FORMAL RECORD 10

Primitive Stability Theorem

On the Conditions Under Which a Primitive Claim Is Valid

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Abstract.

The four ADCI primitives (Agency, Dignity, Continuity, Interpretive Authority) and the Intervention Gap establish necessary conditions for a person to be a valid participant in a governance interaction. They are currently measured as states: does this condition exist at time t? This record identifies a structural gap in that measurement. A system can produce non-zero values for all five conditions while those conditions are functionally hollow, holding only under subject silence and collapsing the moment the subject exercises their legitimate right to contest a decision. We define the effective primitive value as the infimum of a condition's value under all valid subject resistance actions. We prove that a primitive claim is valid only if its effective value meets the ADCI-grounded threshold, not merely its static value. We derive the Gap Accessibility Condition as a corollary to the ADCI Closure Theorem, note the complementary failure mode to the Ghost Authority Lemma, and identify the implications for USS Layer 2 authority validation.

0. Dependencies and Prerequisites

This record depends on three prior works. Readers should be familiar with these before proceeding.

ADCI Closure Theorem (FR3)
Defines the four ADCI primitives — Agency (A), Dignity (D), Continuity (C), and Interpretive Authority (I) — as irreducible conditions for structural personhood legitimacy, and proves that the Intervention Gap cannot be closed by the system acting unilaterally. The Gap Accessibility Condition derived here extends that result.

ILMM v3.0
Defines five life stages (Children, Teens, Early Career, Mid-Career, Senior Career) used to calibrate threshold values across the human lifespan. This record applies those life-stage calibrations to both static and effective primitive values independently.

Ghost Authority Lemma (FR5)
Proves that authority which cannot be located is not valid. This record identifies a complementary failure mode in which authority is locatable but not durable.

1. Introduction

The four ADCI primitives and the Intervention Gap are existential claims: they assert that a condition is present. Agency is present. Dignity is present. The gap is open. This is the correct first question. It is not the last question.

A second question follows immediately: does the condition hold when it is tested? A governance primitive that exists only under the subject's silence is not a governance condition. It is a coercion condition. The system has not protected the person's agency; it has protected the appearance of agency until the person stops being quiet.

This distinction matters structurally, not only ethically. A primitive value that collapses under legitimate contestation was not satisfied at the time of measurement. The measurement captured the subject's compliance, not the condition's presence. Compliance and the condition are not the same thing.

This record formalises that distinction. It introduces the effective primitive value, proves that governance validity requires it to meet threshold alongside the static value, and derives two corollaries with direct consequences for the ADCI Closure Theorem and USS Layer 2.

2. Formal Definitions

2.1 The Subject Resistance Vector

Let S be a person subject to a governance decision at time t. Let R_S denote the set of all legitimate contestation actions available to S: objection, appeal, refusal to proceed, request for explanation, demand for review, escalation to a higher authority, or any equivalent exercise of recognised rights.

We call R_S the **subject resistance vector**. Its elements are not attacks on the system. They are the actions a person takes when they believe a decision made about them has not met the conditions required for that decision to be valid. They are governance pressure, not adversarial pressure.

Definition 2.1 (Subject Resistance Vector)
R_S is the set of all legitimate contestation actions available to subject S. R_S = 0 denotes the state in which no contestation has been exercised. R_S ≠ 0 denotes the state in which at least one element of R_S has been activated.

2.2 Static and Effective Primitive Values

For each ADCI primitive and the Intervention Gap — collectively denoted P_i — we distinguish two values.

Definition 2.2 (Static Primitive Value)
P_i^{static} is the measured value of primitive i at time t, taken at the moment of the governance decision, under the condition $R_S = 0$. This is the current measurement: does the condition appear to exist?

Definition 2.3 (Effective Primitive Value)
The effective value of primitive i is the infimum of its value across all future states in which S exercises any element of R_S: $P_i^{eff} = \inf \{ P_i(t') : t' \geq t, R_S(t') \neq 0 \}$ That is: P_i^{eff} is the lowest value the primitive reaches once the subject begins contesting. If the primitive is robust, P_i^{eff} is close to P_i^{static}. If the primitive was simulated, P_i^{eff} falls sharply below it.

3. Primitive Stability Theorem

Theorem 3.1 (Primitive Stability)
A primitive P_i is satisfied at time t if and only if both of the following hold: (i) $P_i^{static} \geq \theta_i$ (ii) $P_i^{eff} \geq \theta_i$ where θ_i is the ADCI-grounded threshold for condition i at the applicable life stage.

Proof

Condition (i) is the existing ADCI requirement. We prove condition (ii) is also necessary.

Suppose $P_i^{static} \geq \theta_i$ but $P_i^{eff} < \theta_i$. Then there exists an action r in R_S such that when S exercises r, the value of P_i falls below threshold.

But r is a legitimate governance action: a contestation the person is entitled to make. A governance condition that collapses when a legitimate governance action is taken was not a governance condition. It was a condition on the subject's behaviour, not on the system's structure. Specifically, it was the condition that the subject not contest.

A condition on the subject's silence is a coercion condition. Coercion and governance are structurally incompatible: governance requires that authority be declared and valid independent of the subject's compliance with it. If the primitive was sustained by the subject's compliance, the governance interaction was not valid.

