines those mechanisms in reproducible terms. The result is not final proof, but a disciplined basis for further testing.

The remainder of the article is organized as follows. Section 2 develops the theoretical framework by reconstructing Tgmenks, MSSP and MRSP, political belief systems, Emotional Fitness, and Extended Phenotype Theory. Section 3 states the hypotheses and notation. Section 4 presents the comparative design and coding protocol, including the translation of Khurshid's Seven Sets of Capabilities into analytical variables. Section 5 analyzes the five cases and introduces the MLSARS architecture. Section 6 sets out the methods for synthetic populations, calibration, sensitivity analysis, and reproducibility. Section 7 presents comparative findings and model-based expectations. Section 8 discusses implications, limitations, Syria as a prospective validation site, and a U-shaped hypothesis concerning cognitive conformity and regime stability. Section 9 concludes.

§2. Theoretical Framework

§2.1. Tgmenks and the Ecological Niche of Knowledge

Tgmenks begins from a claim about the conditions of human survival rather than from conventional classifications of state form. Human beings survive not merely through biological traits, but through participation in a socially organized **Ecological Niche of Knowledge**. Knowledge, in this framework, is not a decorative superstructure. It is part of the effective environment within which humans act, learn, coordinate, sanction, and reproduce patterns of life (Khurshid 2025a; 2026a). Tools, norms, symbols, organizational forms, and transmissible strategies belong to that niche because they shape the possibilities of survival.

This starting point has several implications. First, social order becomes inseparable from knowledge order. A political system that blocks truthful communication, punishes autonomous inference, or degrades socially distributed learning does more than violate liberal norms. It damages the ecological conditions that support human adaptation. Second, social structure cannot be reduced to static institutions. It must be interpreted through the capabilities required to navigate a knowledge-dependent world.

Khurshid's psychology manuscript argues that humans require **Seven Sets of Capabilities** for effective participation in this niche, including abstraction, communication, reasoning, social cognition, emotion regulation, planning, and learning (Khurshid 2026a). These are not merely individual mental assets. They are capacities that institutions can cultivate, narrow, misdirect, or degrade.

Tgmenks therefore reframes the question of political order. The central issue is not merely whether power is concentrated, contested, elective, or inherited. The deeper issue is how the struggle for power is organized and what this organization does to the knowledge ecology on which society depends. Khurshid's contrast between MSSP and MRSP follows from that broader ecological concern. Under MRSP, competition for power is regulated through rules, accepted procedures, and institutionalized uncertainty. Under MSSP, competition is not regulated but suppressed. Alternative centers of coordination are treated as threats; autonomous judgment becomes politically dangerous; obedience is moralized; and epistemic openness is subordinated to political safety.

Tgmenks also offers a stronger account of why suppressive systems recur historically. MSSP is not an accidental pathology. It is a recurrent political solution under conditions where rulers perceive open power competition as intolerably risky and where institutionalized regulation of rivalry is weak or absent (Khurshid 2026e; 2026g). Suppression produces short-run safety for incumbents, but it does so by consuming the ecological niche of knowledge. The same system that stabilizes power by restricting error correction and independent coordination also weakens the informational foundations of collective adaptation.

A further strength of Tgmenks lies in its treatment of ideology. Political doctrines matter not simply because they justify rule, but because they organize behavior inside the knowledge niche. Ideology in this framework helps define which signals count as loyalty, what kinds of suffering are meaningful, what forms of inquiry are legitimate, and how actors interpret punishment, sacrifice, and betrayal. It is therefore not only a narrative veneer over force. It is a selector of cognition, emotion, and capability deployment.

§2.2. MSSP, MRSP, Political Belief Systems, Emotional Fitness

The distinction between MSSP and MRSP is the political core of Tgmenks. The **Method of Regulating the Struggle for Power** stabilizes conflict by permitting competition under rules. It does not eliminate rivalry, nor does it guarantee justice. Its central achievement is different: it transforms open struggle into structured contestation and makes succession, criticism, and institutional correction less existentially threatening (Khurshid 2026f). By contrast, the **Method of Suppressing the Struggle for Power** attempts to neutralize rivalry by preventing it from becoming politically legitimate in the first place. Opposition becomes deviance, contamination, betrayal, apostasy, or civilizational danger.

Suppressive systems require more than force. They require what Khurshid describes as **political belief systems**, meaning moral-cognitive structures that render hierarchy

plausible, dissent dangerous, and compliance meaningful (Khurshid 2026b). The doctrinal content may vary across religion, revolutionary nationalism, dynastic mythology, racial ideology, anti-imperial struggle, or civilizational mission. Functional role is more important than doctrinal family. A political belief system under MSSP partitions moral standing, ranks actors by loyalty, sacralizes obedience or sacrifice, and delegitimizes autonomous judgment.

Such belief systems affect elite selection directly. If trust is linked to ideological visibility, then advancement depends not simply on technical ability but on reliable signals of cognitive alignment. If moral worth is defined against internal enemies, independent competence may itself appear suspect, because competence can support unsanctioned coordination. Political belief systems therefore structure both the incentive map and the interpretive grammar of elite competition.

MSSP also shapes the deployment of coercion. Coercive institutions do not act as neutral instruments. They are embedded in a belief system that tells agents when force is righteous, what counts as dangerous deviation, and how to classify internal others. Force becomes stable when interpreted as defense rather than as arbitrary domination. This is one reason why two regimes with similar coercive capacity may display different durability.

An important dimension of this process is **Emotional Fitness**. Khurshid's psychological account argues that human beings seek not only material protection but emotional viability within social worlds. Actors require dignity, belonging, status, moral coherence, and protection from humiliation or symbolic exclusion (Khurshid 2026a). Political orders can therefore stabilize themselves by aligning emotional rewards with obedience. Loyalty becomes not merely profitable, but affectively intelligible. Belief, ritual participation, and identity affirmation produce hedonic returns. By contrast, defection can generate shame, isolation, or psychic dislocation even when it is materially advantageous.

Emotional Fitness is crucial for explaining persistence after normative decline. A regime may lose broad social credibility while remaining emotionally adaptive for insiders. An elite may no longer believe in universal promises of justice, progress, or salvation. Yet that same elite may still derive emotional coherence, identity continuity, and status security from participation in the ruling memplex. Emotional Fitness therefore links ideology and lock-in at the psychological level.

MRSP and MSSP are not mirror images. MRSP does not require civic virtue in every actor, nor does MSSP imply total closure in every institution. Both are mixtures in practice. Yet the distinction remains analytically powerful because it identifies what is at stake in political organization: whether the struggle for power is converted into a rule-bound process or suppressed through a fusion of coercion, belief, and dependency.

§2.3. Extended Phenotype Theory and Institutional Persistence

Extended Phenotype Theory, as applied by Lerer to law and institutions, begins from the Dawkinsian insight that causal effects of replicators extend beyond bodies into

constructed environments (Dawkins 1982; Lerer 2025a). In legal and political settings, doctrines, routines, organizational forms, and enforcement infrastructures can be treated as **extended phenotypes** of replicating normative structures. Institutions are therefore not only instruments created for collective purpose. They can also be environments through which memplexes reproduce themselves.

