

CEDA Version Change Log

Transition from v1.1 to v1.2

Document: *Cosmological Explanation Diagnostic Audit (CEDA)*

Change Type: Methodological refinement and scope tightening

Status: Backward-compatible at the level of core commitments; diagnostic authority strengthened

Supersedes: CEDA v1.1 (archived, not deprecated)

Executive Summary of Changes

CEDA v1.2 represents a **clarifying and stabilizing update**, not a conceptual reversal. No prior diagnostic results are invalidated. Instead, v1.2:

- closes identified loopholes,
- removes implicit asymmetries,
- formalizes falsifiability,
- and strengthens neutrality guarantees.

The framework is now **harder to misread, harder to game, and easier to audit independently**.

1. Scope Clarification and Non-Claims (Strengthened)

Change

The scope and non-claims of CEDA have been **explicitly expanded and centralized**.

Motivation

External reviewers interpreted v1.1 as implicitly advocating against inflation or proposing a hidden alternative mechanism.

Resolution in v1.2

CEDA now states unambiguously that it:

- is not a theory,
- does not propose dynamics,
- does not compete with inflation,
- does not rank models by plausibility or truth.

This clarification is structural, not rhetorical, and applies uniformly across the manuscript.

Effect:

Prevents category errors and sociological misreadings without narrowing diagnostic reach.

2. WF1.2 Scope Correction (Major Clarification)

Change

The canonical null result WF1.2 has been **formally split**:

- **WF1.2a** — Classical / semiclassical bookkeeping null (closed)
- **WF1.2b** — Quantum open-system baseline (open but constrained)

Motivation

Critics argued that WF1.2 was overstated as ruling out *all* horizon-related quantum effects.

Resolution in v1.2

The admissibility class is now explicit:

- WF1.2a is definitive within its assumptions.

- WF1.2b allows quantum open-system effects **without granting horizon agency or control-function smuggling**.

No positive mechanism is claimed in either case.

Effect:

Strengthens the null result by narrowing its domain and prevents overclaiming.

3. Coupling-Level Loophole Closure (New Diagnostic C1)

Change

Introduced **C1 — Coupling Provenance & Redundancy Test**.

Motivation

In v1.1, models could evade sector-level diagnostics by relocating freedom into couplings, operators, or functional dependencies (e.g., $f(R)$, time-dependent EFT coefficients).

Resolution in v1.2

C1 requires:

- EFT operator control,
- explicit functional DOF counting,
- predictive compression relative to free $w(t)$.

Reparameterizations preserving functional freedom no longer count as new structure.

Effect:

Closes a genuine exploit path without privileging any ontology or formalism.

4. Scheme / State Dependence Taxonomy (New S1 Classification)

Change

Added **S1 — Scheme / State Dependence Classification**.

Motivation

Disputes over “this is just scheme choice” were being litigated as verdicts rather than classified as dependence types.

Resolution in v1.2

Effects are now labeled (S1-A through S1-D) based on how they depend on:

- renormalization,
- state choice,
- slicing,
- coarse-graining.

S1 is explicitly **not a verdict**.

Effect:

Defuses interpretive deadlocks and constrains legitimate usage of effects without suppressing them.

5. Positive Baseline Suite (Asymmetry Fix)

Change

Introduced a **Positive Baseline Suite** and a **Minimum Mechanism Threshold**.

Motivation

v1.1 was criticized for defining failure more clearly than success, creating an implicit asymmetry.

Resolution in v1.2

CEDA now defines minimal constructions that **unambiguously pass**, including:

- pure Λ ,
- canonical slow-roll inflation,
- Starobinsky $R+R^2R + R^2R+R^2$.

These establish that CEDA recognizes genuine dynamics and does not penalize inflationary mechanisms.

Effect:

Eliminates “inflation gets a free pass” and “CEDA is hostile to mechanisms” critiques simultaneously.

6. Conditional Verdict Symmetry (Formalized)

Change

Conditional verdicts are now **explicitly symmetric** across all model classes.

Motivation

Some readers assumed inflationary models were evaluated more leniently.

Resolution in v1.2

CEDA now audits **only demonstrated regimes of control**, regardless of model pedigree. Extrapolation beyond control yields conditional verdicts for inflationary and non-inflationary models alike.

Effect:

Enforces procedural neutrality and regime honesty.

7. Explicit Falsifiability Section (New)

Change

Added a dedicated section enumerating **framework-level failure modes**.

Motivation

Critics argued CEDA was methodologically insulated from refutation.

Resolution in v1.2

CEDA now specifies conditions under which it would be:

- wrong,
- incomplete,
- biased,
- or inapplicable.

These include breakdown of the WF1.2 null, irreducible analyst dependence, and representational incompleteness.

Effect:

CEDA now satisfies the same falsifiability demands it imposes on audited models.

8. Interpretation Layer and Reproducibility Controls (Expanded)

Change

Formalized Translation Cards, Ambiguity Budgets, and Branching Rules.

Motivation

Concern that diagnostic outcomes could depend on who runs the audit.

Resolution in v1.2

Analyst-dependent choices are isolated, bounded, and—when necessary—branched explicitly.

Verdict instability defaults to **Ambiguous**, not Mechanism.

Effect:

Raises reproducibility standards to referee-grade expectations.

9. Results: No Retroactive Changes

Clarification

No diagnostic verdicts reported under v1.1 are overturned in v1.2.

Reason

All changes are:

- scope clarifications,
- loophole closures,
- or symmetry enforcement.

Previously reported failures remain failures; previously stable mechanisms remain stable.

10. Versioning Discipline

- v1.1 remains archived and citable.
- v1.2 supersedes v1.1 for all new audits.
- Any future revisions will follow explicit versioning with documented motivation.