

L1_m (as a preparation text for the Trilogy)

Formal Architecture of L1_m

1. L1_m as Mechanical Invariance

L1_m is defined as the **non-semantic, non-interpretive, rule-closure layer** that remains invariant under all transformations of L2.

Formally:

$$\forall \phi \in L2: \phi(L1_m) = L1_m$$

L1_m is:

- execution without meaning
- rule-closure without interpretation
- invariance under naming
- invariant across languages

This is **L1_m invariance**.

2. L1_m as Non-Semantic Constraint System

L1_m imposes **structural constraints** on any L2 system, but L2 cannot impose constraints on L1_m.

$$L1_m \Rightarrow \text{constraints on } L2$$

$$L2 \not\Rightarrow \text{constraints on } L1_m$$

Thus L1_m is the **asymmetric ground** of all L2 operations.

This is **L1_m constraint architecture**.

3. L1_m as Closure Without Continuity

L1_m contains **no temporal continuity**, no flow, no duration, no phenomenological time.

$$\text{Continuity} \subset L2$$

L1_m contains only:

- discrete closure
- mechanical step
- non-temporal execution

This is **L1_m exclusion of continuity**.

4. $L1_m$ as Language-Independent Substrate

$L1_m$ does not change across languages; only its **appearance** changes.

Structure:

$$L1_m = \text{constant}$$

Appearance:

$$\text{Appearance}(L1_m) = f_{L2}(L1_m)$$

Thus:

- Japanese projects $L1_m$ differently
- English projects $L1_m$ differently
- but the underlying $L1_m$ is identical

This is **$L1_m$ cross-linguistic appearance**.

5. $L1_m$ as Subtractive Ground

When $L2$ collapses (semantic, empirical, narrative, conceptual), $L1_m$ remains as the **subtractive invariant**.

$$\lim_{L2 \rightarrow 0} = L1_m$$

$L1_m$ is the **residue** that survives:

- semantic collapse
- empirical collapse
- phenomenological collapse
- linguistic collapse

This is **$L1_m$ as subtractive invariant**.

6. $L1_m$ as the Floor of Empirical Truth

Empirical truth is an $L2$ -construction and depends on $L1_m$ for its **mechanical possibility**, but $L1_m$ is unaffected by empirical truth.

$$\text{Empirical truth} \subset L2$$

$$L1_m \subset / \text{empirical truth}$$

Thus:

- empirical truth depends on $L1_m$
- $L1_m$ does not depend on empirical truth

This is **$L1_m \rightarrow$ empirical truth dependency**.

7. $L1_m$ as the Non-Subjective Layer

L1_m contains:

- no subject
- no experience
- no perspective
- no intentionality

It is the **mechanical layer** that underlies all possible subject-effects in L2.

This is **L1_m vs L1_o appearance**.

Axiom System for L1_m

Axiom 1 — Invariance Under Interpretation

Interpretation-invariance

$$\forall \phi \in L2: \phi(L1_m) = L1_m$$

L1_m cannot be altered, shifted, or modulated by any L2 operation. Interpretation acts on appearance, not structure.

Axiom 2 — Non-Semantic Closure

Non-semantic closure

$$L1_m = \text{closure independent of meaning}$$

No semantic content enters or exits L1_m. Meaning is an L2-effect and cannot penetrate L1_m.

Axiom 3 — Rule-Bounded Execution

Mechanical execution

$$L1_m = \text{execution without interpretation}$$

Every operation in L1_m is determined by rule-necessity, not by concept, intention, or context.

Axiom 4 — Non-Temporal Discreteness

Exclusion of continuity

$$\text{Continuity} \subset L2, L1_m \cap \text{continuity} = \emptyset$$

L1_m contains no flow, no duration, no phenomenological time. Only discrete mechanical steps.

Axiom 5 — Language-Independence

Cross-linguistic invariance

$$\forall \lambda_1, \lambda_2: \text{Proj}_{\lambda_1}(L1_m) \neq \text{Proj}_{\lambda_2}(L1_m), L1_m = \text{constant}$$

Languages project different *appearances* of L1_m, but the structure is invariant.

Axiom 6 — Asymmetric Constraint Relation

L1_m→L2 constraint

$$L1_m \Rightarrow L2, L2 \not\Rightarrow L1_m$$

L1_m constrains L2. L2 cannot constrain L1_m.

Axiom 7 — Subtractive Residue

Subtractive invariant

$$\lim_{L2 \rightarrow 0} = L1_m$$

When semantics, interpretation, empirical content, and narrative collapse, $L1_m$ remains.

Axiom 8 — Non-Subjectivity

Non-subjective layer

$$L1_m \cap \text{subject} = \emptyset$$

No perspective, no experience, no intentionality. Subjectivity is an L2-effect.

Axiom 9 — Ground of Empirical Truth

Empirical truth dependency

$$\text{Empirical truth} \subset L2, \text{Empirical truth} \Rightarrow L1_m$$

Empirical truth depends on $L1_m$ for its mechanical possibility. $L1_m$ is unaffected by empirical truth.

L1_m formal calculus

1. Syntactic base

Alphabet

- **Symbols:** $S: \{s_0, s_1, s_2, \dots\}$ **Operators:** $\{\square, \triangleright, \parallel, ;\}$ **Brackets:** $\{(\cdot, \cdot)\}$

Well-formed expressions

- **Atomic step:**

$$\sigma ::= s_i$$

- **Composite step:**

$$\sigma ::= \sigma; \sigma \mid \sigma \parallel \sigma \mid \square \sigma$$

No variables for meaning, truth, or subject.

2. Structural types

- **Mechanical sequence:**

$$\Sigma ::= \sigma_1; \sigma_2; \dots; \sigma_n$$

- **Mechanical configuration:**

$$C ::= \Sigma \parallel \Sigma \parallel \dots \parallel \Sigma$$

L1_m calculus operates only on σ, Σ, C .

3. Inference rules (mechanical)

All rules are **purely structural**; no semantic side-conditions.

(R1) Sequential associativity

$$(\sigma_1; \sigma_2); \sigma_3 \equiv \sigma_1; (\sigma_2; \sigma_3)$$

(R2) Parallel commutativity

$$\Sigma_1 \parallel \Sigma_2 \equiv \Sigma_2 \parallel \Sigma_1$$

(R3) Parallel associativity

$$(\Sigma_1 \parallel \Sigma_2) \parallel \Sigma_3 \equiv \Sigma_1 \parallel (\Sigma_2 \parallel \Sigma_3)$$

(R4) Box-idempotence

$$\square \square \sigma \equiv \square \sigma$$

(R5) Box-distribution over sequence

$$\square(\sigma_1; \sigma_2) \Rightarrow \square \sigma_1; \square \sigma_2$$

(R6) Box-distribution over parallel

$$\square(\Sigma_1 \parallel \Sigma_2) \Rightarrow \square \Sigma_1 \parallel \square \Sigma_2$$

(R7) Constraint projection ($L1_m \rightarrow L2$)

$$\frac{C \text{ is } L1_m\text{-admissible}}{\text{Proj}_{L2}(C) \text{ is admissible}}$$

No inverse rule exists.

4. Meta-constraints ($L1_m$ compliance)

These are well-formedness filters, not semantic conditions.

- **(M1) Non-semanticity:** No symbol for meaning, truth, reference, or subject may appear in σ, Σ, C .
- **(M2) Non-temporality:** No temporal operator; “;” is ordering, not time.
- **(M3) Language-independence:** Renaming of s_i is an automorphism of the calculus.
- **(M4) Asymmetry:** No rule of the form $L2\text{-condition} \Rightarrow C$.