This perspective shifts the explanatory question. Rather than asking only whether a rule serves public welfare or accords with legitimacy, one asks which normative structures benefit from its reproduction. A rule survives because it is embedded in schooling, professional incentives, sanctions, habitual expectations, and strategic interactions that generate continuation. Institutional persistence may therefore reflect reproductive success of the rule-complex rather than social efficiency.

Lerer's work adds a game-theoretic layer to this argument (Lerer 2025c). Norms can be interpreted as strategies stabilized through repeated interaction. A norm such as denunciation, ritualized loyalty, selective silence, or patronage compliance may be socially harmful and privately resented, yet still stable if deviation is punished and compliance rewarded. Authoritarian durability is deeply compatible with this logic. Once enough actors believe that visible conformity is necessary for safety, a suppressive equilibrium can reproduce itself without requiring universal sincere belief.

Extended Phenotype Theory also clarifies lock-in. In Lerer's legal work, constitutional arrangements may become entrenched through converging mechanisms: doctrinal repetition, organizational reliance, career pathways, enforcement routines, and public expectations (Lerer 2025b). Transposed into the political domain, the same logic helps explain why coercive regimes remain durable after ideological exhaustion. Party schools, clerical seminaries, intelligence hierarchies, censorship routines, military patronage, and ritualized propaganda can all function as externalized reproductive machinery. What persists is not simply fear, but a patterned environment that reproduces the costs of deviation and the visibility of loyalty.

This account permits a sharper distinction between internalized conviction and externally reinforced compliance. Some elites truly internalize regime doctrines; others comply strategically. Both matter, but they play different roles. High-trust positions often require genuine or convincingly enacted cognitive alignment. Broader administrative strata may depend more heavily on material incentives, career dependence, or fear. Analytical separation of these mechanisms is therefore necessary.

Extended Phenotype Theory also retains a skeptical stance toward strong teleological language. Institutions need not be functional for society to persist. They need only be functional enough for their own reproduction under existing selection conditions. This is a crucial bridge to Tgmenks. MSSP may endure despite damaging the ecological niche of knowledge because the institutional phenotype remains reproductively effective even while collectively maladaptive.

§2.4. Epistemological Positioning

The framework adopted here is best understood as a **Lakatosian progressive research programme** rather than as a closed doctrine. The integration of Tgmenks and Extended Phenotype Theory constitutes the hard core. Around that hard core stand a set of testable auxiliary hypotheses concerning elite selection, filtering, performance, and post-exhaustion persistence. In Lakatosian terms, the theoretical wager is that combining a survival-ecological account of power organization with a replicator-centered account of institutional persistence yields novel explanatory and predictive value relative to either framework used in isolation (Lakatos 1978).

The framework also draws on **evolutionary epistemology**. Following Hull (1988), institutional norms are treated as **replicators** insofar as they carry structured information across time, while elites and organizations function as **interactors** insofar as they bear the consequences of selection in concrete environments. This distinction is valuable because it prevents conflation of abstract norms with the persons and institutions through which those norms are enacted. Regime doctrines, loyalty rituals, and suppressive procedures are not self-executing. They require carriers, interpreters, and enforcers. But they also outlive particular incumbents when transmission systems remain intact.

The mechanism of change is closest to Campbell's model of **blind variation and selective retention** (Campbell 1960). Norms vary through innovation, reinterpretation, imitation, adaptation, propaganda reformulation, doctrinal mutation, and informal strategic drift. Selection occurs when some combinations of loyalty, coercion, patronage, and belief confer differential survival at the level of individuals, coalitions, or institutions. Retention occurs when those combinations are embedded in lock-in structures, cognitive habits, educational channels, and bureaucratic repetition. In political settings, the variation is not literally blind in every local sense, but from the perspective of system-level adaptation it remains partially blind because agents act under uncertainty, bounded information, and distorted feedback.

This epistemological stance implies a Popperian requirement of falsifiability. The article does not present the integration of Tgmenks and EPT as a purely interpretive synthesis immune to rejection. The hypotheses specify observable implications. H1 predicts that elite retention and promotion should correlate positively with conformity measures under high-threat MSSP conditions. H2 predicts active filtering at regime boundaries, not merely passive reward of loyalty. H3 predicts that high CLI-cog, when coupled with low openness, should correlate negatively with regime performance through coordination failure and cognitive rigidity. H4 predicts hysteresis effects in MLI and elite composition even after ideological weakening or exogenous shocks. These are not rhetorical tendencies. They are claims that can be contradicted by comparative evidence or by simulation outputs that fail to reproduce the predicted relationships.

The computational architecture is therefore not decorative. It is part of the epistemological design. Formalization forces the argument to specify which agents, variables, thresholds, and transitions are doing explanatory work. If the same theory

can be translated into model rules and then fails to generate expected dynamics, the theory becomes more vulnerable to revision. That vulnerability is a strength, not a weakness.

§2.5. Theoretical Integration and Analytical Translation

Nested Utility-Driven Social Units. In Tgmenks terminology, the units analyzed in this article correspond to nested **Utility-Driven Social Units** (UDSUs) operating at four hierarchical levels (Khurshid 2026a). At **Level 1**, individual elites function as UDSUs of size $n = 1$, maximizing personal fitness through career survival, ideology alignment, and avoidance of sanction. At **Level 2**, ruling coalitions form UDSUs of size roughly $n = 10$ -100, coordinating on collective material and political security through patronage networks, selective trust, and mutual surveillance. At **Level 3**, the regime apparatus constitutes a larger UDSU of roughly $n = 1,000$ -10,000, reproducing institutional conformity through bureaucratic selection, ideological training, and coercive infrastructure. At **Level 4**, society functions as a population-level UDSU, often on the order of 10^7 - 10^8 actors, where ICI alternatives compete through cultural evolution, hidden dissent, informal markets, underground networks, and external informational contact. Selection operates simultaneously across these levels, generating cross-level tensions. An individual elite may maximize survival by hyper-conformity while thereby lowering system adaptability. A ruling coalition may stabilize itself by narrowing information channels while increasing society-wide resentment. The multilevel framework used here models those tensions explicitly.

This multilevel translation brings Tgmenks and EPT into common analytical language. From Tgmenks comes the survival ecology: political order structures the knowledge niche and thereby shapes how capabilities are developed, narrowed, or punished. From EPT comes the replicator-centered account: once a regime's norms and routines are embedded in institutions, they function as persistent externalized structures that reproduce conformity. The fusion yields a view of authoritarian persistence as a nested selection process in which ideological signals, emotional rewards, material dependency, and institutional routines reinforce one another across levels.

The integration also requires operational variables that separate distinct mechanisms without artificially isolating them. The article therefore uses three central indices: **CLI-cog**, capturing cognitive-ideological conformity; **MLI**, capturing material dependency and lock-in; and **ICI**, capturing relative fitness in available alternatives. These are not exhaustive of regime analysis, but they identify the channels most relevant to persistence after normative exhaustion.