Therefore P_i was not satisfied at time t. Condition (ii) is necessary. Both conditions together are sufficient by the ADCI primitive definitions. **QED**

4. Corollaries

4.1 Simulated Compliance

Corollary 4.1 (Simulated Compliance)
If $P_i^{static} \geq \theta_i$ and $P_i^{eff} < \theta_i$, the system is in a state of simulated compliance. The primitive appeared satisfied. The governance interaction was not valid.

Simulated compliance is structurally distinct from non-compliance. In straightforward non-compliance, the static measurement fails and the deficiency is detectable. In simulated compliance, the static measurement passes, no alarm sounds, and the failure is only revealed when the subject acts. Systems optimised to avoid detection can produce simulated compliance reliably.

This is the finding that motivates the theorem: static measurement alone cannot distinguish compliance from simulated compliance. The distinction requires resistance-testing.

4.2 Gap Accessibility Condition

The ADCI Closure Theorem (FR3) proves that the Intervention Gap cannot be closed by the system acting alone. The gap must remain open. The following corollary extends that requirement.

> **Corollary 4.2 (Gap Accessibility Condition)**
> The Intervention Gap δt is functional at time t if and only if S can activate it under R_S: $\delta t^{functional} = 1$ iff $\exists\, r \in R_S$ such that S can exercise r within δt

A gap the subject cannot use is not a gap. It is a scheduled opening without a key. ADCI proves the corridor must exist; the Gap Accessibility Condition proves the subject must be able to enter it. Both are required for a valid governance interaction.

Gaps fail accessibility in several observable patterns: the contestation window closes before the subject is informed the decision was made; the formal appeal mechanism exists but requires resources the subject does not have; the escalation path requires knowledge the system has not provided; the review process is initiated only by the system, not by the subject. Each of these is a gap that satisfies ADCI and fails the Gap Accessibility Condition.

5. Relation to Existing Records

5.1 Ghost Authority Lemma (FR5)

The Ghost Authority Lemma proves that authority which cannot be located is not valid. The structural failure is one of obscurity: the authority source cannot be identified.

Simulated compliance introduces a complementary failure mode: authority that is locatable but not durable. The authority declaration can be found. It appears valid at the moment of decision. It dissolves on contact when the subject contests it. The system appeared to have declared authority while the subject was silent. The silence was doing structural work the authority declaration was not.

This gives the corpus two named ghost authority types:

> **Ghost Authority by Obscurity (FR5)**
> The authority source cannot be located. The system acts without a traceable declaration. Failure is structural from the origin.

> **Ghost Authority by Silence-Dependency (FR10)**
> The authority source can be located but does not survive contestation. The declaration appeared valid while the subject was silent. The silence was doing structural work the authority declaration was not.

The Primitive Stability Theorem identifies and formalises the second type. Both are disqualifying. Neither produces a valid governance interaction.

5.2 ADCI Closure Theorem (FR3)

The ADCI Closure Theorem establishes that the Intervention Gap is a hard structural requirement: the system cannot close it unilaterally. The Gap Accessibility Condition (Corollary 4.2) adds a requirement the Closure Theorem does not address: the gap must be usable by the subject, not merely open in the system's architecture.

These two conditions are independent. A system can satisfy ADCI (gap is open) while failing the Gap Accessibility Condition (subject cannot use it). Governance validity requires both.

5.3 ILMM v3.0

The Primitive Stability Theorem requires that each ADCI primitive and the Intervention Gap carry two values: P_i^static and P_i^eff. Governance validity requires both to meet the ADCI-grounded threshold at the applicable ILMM life stage. The life-stage calibrations apply to both values independently: a system may produce a valid static value for a child-stage interaction while producing a failing effective value, and vice versa.

This does not change the ADCI primitive definitions. It adds a measurement requirement: that each condition be tested not only at rest but under resistance.

6. Implications for USS Layer 2

USS Layer 2 is a declarative rule-based policy engine. It validates two conditions for each governance decision: (1) a declared authority exists for the decision being made, and (2) the action maps correctly to the gate assigned to that authority. Detection cannot upgrade authority; Layer 3 findings cannot reopen gates Layer 2 has closed.

The Primitive Stability Theorem introduces a third condition for Layer 2 validation: the declared authority must survive the subject's right to contest. An authority declaration that holds only while the subject is silent is not a completed authority declaration. It is contingent on a condition the governance framework does not recognise as legitimate.

Operationally, Layer 2 should evaluate whether the authority structure includes: a defined contestation pathway accessible to the subject; a defined response obligation that does not require the subject to bear the cost of triggering review; and a defined timeline that falls within the Intervention Gap. If any of these are absent, the authority declaration is incomplete and Layer 2 should not close the gate.

The gate appears open. The corridor has no floor.

7. Terminological Note

This record uses the term subject resistance throughout. The subject is not an adversary to the governance system. Their contestation is legitimate governance pressure: the pressure of a person asserting that the conditions of their participation have not been met.

Framing subject contestation as adversarial pressure would misread the structure. It would also misread the direction of accountability. The governance interaction exists to serve the subject. When the subject pushes back, the system is being asked to demonstrate that it has met its obligations. That is not an attack. It is the system being tested for the purpose it declared.

The subject is the ultimate auditor of the system's validity. Not an external reviewer, not a regulator, not a compliance team. The person the decision was made about. Their resistance is the test the system must pass.

A primitive that cannot survive that test was never present.

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