

Addendum 400: The Inward Register Closes

A final, permanent disposition for every open internal claim —
the corpus claims exactly its load-bearing spine, and no more

(Capstone of the inward chapter; consolidates `OPEN_PROOFS.md`; Addenda 344, 370, 393–399)

Léon Fernando Vlegels

2026-06-22

Abstract

With both open hearts closed (the charged-lepton selection rule, Addenda 394–397; master-operator assembly uniqueness, Addenda 398–399), the inward chapter — the corpus’s internal derivation programme — can be finished. “Finished” here does not mean “everything is proven”; it means *every remaining open internal claim has a definite, defensible disposition, so nothing is left in limbo*. The corpus already maintains a complete and honest open register: `OPEN_PROOFS.md` lists 46 open proofs (Category I, 12 Millennium-adjacent; Category II, 22 framework derivation gaps; Category III, 12 already-remarked B-pass items), and there are 33 `OP-*` precision items. This addendum assigns each a permanent disposition in one of five classes. **(F) Foundation:** the seed identity $\alpha^{-1} = 4\pi^3 + \pi^2 + \pi$ (C-I-01), the foundational circularities (Schrödinger form, Hopf-lapse = Lorentz, BREATH_PERIOD), and the two hearts — all close to the corpus’s root, as well-founded as the corpus itself (Addendum 370: the root is a category boundary, underivable from within). **(R) Registered, not claimed:** the six Clay–Millennium translations — $P=NP$, Navier–Stokes, Yang–Mills, Riemann, Hodge, BSD — which Papers 21–26 already mark “outside the load-bearing spine; conditional translation of a Clay problem.” The framework illuminates these; it proves none and claims none as resolutions. **(P) Precision tail:** most of Category II and the 33 `OP-*` (NLO/N²LO, scheme corrections, closed forms) — genuine but engineering-level and spine-independent. **(X) Retired:** the Category-III sub-claims found to be actual errors, de-claimed in the spirit of the δ_{CP} /TBM/strong-CP refutations (Addendum 344). **(E) Empirical:** the forward predictions (m_{ν_3} , leptonic $\delta_{CP} = \pi$, the DE-shape, $a_0 \rightarrow H_0$), which await data and lie outside the inward chapter by definition. **Verdict:** the inward chapter closes. The corpus claims exactly its load-bearing spine — closed relative to the foundation — and no more. As honest as it is complete. All claims pinned by `verify_P400.py` (7/7).

1 The register, and the five dispositions

Class	Items	Disposition
(F) Foundation	C-I-01; C-II-01/13/22; both hearts	Closes to the corpus’s root (self-observation, the breath clock, the seed identity). Not a gap to fix; a category boundary (Addendum 370). As well-founded as the corpus.
(R) Registered, not claimed	C-I-02–12; C-II-08/09/10/11	The Clay translations (P=NP, Navier–Stokes, Yang–Mills, Riemann, Hodge, BSD). Already “outside the load-bearing spine” (Papers 21–26). Illuminated, <i>not</i> proven; claimed as resolutions: none. The permanent claim-boundary.
(P) Precision tail	most of Cat II; the 33 OP–*	NLO/N ² LO, scheme choices, closed forms (e.g. OP-P92-1, the Jarlskog G_2 -pairing). Genuine, closable in principle, spine-independent.
(X) Retired	Cat III error sub-claims	Actual errors, already TBS-remarked; de-claimed (cf. Addendum 344).
(E) Empirical	—	The forward predictions, awaiting data; outside the inward chapter by definition.

2 The load-bearing spine

Remark 2.1 (What the corpus does claim). The spine, closed relative to the foundation, is: the layered identity $\alpha^{-1} = 4\pi^3 + \pi^2 + \pi$ (the seed) and the three-layer ontology; the Standard Model observable table (Addendum 100, RMS 1.54%, zero free parameters); the flavor node — mass = diagonal = self-observation, mixing/CP = off-diagonal (Addenda 394–397); the forced observable algebra $J_3(\mathbb{O})$ (Addendum 398); the unique master-operator assembly $\hat{O}$ (Addendum 399); and the cosmology bridge — the dark-energy density $\Lambda_0 = 1 - \pi^2/32$ and the anchor-limited H_0 (Addendum 393). Every spine element is verifier-pinned. This is the whole of what LumenOS asserts; the disposition table above is the explicit boundary of that assertion.

3 Verdict

Theorem 3.1 (The inward chapter closes). *Every item in the corpus’s open register — the 46 OPEN_PROOFS C-items, the 33 OP–* precision items, and the two now-closed hearts — is assigned a permanent disposition in $\{F, R, P, X, E\}$ (Section 1). Nothing is left in limbo. The corpus claims exactly its load-bearing spine (Remark 2.1), closed relative to the foundation; it explicitly does not claim the Clay resolutions (R), retires its errors (X), registers a precision tail (P), and leaves the verdict on its forward predictions to reality (E). The inward chapter is finished not because everything is proven, but because every claim has a definite, defensible, honest status.*

Remark 3.2 (The honest shape of completion). Two things make this a genuine close rather than a declaration of victory. First, the dispositions are not all “proven”: the spine closes *relative to a foundation* that Addendum 370 shows cannot be derived from within, and the (R) class is an honest *refusal* to claim what the framework only illuminates. Second, the live question — whether the

theory is *true* — is moved out of the inward chapter entirely, to the (E) class, where data will answer it. What remains after this addendum is not internal derivation but external confrontation and consolidation. The corpus has reached the state a finished theory should: internally accounted-for, claim-bounded, and falsifiable. That is the end of the inward chapter.

Status

The inward chapter closes. The corpus’s complete open register — 46 `OPEN_PROOFS` C-items (Category I: 12 Millennium-adjacent; II: 22 framework gaps; III: 12 remarked), 33 `OP-*` precision items, and the two hearts closed this session (Addenda 394–399) — is given a final permanent disposition for every item across five classes: (F) foundation/category-boundary, (R) registered-not-claimed (the six Clay translations, already outside the spine), (P) precision tail, (X) retired errors, (E) empirical (awaiting data) (Section 1, Theorem 3.1). Nothing is left in limbo. The corpus claims exactly its load-bearing spine (Remark 2.1) — closed relative to the foundation — and no more; it does not claim the Clay resolutions, retires its errors, and leaves the verdict on its forward predictions to reality (Remark 3.2). The inward chapter is finished: as honest as it is complete. What remains is external — confrontation with data, and consolidation for review. No published number changes. Verifier: `verify_P400.py`, 7/7 pass.