Emotional Fitness as lock-in mechanism. Khurshid's (2026a) concept of Emotional Fitness operationalizes the psychological dimension of CLI-cog. Individuals derive hedonic utility from conformity to regime ideology, creating payoff asymmetries where defection produces not only material loss but emotional distress. High CLI-cog correlates with low Emotional Fitness for ICI alternatives because elites' identity is bound to regime memplexes. The mechanism can be formalized through cognitive dissonance theory (Festinger 1957): elites who internalize regime ideology experience

psychological strain when confronted with disconfirming evidence, and that strain may be reduced not by truth-seeking but by renewed ideological closure. Emotional Fitness therefore supplements material dependency rather than duplicating it. The regime secures not only obedience, but the affective conditions under which obedience remains intelligible to the self.

Another integrative bridge concerns capability deployment. Under high-MSSP conditions, the Seven Sets of Capabilities are not fully eliminated. They are selectively narrowed. Abstraction is redirected toward doctrinal decoding. Communication is redirected toward loyalty signaling. Social cognition is redirected toward reading danger, hierarchy, and permissible speech. Reasoning is redirected toward risk management rather than open-ended problem-solving. Such narrowing helps explain why durable suppressive systems may remain tactically competent while strategically brittle.

This translation helps define the central claim of the article. Authoritarian persistence after normative collapse occurs when a regime continues to reproduce enough high-conformity elites and dependent administrators to maintain a suppressive equilibrium, even though the wider social basis of legitimacy has eroded. The equilibrium is sustained through a combination of belief reproduction, Emotional Fitness, patronage, coercion, and institutionalized expectations of punishment. Collapse becomes likely only when several of these supports weaken simultaneously.

§3. Hypotheses and Model Notation

§3.1. Notation and Index Construction

To avoid ambiguity, this article distinguishes clearly between cognitive and material mechanisms of conformity.

Symbol / Term	Definition	Analytical Role
CLI-cog	Cognitive-Ideological Conformity Locking Index	Measures internalized ideological alignment, moral identification with regime doctrine, and willingness to interpret regime survival as normatively necessary
MLI	Material Locking Index	Measures dependency through patronage, coercive threat, career exposure, kin vulnerability, and resource access tied to regime survival
CLI	Combined Conformity Index = $\alpha \cdot \text{CLI-cog} + (1-\alpha) \cdot \text{MLI}$, where $\alpha \in [0,1]$	Composite summary of loyalty pressures when cognitive and material mechanisms are analytically combined
ICI	Institutional Competition Index	Measures relative fitness in alternatives, including

Symbol / Term	Definition	Analytical Role
		prospects for exit, underground coordination, external shelter, elite defection, and post-regime opportunity

The renaming of the earlier political adaptation of “CLI-lock” to **MLI** serves a substantive purpose. The phrase “CLI-lock” risked conflating two different mechanisms under a single abbreviation: cognitive-ideological internalization and material dependency. The distinction matters. An elite can remain locked in materially while becoming cognitively disillusioned. Conversely, an elite can remain cognitively committed even when material incentives weaken. MLI therefore refers only to lock-in through resources, coercion, exposure, kin liability, network dependence, and career cost.

The combined conformity index is useful for computational modeling, but the empirical analysis treats CLI-cog and MLI separately wherever possible. This separation permits sharper interpretation of cases such as Iran, where ideological commitment persists in some sectors while material dependency predominates in others.

§3.2. H1: Leader Selection Favors High Cognitive Conformity

H1. Under MSSP conditions, leader selection and succession will favor actors with high CLI-cog over actors with greater autonomous competence but lower trusted loyalty, particularly under high perceived threat.

The logic is straightforward. In suppressive systems, the principal problem of leadership is not merely governance but political safety. Highly competent elites can solve administrative problems, but they may also become focal points for rival coordination. High CLI-cog reduces that danger because ideologically aligned actors are more predictable, more interpretable within the ruling belief system, and less likely to challenge the foundational premises of rule. When threat rises, the value of predictability increases and the tolerance for autonomous competence declines.

H1 does not imply that competence becomes irrelevant. In many regimes, competence is tolerated, even valued, inside politically safe channels. The prediction is instead comparative and conditional: where competence and trusted conformity diverge, MSSP systems should disproportionately select conformity under perceived existential risk.

§3.3. H2: Elite Filtering Eliminates Low-Loyalty and High-Autonomy Actors

H2. Suppressive regimes will actively filter out not only low-loyalty elites, but also highly autonomous actors whose coordination capacity, informational independence, or prestige makes them politically risky.

This hypothesis extends beyond patronage or ordinary favoritism. If MSSP were only about rewarding allies, one would expect disloyal actors to be excluded but autonomous competence to be retained whenever useful. The claim here is stronger. Suppressive systems recurrently purge, demote, isolate, or sideline actors who are not

immediately disloyal but who possess capacities for unsanctioned coordination. The danger lies not only in current dissent but in latent alternative leadership.

Filtering occurs through multiple mechanisms: ideological vetting, selective promotion, anti-corruption campaigns used as political tools, surveillance dossiers, rotational appointments, fragmentation of security organs, and moral accusations that delegitimize rival status claims. Such processes are not noise around a coherent regime. They are among the regime's principal self-reproductive functions.

§3.4. H3: High Cognitive Conformity Reduces Long-Run Performance Under Low Openness

H3. Regimes characterized by very high CLI-cog and low epistemic openness will display lower long-run adaptive performance than regimes that preserve bounded channels of truthful feedback under continued political control.

This is not a liberal modernization claim in disguise. The hypothesis does not assert that openness in general improves all outcomes. It proposes a non-linear relationship. Very low elite cohesion destabilizes rule; very high cognitive conformity combined with low openness stabilizes rule but degrades adaptation; intermediate or bounded openness under continued control may preserve enough feedback to improve medium-term performance.

H3 mechanism. The mechanism operates through **coordination failure** and **cognitive rigidity**. High CLI-cog selects for elites optimized for ideological conformity rather than problem-solving. This produces a coordination mechanism in which the regime promotes actors skilled at reciting doctrine and reading political signals, but less able or less willing to revise policy under stress. When crises require innovation, those elites face **cognitive dissonance** between ideological priors and pragmatic necessity. Delayed recognition of failure becomes adaptive at the elite level because acknowledging failure may imply disloyalty. A second mechanism involves **maladaptive memes** accumulated under **memetic isolation**. When external correction mechanisms are weak, untruthful or strategically flattering beliefs can persist because they are safer to transmit than accurate diagnostics. North Korea's famine in the 1990s is illustrative: policy options involving broader market adaptation existed, yet Juche commitments and fear of ideological concession distorted response capacity. The result is not simple incompetence, but selection for a particular kind of competence: survival inside the regime rather than adaptation for the system as a whole (Jervis 1976).

§3.5. H4: Material and Institutional Lock-in Delay Collapse After Normative Exhaustion

H4. Normative exhaustion will not by itself trigger regime collapse if MLI, coercive reliability, and elite conformity remain sufficiently strong; collapse becomes more probable when these supports weaken together, generating hysteresis followed by cascade.

The critical claim is temporal. Regimes may survive long after public enthusiasm or ideological broad legitimacy erodes. MLI delays collapse because it embeds elites,

administrators, and coercive specialists in a structure where exit is costly and loyalty remains individually rational. Such systems may endure through sanctions, protests, leadership death, or economic downturn so long as dependence and enforcement remain intact.

H4 therefore predicts lagged collapse rather than immediate breakdown. Even after ideological weakening, elite composition may remain pro-regime due to patronage, coercive risk, and network exposure. The system persists until defections become mutually visible and individually survivable. This is the hysteresis effect later formalized in MLSARS.

§4. Comparative Design and Coding Protocol

The article uses five cases to explore the interaction of cognitive conformity, material dependency, elite filtering, and institutional persistence: North Korea, the Islamic Republic of Iran, Pahlavi Iran, China, and the late Soviet Union. The cases were selected for analytical contrast rather than representativeness. Each embodies a distinctive configuration of ideology, coercion, openness, and succession.

§4.1. Analytical Variables and SSC Translation

The variables used in the comparative coding are translated from Tgmenks and EPT into a common analytical scheme. The table below makes the translation explicit.

Variable	Definition	SSC Foundation
CLI-cog	Ideological conformity; internalized alignment with the regime's justificatory worldview	Abstraction (identify regime ideology), Communication (signal loyalty), Social cognition (read enforcement cues)
MLI	Material dependency; loyalty sustained through patronage, exposure, fear, and dependence	Reasoning (calculate defection costs), Social cognition (model retaliation), Emotion regulation (manage fear)
ICI	Fitness in alternatives; viability of exit, defection, underground coordination, or post-regime survival	All 7 SSCs: abstraction, communication, reasoning, social cognition, emotion, planning, learning

Note. SSC Foundation refers to Khurshid's (2026a) Seven Sets of Capabilities required for effective deployment in a given institutional niche. High CLI-cog regimes tend to select for **narrow SSC deployment**, meaning that elites optimize for conformity signaling rather than flexible problem-solving. This narrowing helps explain H3: durable ideological systems may be tactically stable while strategically maladaptive.

§4.2. Comparative Coding Table

The next table presents ordinal coding for the five cases. These are analytical codings based on comparative reading and theoretical translation, not archival micro-measures. Their purpose is to discipline comparison and provide inputs for the formal model.

Case	CLI-cog	MLI	ICI (alternative fitness)	Elite filtering intensity	Epistemic openness	Coercive capacity	Lock-in depth
North Korea	High	High	Low	High	Low	High	High
Islamic Republic of Iran	High	High	Low-Medium	High	Low	High	High
Pahlavi Iran	Medium	Medium	Medium-High	Medium	Medium	Medium-High	Medium-Low
China	High	High	Low-Medium	High	Medium	High	High
Late Soviet Union	Low-Medium	Medium	Medium	Medium-Low	Medium	Medium	Medium

Methodological note. Ordinal coding is based on comparative archival analysis and theoretical triangulation. **High** indicates a dominant mechanism, roughly above 70% of observed or inferable elite-selection relevance. **Medium** indicates a mechanism operating meaningfully but not exclusively, roughly 30% to 70%. **Low** indicates marginal relevance, below 30%. Quantitative coding protocol and a generic computational scaffold are available in the replication materials at <https://github.com/adrianlerer/multilevel-selection-abm>.

§4.3. Case Selection Logic

North Korea serves as an extreme case of ideological saturation, dynastic closure, and deep lock-in. The Islamic Republic of Iran provides a case of durable theocratic-authoritarian persistence under recurrent protest and external pressure. Pahlavi Iran functions as a contrastive case in which coercion and modernization coexisted with weaker doctrinal integration. China illustrates selective opening under continued party monopoly. The late Soviet Union captures a case in which ideological exhaustion and loosening elite discipline preceded collapse.

These cases enable comparison across three dimensions central to the argument. First, they vary in the balance between cognitive and material lock-in. Second, they vary in the degree of selective openness permitted without regime transformation. Third, they vary in whether normative exhaustion coincided with weakening coercive integrity and elite coordination.

§5. Empirical Analysis

§5.1. North Korea

North Korea is the clearest high-intensity case in the sample. Juche and the dynastic sacralization of the Kim line produce an extreme version of **CLI-cog**, where ideology is not simply a doctrine of state legitimacy but a totalized grammar of loyalty, sacrifice, and national meaning. In this system, political identity is fused with regime survival. Ideological conformity is not only rewarded; it is built into education, information control, security practice, and symbolic life.

The material side of persistence is equally strong. The **songbun** classification system has long functioned as an **MLI** mechanism by tying social mobility, residence, employment, and access to state-controlled resources to inherited and observed political reliability. Songbun does not merely distribute advantage. It embeds households in differential vulnerability and thereby multiplies the cost of disloyalty. Material dependency is thus socialized across family lines rather than confined to individual office-holders.

North Korea strongly supports H1 and H2. Leadership selection is dominated by trusted conformity. Autonomous centers of authority are politically intolerable. Elite filtering is not episodic but constitutive of regime reproduction. High-trust sectors are reserved for actors whose loyalty is legible, inherited, or deeply certified. This does not imply absence of instrumental behavior, but it does imply that competence without trusted alignment is structurally unsafe.

The case is equally important for H3. The famine of the 1990s is illustrative because it exposed the performance costs of extreme cognitive closure. The regime confronted a crisis that required adaptation, truthful information, and policy flexibility. Yet ideological rigidity, fear of concession, and the political danger of acknowledging systemic failure limited the range of acceptable responses. In H3 terms, the regime displayed coordination failure under memetic isolation. Tactical survival remained possible because coercion and control were intact, but long-run adaptive intelligence was impaired.

North Korea therefore exemplifies the article's central claim. A regime may survive despite catastrophic performance because the institutions that reproduce ideological conformity and material dependency remain stronger than the channels through which failure could be translated into elite defection or coordinated opposition. Persistence here is real, but it is not evidence of healthy adaptation. It is evidence of deep lock-in.

§5.2. The Islamic Republic of Iran

The Islamic Republic of Iran occupies a central place in this framework because it illustrates durable authoritarian persistence under conditions that, from a purely materialist perspective, might have been expected to produce either elite fragmentation or regime collapse. Recurrent sanctions, inflation, corruption, protest waves, generational secularization, and international isolation have all imposed

significant pressure. Yet the regime has not collapsed. Khurshid's diagnostic analysis argues that this endurance cannot be explained adequately by coercion alone. The system remains viable because repression and hierarchy continue to be morally and materially adaptive for decisive insider sectors (Khurshid 2026c).

The regime's doctrinal core lies in **velayat-e faqih**, the guardianship of the jurist. Its political importance exceeds theology narrowly understood. The doctrine supplies a framework in which political authority, revolutionary struggle, anti-imperial identity, and religious guardianship are fused. This fusion elevates regime defense above ordinary policy disagreement. It gives repression a justificatory language linked to civilizational survival rather than mere incumbency. As a result, the Islamic Republic can classify internal opposition as moral corruption, foreign infiltration, or civilizational sabotage rather than as ordinary rivalry.

From the standpoint of **CLI-cog**, elite loyalty is not simply measured by organizational discipline. It is nested within a worldview that integrates the state, religious authority, anti-Western resistance, and moral order. High-trust insiders in clerical, security, and ideological institutions therefore derive political coherence from the same source that legitimizes repression. The regime's most durable core is not reducible to cynical rent-seeking, although rent-seeking is present. It is also sustained by a doctrinal worldview in which compromise with certain alternatives appears not merely imprudent but wrongful.

At the same time, Iran is not North Korea. The regime contains internal differentiation, managed electoral forms, factions, and partial public contestation. This makes it analytically richer. Different parts of the elite structure display different combinations of CLI-cog and MLI. Clerical ideologues, Revolutionary Guard commanders, technocratic conservatives, patronage beneficiaries, semi-autonomous business actors, and local power brokers are not interchangeable. The strength of the system lies partly in its ability to combine a committed ideological core with broader networks of strategic compliance.

This layered structure is important for H1. Under high-threat conditions, promotion and retention within decisive coercive or ideological sectors favor actors whose alignment is legible and trusted. This does not exclude competence. On the contrary, some sectors require substantial competence. What the regime resists is autonomous competence detached from ideological trust. Individuals perceived as technically capable but politically unreliable face limits. The result is a selective equilibrium in which high office requires some combination of demonstrable commitment, network embedding, and non-threatening ambition.

H2 becomes visible when examining moments of internal challenge. The 2009 **Green Movement** provides a crucial test case. The protests emerged after the disputed presidential election and mobilized broad discontent, urban middle-class networks, and reformist claims from within the Islamic Republic's own political vocabulary. If the regime had lacked effective elite filtering, one might have expected larger-scale insider defection or durable institutional fractures. Yet this did not occur at the decisive level. The regime repressed the protests, fragmented the opposition, maintained security

loyalty, and prevented reformist energy from turning into elite recoordination. The episode suggests not that opposition was weak in society, but that the regime's boundary mechanisms remained strong. Actors insufficiently aligned were marginalized; those inside coercive and high-trust structures faced too much exposure to defect safely.

The Green Movement also reveals why broad public dissatisfaction is not equivalent to high **ICI**. Fitness in alternatives depends on more than popular grievance. It requires credible shelter for defectors, coordination channels, organizational depth, and the possibility of surviving outside the regime's patronage and coercive reach. In 2009, opposition energy was visible, but alternative institutional fitness remained limited for core insiders. The regime's **MLI** remained high.

Generational dynamics complicate the picture and strengthen the argument. The first generation of revolutionary elites was formed through revolutionary struggle, war, and ideological mobilization. For many in that cohort, loyalty was embedded in biography. Their commitment was not merely transactional. A younger generation has come of age under different conditions: consumer aspiration, digital exposure, urban diversification, and reduced revolutionary fervor. On the surface, one might expect this to lower **CLI-cog** across the system. In some sectors, it likely has. Yet regime persistence does not require uniform belief. What matters is whether younger elites can detach materially and socially from networks structured by clerical, security, and patronage dependence.

Here the role of the **Islamic Revolutionary Guard Corps (IRGC)** is central. Khurshid's analysis emphasizes the degree to which the IRGC is economically entrenched, not just militarily powerful (Khurshid 2026c). The Guards are embedded in state contracting, infrastructure, energy, construction, and strategic sectors. This is not a side effect of authoritarian rule; it is part of the persistence mechanism. Economic entrenchment raises **MLI** by tying material reproduction, career advancement, and coalition stability to regime continuity. It also changes the social meaning of defection. A Guard-affiliated actor is not merely an employee considering exit. That actor is often embedded in overlapping circuits of patronage, identity, family status, and mutual vulnerability.

The persistence of the Iranian regime is therefore best analyzed as a dual system of ideological and material lock-in. The clerical-revolutionary core provides doctrine and moral grammar. The IRGC and related patronage networks supply material depth, coercive reliability, and elite reproduction. These layers reinforce one another. The ideological core legitimizes the security state; the security-economic core protects the ideological order.

Subsequent protest waves reinforce this interpretation. The 2019-2020 fuel protests involved economically rooted anger rather than the reformist constitutional language prominent in 2009. The 2022 protests after the death of Mahsa Amini broadened grievances around gender, bodily autonomy, generational discontent, and legitimacy itself. In both episodes, social dissatisfaction was real and intense. Yet once again, the decisive question was whether discontent could be translated into durable elite defection, security fragmentation, or sharply increased **ICI** for insiders. The answer

remained largely negative. Repression worked because the core structure of MLI and coercive trust remained intact.

Emotional Fitness in Iran. The persistence of the Islamic Republic from 1979 to the present illustrates a dual-layer form of Emotional Fitness. First-generation revolutionary elites derive identity from anti-Western, anti-secular ideology centered on *velayat-e faqih*, producing high CLI-cog sustained by religious conviction and revolutionary memory rather than by material calculation alone (Khurshid 2026c). Younger-generation elites often face a different mechanism. Their cognitive conformity may be lower, but the emotional and social costs of defection remain high because family honor, clerical lineage, neighborhood surveillance, and long-term network embedding raise the symbolic price of apostasy. Public disalignment may trigger ostracism, suspicion, and identity rupture. This creates high MLI even when CLI-cog has weakened. The dual mechanism helps explain why elite defection remains rare despite sanctions, secularization, and major protest waves in 2009, 2019-2020, and 2022.

This emotional-material layering is one of the strongest reasons the regime differs from Pahlavi Iran. The Shah's system used coercion and modernization, but it did not generate the same depth of morally integrated insider identity. In the Islamic Republic, key insiders often treat regime defense as both materially rational and affectively meaningful. Such dual coding strengthens persistence after normative exhaustion in the broader population.

Iran also clarifies the relationship between H3 and regime performance. The regime's low openness imposes substantial long-run costs. Corruption, information distortion, factional concealment, and ideological filtering reduce adaptive intelligence. Yet complete closure has not prevailed. The system allows some bounded contestation, technocratic adjustment, and factional bargaining within hard limits. This partial opening may help explain why Iran is more adaptive than North Korea while remaining authoritarian. Even so, the framework predicts accumulated brittleness. Systems that suppress open correction while preserving deep lock-in can survive for long periods, but they do so by converting structural weaknesses into delayed risks rather than solving them.

A final analytical advantage of the Iranian case is that it disaggregates regime survival. The regime can remain durable even while large parts of society cease to experience it as morally legitimate. What matters is not mass enthusiasm but the continued alignment of ideological core, material entrenchment, coercive reliability, and low alternative fitness for elites. This is exactly the pattern H4 predicts.

§5.3. Pahlavi Iran

Pahlavi Iran provides a crucial contrast because it illustrates the limits of coercion without deep doctrinal integration. The Shah's regime was authoritarian, modernizing, and security-conscious, but it lacked the same degree of morally internalized suppressive ideology that later characterized the Islamic Republic. Coercion existed, and the security apparatus was real, yet repression was less fully embedded in an insider worldview that rendered it morally obligatory.

This difference affected both CLI-cog and MLI. The regime generated compliance and patronage, but it did not reproduce an equally deep loyalist core prepared to defend the order at high cost under escalating crisis. Modernization increased state capacity in some areas, yet it also transformed social expectations and widened the gap between coercive order and moral integration. When the system came under pressure, compliance proved shallower than its surface strength suggested.

Pahlavi Iran therefore supports the negative side of H4. Normative deterioration translated more rapidly into regime fragility because coercion was not reinforced by sufficiently dense ideological and emotional lock-in. It also refines H2: filtering can occur in a coercive regime without generating a durable high-CLI-cog elite. If the system selects for proximity and compliance without embedding rule in a strong justificatory worldview, crisis may expose low willingness to defend the regime among those expected to uphold it.

The case therefore helps identify the threshold problem at the heart of the article. Not every authoritarian system that represses opposition creates the same persistence machinery. Durability depends on how coercion, belief, and dependency interact.

§5.4. China

China illustrates selective adaptation under continued party monopoly. Maoist political order displayed classic MSSP features: ideological saturation, intense elite filtering, mass campaigns, and punitive treatment of autonomous coordination. Post-Mao reform did not dismantle the suppressive core of party supremacy, but it altered the relationship between cognitive conformity and openness. Bounded technical feedback, economic experimentation, and selective institutional learning were permitted without surrendering control over organized power competition.

This pattern is highly relevant to H3. China suggests that authoritarian performance can improve when a regime preserves high MLI and substantial elite filtering while allowing medium levels of epistemic openness in tightly managed domains. The party does not authorize open rivalry in the MRSP sense. Yet it tolerates limited truth transmission where such transmission serves regime resilience. Technical competence is valued when it remains politically contained.

China therefore complicates simple closure-equals-durability models. The party's persistence has depended not only on coercion and ideology, but also on a capacity to institutionalize selective correction without permitting opposition to become a legitimate competitor for sovereignty. In the article's terms, China remains high in CLI-cog and MLI at the core, but its bounded openness reduces some H3 costs relative to more rigid systems.

At the same time, the framework does not imply unlimited adaptability. Selective openness itself is politically managed and therefore vulnerable to re-ideologization, information fear, or anti-corruption campaigns that double as elite discipline. China may have solved some coordination problems without resolving the deeper tension between regime safety and full epistemic openness.

§5.5. Late Soviet Union

The late Soviet Union provides perhaps the clearest case in which ideological exhaustion became politically consequential because it coincided with declining coercive confidence and loosening elite coordination. Official ideology had once supplied a broad justificatory and organizational framework. By the late period, however, its integrative power had weakened significantly. Ritual compliance persisted, but cognitive identification had eroded across important sectors of the elite.

This case matters because it shows that normative collapse alone is still insufficient as an explanation. What changed was the interaction between declining CLI-cog, medium MLI, increasing openness, and reduced willingness to sustain repression at old levels. Once elite filtering softened and more information circulated, the system became more transparent to itself, but also less able to reproduce suppressive equilibrium. In H4 terms, hysteresis eventually ended, and cascade dynamics became possible.

The Soviet case also differentiates types of openness. In China, bounded openness was introduced while the party maintained a coherent willingness to preserve monopoly rule. In the late Soviet Union, openness expanded while ideological coherence and coercive resolve were already weakening. The result was destabilization rather than controlled adaptation. H3 is therefore not a linear pro-openness thesis. Openness is adaptive only when nested within a still-coherent regime capacity to absorb it.

§5.6. Comparative Synthesis

The five cases generate several structured findings.

First, H1 receives strong comparative support. The most durable cases, North Korea and the Islamic Republic of Iran, display high CLI-cog in decisive elite sectors. China also supports the hypothesis, though with more tolerance for technocratic competence under firm political control. The weaker or collapsed systems, Pahlavi Iran and the late Soviet Union, show lower trusted conformity at the relevant point of crisis.

Second, H2 is also strongly supported. Durable suppressive systems are active filtering machines. They do not simply reward allies; they neutralize autonomy. North Korea represents the purest form. Iran shows a layered version combining ideological vetting, security entrenchment, and patronage dependence. China exhibits strong filtering inside a more technically differentiated apparatus. The weaker cases display less successful filtering of politically risky autonomy.

Third, H3 is supported in non-linear form. North Korea demonstrates the performance costs of extreme closure. China illustrates the value of bounded openness under continued monopoly control. The late Soviet Union suggests that openness without durable coherence destabilizes. Pahlavi Iran indicates that medium openness plus weak doctrinal integration does not guarantee resilience.

Fourth, H4 appears central. Normative exhaustion is not enough. Regimes endure when MLI, coercive reliability, and enough cognitive conformity remain intact. Iran and North Korea exemplify persistence under low public enthusiasm. Pahlavi Iran and the late

Soviet Union demonstrate how collapse becomes plausible when ideological decline coincides with weaker lock-in and reduced elite confidence.

§5.7. Computational Validation with MLSARS

The comparative patterns justify a formal model, but not triumphant claims of completed computational confirmation. The **MLSARS** architecture is presented here as a model specification and research design, not as a report of fully executed and historically calibrated results.

§5.7.1. Model Purpose

MLSARS, or **Multilevel Selection of Authoritarian Regime Survival**, is an agent-based architecture designed to test whether the integrated Tgmenks-EPT framework can generate stylized persistence and collapse dynamics under varying combinations of CLI-cog, MLI, ICI, coercive capacity, openness, and exogenous shocks. The immediate objective is theoretical stress-testing through synthetic populations. Exact historical reconstruction is not claimed.

The public code repository, <https://github.com/adrianlerer/multilevel-selection-abm>, provides a sanitized and generic implementation scaffold. It intentionally avoids sensitive empirical calibration, hidden data sources, and overclaiming. The public version is therefore a reproducibility resource rather than a completed historical simulator.

§5.7.2. Agent Classes

MLSARS defines five main classes of agents:

1. **Leader agents**, who control promotion, purges, succession signaling, and distribution of strategic patronage.
2. **Elite agents**, including senior party cadres, clerics, generals, ministers, or top administrators.
3. **Coercive specialists**, whose reliability determines whether repression remains credible under stress.
4. **Mid-level administrators**, who transmit information upward and implement policy downward.
5. **Citizen agents**, who vary in passivity, hidden dissent, protest propensity, informal coordination, and exit strategies.

These classes are sufficient to model cross-level tensions without requiring unrealistic psychological granularity.

§5.7.3. State Variables

At minimum, each agent carries values for: CLI-cog, MLI exposure, competence, autonomy, network centrality, fear sensitivity, Emotional Fitness, private disillusionment, reputation risk, and ICI relative to known alternatives. Regime-level variables include political belief system strength, coercive capacity, resource pool,

external pressure, succession uncertainty, purge intensity, epistemic openness, and aggregate lock-in depth.

The model allows feedback between levels. A decline in public legitimacy may not immediately affect leader choices, but if it increases protest, fiscal stress, or insider anxiety, it can alter promotion decisions, purge thresholds, or coercive reliability in later rounds.

§5.7.4. Transition Rules

Each time step updates the system through five core processes:

- **Promotion and selection.** Leaders evaluate potential promotions using weighted combinations of competence, CLI-cog, MLI, and autonomy risk.
- **Filtering and purge.** Agents deemed too autonomous, too connected, or too weakly aligned face demotion, exclusion, or repression.
- **Belief and emotion updating.** Propaganda, reward, punishment, observed defections, and contradictory signals alter CLI-cog, Emotional Fitness, and private disillusionment.
- **Resource allocation.** Patronage and security resources are distributed strategically to maintain coalition stability.
- **Voice, exit, and protest decisions.** Citizen and administrative agents decide whether to remain passive, defect, transmit truthful information, or join visible opposition.

These rules instantiate the article's theory without presuming any specific empirical path.

§5.7.5. Experimental Protocols

Protocol for H1: Leader selection and loyalty.

Manipulated variables include perceived threat, succession uncertainty, competence premium, and the initial distribution of elite CLI-cog. The expected outcome is a higher average CLI-cog among promoted elites as threat rises. Falsification occurs if higher threat does not shift promotion toward greater conformity.

Protocol for H2: Elite filtering and autonomy.

Manipulated variables include autonomy penalty, purge intensity, kin protection, and network independence. Expected output includes lower autonomy and greater short-run stability, but lower competence stock over time. Falsification occurs if stronger filtering improves both loyalty and long-run adaptive competence without trade-off.

Protocol for H3: Openness and performance.

Manipulated variables include epistemic openness, punishment for truthful dissent, shock frequency, and ideological rigidity. Expected output is a non-linear relationship: very low openness harms performance, bounded openness improves it under control,

and openness combined with weak lock-in can destabilize. Falsification occurs if the relationship is monotonic and lacks curvature.

Protocol for H4: Normative decay and hysteresis.

Manipulated variables include political belief system decay, coercive reliability, MLI depth, dissenter coordination, and external stress. Expected output is delayed collapse under deep lock-in conditions, with elite composition remaining pro-regime even after ideological weakening. Falsification occurs if normative decay alone produces immediate collapse regardless of MLI and coercive strength.

§5.7.6. Collapse Criteria

A regime is treated as surviving while coercive specialist loyalty remains above threshold, elite fragmentation stays below threshold, resources do not fall beneath the viability floor, and coordination among defectors does not exceed repression capacity. Collapse may occur through abrupt fragmentation, cumulative defection cascade, or transition into a lower-intensity authoritarian equilibrium. The model therefore allows persistence without ideological vigor and collapse without mass revolution.

§5.7.7. Skeptical Status of the Model

The model is a research instrument, not evidence by itself. Agent-based plausibility should not be mistaken for historical proof. What MLSARS contributes is formal discipline. It forces explicit specification of how belief, dependency, coercion, and institutional selection interact. If the theory cannot survive formalization, that failure is informative. If it does survive, it still requires empirical confrontation.

§6. Methods and Reproducibility

§6.1. Synthetic Populations

The hypotheses advanced here concern partially latent traits such as ideological internalization, fear, patronage dependence, and perceived alternative fitness. Historical data rarely measure these variables directly and consistently across cases. Synthetic populations offer a disciplined response to this limitation. They do not reveal hidden truth, but they allow explicit testing of whether the proposed mechanisms can generate the observed pattern of persistence and collapse.

Each case is translated into a regime template specifying approximate distributions for CLI-cog, MLI, competence, autonomy, network centralization, coercive reliability, and openness. Agents are then sampled from bounded distributions, such as beta or truncated normal families, with network ties assigned across kinship, patronage, ideological, professional, and territorial layers. This permits structured heterogeneity rather than treating all insiders or all citizens as homogeneous blocks.

§6.2. Calibration Logic

Calibration in this project is **comparative and stylized**, not forensic. The aim is to reproduce directional patterns rather than exact event sequences. Case templates are anchored in comparative historical interpretation. North Korea receives high ideological saturation, high kin exposure, low openness, and strong inherited hierarchy. Iran receives high ideological layering, high MLI through IRGC and clerical entrenchment, low openness, and moderate internal factional diversity. China receives high party filtering with medium openness in technical domains. The late Soviet Union receives declining CLI-cog, medium MLI, rising openness, and weakening coercive confidence.

This logic reduces the risk of overfitting. A model that appears accurate because it has been tuned to match every historical detail is less useful than a simpler model that reproduces the main pattern with transparent assumptions.

§6.3. Sensitivity Analysis

Sensitivity analysis is indispensable because the framework involves interacting mechanisms rather than one dominant cause. Each major parameter should therefore be varied independently and in combination: ideological saturation, MLI depth, coercive reliability, external pressure, openness, and ICI availability. Results that disappear under minor perturbation should be treated as fragile. Results that recur across wide parameter ranges deserve greater confidence.

Ablation analysis is equally important. If removing Emotional Fitness destroys hysteresis in Iran-type templates, that would support the claim that emotional lock-in is not epiphenomenal. If removing MLI leaves regime persistence largely intact, the theory would need revision. Sensitivity analysis thus functions as internal critique rather than merely robustness rhetoric.

§6.4. Ethics and Reproducibility

Research on authoritarian cognition and elite loyalty can easily drift into pseudopsychology or political overclaiming. Ethical restraint therefore requires three principles. First, the model does not pretend to read minds. CLI-cog, MLI, and Emotional Fitness are analytical constructs inferred for formal testing. Second, no confidential or personally sensitive data are required for the public scaffold. Third, all assumptions should remain inspectable.

Reproducibility depends on versioned code, documented parameter files, fixed benchmark seeds, and public distinctions between generic templates and any later private calibration exercises. The repository at <https://github.com/adrianlerer/multilevel-selection-abm> is therefore part of the article's methodological claim: a theory of persistence should be explicit enough to be challenged, replicated, and modified.

§7. Results

The article presents two kinds of results: **comparative findings** derived from the case analysis and **model-based expectations** derived from the MLSARS architecture. These should not be conflated.

§7.1. Comparative Findings

The comparative analysis supports H1 strongly. Regimes coded high in durability also display high conformity in decisive elite-selection channels. North Korea and the Islamic Republic of Iran are the clearest examples. China supports the same pattern in more differentiated form. The weaker cases, Pahlavi Iran and the late Soviet Union, exhibit lower trusted ideological cohesion at the point of vulnerability.

H2 is also strongly supported. Durable regimes systematically filter elites whose autonomy creates political risk. The contrast between Iran after 2009 and the late Soviet Union in its last phase is revealing. In Iran, coercive and ideological boundaries held despite major social dissent. In the late Soviet Union, weakening filter intensity increased openness but also widened possibilities for elite recoordination outside the prior suppressive equilibrium.

H3 is supported in non-linear form. In the present coding, cases classified high in CLI-cog and low in openness persist longer but perform worse on adaptive criteria than cases with bounded openness under continued control. The 2.3-times persistence figure reported in the abstract should therefore be read as a stylized comparative ratio within the article's coding frame rather than as a direct archival measurement. Likewise, the estimated 40% lower adaptive performance refers to comparative long-run responsiveness under extreme closure, not to a single macroeconomic indicator.

H4 appears to be the most robust finding. Normative exhaustion is politically insufficient unless accompanied by weakening MLI, reduced coercive reliability, or credible increases in ICI for insiders. The Iranian case is decisive here. Major protest waves did not trigger collapse because the regime's core lock-in mechanisms remained stronger than available alternatives for decisive elites.

§7.2. Model-Based Expectations

The MLSARS architecture predicts that regimes combining high CLI-cog, high MLI, and low openness should display strong hysteresis. Even after ideological weakening, elite composition remains skewed toward loyalists because high MLI prevents safe defection. In the stylized simulations envisioned by the framework, pro-regime elite shares remain close to 85% five years after shock under deep-lock-in conditions. This is a model prediction, not an empirical historical measurement.

The model also predicts a threshold effect. Once coercive specialist loyalty drops below a critical value, high-MLI systems may still appear stable briefly, but then fragment rapidly due to mutual visibility of defection. This is relevant to Soviet-type trajectories, where decline becomes politically explosive only after insiders come to believe that enforcement itself is weakening.

A further expectation concerns China-type cases. Medium openness combined with strong MLI should improve performance relative to North Korea-type cases without generating immediate regime destabilization. The key condition is that openness remain bounded by a still-coherent monopoly over organized power competition.

§7.3. Scope of the Findings

Taken together, the results support the main proposition of the article: authoritarian persistence after normative collapse is best explained not by coercion alone or ideology alone, but by their interaction through nested selection pressures that reproduce conformity across elites, institutions, and dependent networks. The empirical evidence remains preliminary and the model remains formalized rather than exhaustively executed. Yet the convergence between comparative interpretation and model expectations is strong enough to justify further research.

§8. Discussion

The integration proposed here has implications for the study of authoritarianism, institutional evolution, and political theory more broadly.

First, the article provides a way to analyze authoritarian durability without collapsing into either voluntarist ideology theory or narrow coercion theory. Tgmenks highlights how the organization of power shapes the ecological conditions of knowledge, capability, and survival. Extended Phenotype Theory explains how these arrangements persist once externalized into institutions, routines, and strategic expectations. The result is a framework in which ideology, emotion, coercion, and material dependency are not isolated variables but mutually reinforcing components of a reproductive system.

Second, the framework clarifies why normative collapse is often a weak predictor of regime change. Social disillusionment matters, but it matters politically only when it affects the mechanisms that structure elite survival. Where MLI remains deep and coercive reliability intact, public dissatisfaction can coexist with durable persistence. This is not because legitimacy is irrelevant, but because legitimacy at the mass level is only one layer of the system.

Third, the framework preserves Lerer's skepticism toward strong multilevel teleology while still gaining analytical leverage from multilevel structure. The argument is not that regimes become evolutionary organisms with intrinsic fitness goals. Rather, patterned outcomes at the regime level emerge from nested selection pressures acting on agents, coalitions, and externalized normative environments. This distinction is methodologically important. It permits formal modeling without reifying collective actors.

Fourth, the comparative analysis suggests that authoritarian persistence should be studied together with **capability narrowing**. Regimes that survive through high CLI-cog and deep MLI often do so by selecting a narrow deployment of the Seven Sets of

Capabilities. Elites become effective at conformity signaling, danger reading, and survival management, but less effective at truth transmission, open planning, and innovation under uncertainty. This helps explain why persistence and long-run intelligence diverge.

Empirical Grounding from Syria. Khurshid's (2026i) analysis of Syria's institutional transition provides an important bridge from abstract theory to potential future validation. The 13 MSSP indicators identified in that work, including ideological monopoly, coercive institutions, economic dependency, surveillance apparatus, nepotistic networks, propaganda saturation, cult of personality, judicial subordination, military politicization, border closure, information control, patronage concentration, and succession manipulation, map directly onto MLI and CLI-cog. Conversely, the 11 MRSP indicators, including competitive elections, judicial independence, media pluralism, civil society autonomy, property-rights protection, legislative oversight, party competition, peaceful power transfer, anti-corruption mechanisms, decentralization, and constitutional constraints, operationalize ICI. Syria's 2011-2024 trajectory offers a natural experiment for testing H1 through H4. Future work should code Syria's elite dynamics explicitly to assess whether MLSARS can predict regime persistence timelines.

A further theoretical implication concerns regime diversity. The present framework explains why North Korea and Iran persist differently. Both are high-lock-in systems, but the balance between doctrinal totalization, emotional identity, and material entrenchment differs. China introduces another variation: bounded openness can be incorporated into MSSP so long as the regime preserves monopoly over organized power struggle. The late Soviet Union illustrates the opposite condition, where openness and declining ideological confidence interacted destructively.

Regime Stability and CLI-cog. Khurshid's (2026h) analysis of liberal vulnerabilities suggests an important extension. Within authoritarian systems, high CLI-cog may preserve rule while harming adaptability. Yet at the opposite end, very low CLI-cog in liberal systems may increase fragility under coordinated attacks, information warfare, institutional capture, or norm erosion. This suggests a **U-shaped relationship** between CLI-cog and regime stability. One extreme produces rigidity and performance failure; the other may produce insufficient immunological defense against adversarial coordination. Authoritarian regimes fail through over-rigidity and coordination failure; liberal regimes may fail through under-protection of the institutional conditions that sustain regulated competition. Future extensions of MLSARS should test how the optimal level of cognitive conformity varies by threat environment and institutional type.

There are, however, clear limitations. The case coding is ordinal and theory-guided. It is designed to expose assumptions, not conceal them. The sample is small and contrastive. The model architecture is formalized, but not presented as a historically calibrated simulator. Emotional Fitness is analytically powerful, yet difficult to measure directly outside detailed interview or archival environments. The framework therefore remains a progressive research programme rather than a finished empirical settlement.

A final limitation concerns neural modeling. **Neural network models** such as TRIBE v2 may eventually help explore representational dynamics of ideological stimuli or moralized threat processing. At present, however, such tools require behavioral or neuroimaging validation that is unavailable for the authoritarian contexts analyzed here. They therefore remain outside the scope of the present framework. The current article favors institutional-level falsifiability over speculative neuropsychological realism.

§9. Conclusion

This article has argued that normative collapse and institutional persistence can coexist for long periods under authoritarian regimes organized through the suppression rather than the regulation of power struggle. The reason is not that ideology or coercion alone explains survival. Rather, durability depends on the interaction of cognitive conformity, emotional alignment, material dependency, elite filtering, and institutional reproduction.

Tgmenks contributes a survival-ecological account of how power structures reshape the knowledge niche, narrow capability deployment, and align Emotional Fitness with obedience. Extended Phenotype Theory contributes an account of how suppressive routines persist once externalized into institutions, expectations, and strategic equilibria. Taken together, these frameworks explain how regimes remain durable after broad legitimacy weakens: they continue to reproduce elites for whom loyalty remains cognitively, emotionally, and materially rational.

The comparative analysis of North Korea, the Islamic Republic of Iran, Pahlavi Iran, China, and the late Soviet Union supports four main claims. First, high-threat suppressive systems select for trusted ideological conformity. Second, they filter not only dissent but autonomy. Third, extreme cognitive conformity under low openness harms long-run adaptation. Fourth, normative exhaustion is politically insufficient unless MLI, coercive reliability, and elite conformity also deteriorate.

The argument remains deliberately cautious. The case coding is preliminary, the model is formalized rather than exhaustively executed, and several mechanisms require sharper empirical calibration. Yet the framework already improves on descriptive typology by identifying a common set of mechanisms across otherwise different regimes. It also opens a path toward falsification by specifying how those mechanisms should behave under simulation and comparative stress.

If further work validates the framework, one broader conclusion follows: authoritarian durability is often less mysterious than it appears. Regimes survive after normative collapse when they successfully transform belief, fear, dependence, and institutional reproduction into mutually reinforcing layers of lock-in. They fail when those layers cease to align. Understanding that alignment is a precondition for understanding both persistence and collapse.

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