Res01-A Typed open entries on the prescribed cone

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Abstract

We reorganize seven residual obligations on the regular part of the prescribed conical spacetime of I-B, with the destructive-readout interface of I-C kept explicitly typed. The contribution is a source-qualified formulation of the earliest missing construction in each residual, not a solution of those residuals. Local proofs establish the host's failure of global hyperbolicity, the distinction between conservation and gravitational sourcing, and the sharp classical-output recovery floor 1 − 1/d in half-diamond distance. These established principles are attributed rather than claimed as new. The principal repairs concern invalid transfers: algebraic injectivity does not supply a continuous source intertwiner; an admissible-cone scaling estimate does not determine an excluded-stratum scaling degree; and a positive-core obstruction excludes a specified Ward-compatible target in a specified class, not the existence of all positive-core limits. We also distinguish the triangle contraction fixed conditionally by causal factorization from the mixed product carrying the pinch logarithm. The resulting seven-entry ledger keeps the missing metric identification, parameter-free evolution, and source-map domain separate from finite certificates, clock records, and prescribed geometry. Its potentially useful methodological feature is to expose the first unsupported identification before it is promoted into a physical conclusion. No new residual closure, gravitational dynamics, or spacetime emergence is claimed.

Bibliographic record

Title	Res01-A Typed open entries on the prescribed cone
Author	Cheung, Ngo
Publication date	2026
Institution	Enter
Report number	09-Res01-A
Publisher	Cheung Ngo Medical Limited
First page	1
Last page	12
Language	en

The prescribed host and the scope of the argument

Geometry is an input

Fix

$$0 < \mu < 2\pi, \qquad \alpha = 1 - \frac{\mu}{2\pi} \in (0,1), \qquad c > 0.$$

Let

$$C_\mu^\circ = (0,\infty)_r \times (\mathbb{R}/2\pi\mathbb{Z})_\varphi, \qquad h_{C_\mu} = \mathrm{d}r^2 + \alpha^2 r^2 \mathrm{d}\varphi^2,$$

and let C_{μ} be its metric completion, with apex o. The host is

$$\begin{aligned} M &= \mathbb{R} \times C_\mu^\circ \times \mathbb{R}_z, \\ g &= -c^2 \mathrm{d}T_{\mathrm{geo}}^2 + \mathrm{d}r^2 + \alpha^2 r^2 \mathrm{d}\varphi^2 + \mathrm{d}z^2. \end{aligned}$$

Here T_{geo} denotes the coordinate called T in I-B; this notation distinguishes it from the missing source-map symbol T used later. The spatially completed product and its singular locus are

$$\overline{M} = \mathbb{R} \times C_\mu \times \mathbb{R}_z, \qquad \mathscr{W} = \mathbb{R} \times \{o\} \times \mathbb{R}_z.$$

Thus $\mathscr{W}$ is a worldsheet. It is not a worldline unless z is separately fixed.

The metric, its signature, the unit lapse, the time orientation, the speed c, the spatial chart, and the transport permissions are prescribed data. They are not outputs of a readout channel [CheungIB]. No smooth metric at $\mathscr{W}$, distributional defect source, or state-dependent metric-update rule is introduced here.

Choose a regular spatial developing patch

$$U \subset C_{\mu}^{\circ} \times \mathbb{R}_{z}$$

with convex developed image and chart

$$\chi(r, \varphi, z) = (r\cos(\alpha\varphi), r\sin(\alpha\varphi), z),$$

using a real lift of the angle on the patch. All local comparisons below retain the domains of their source statements. In particular, placing an entry on this host does not transplant a flat-space graph distribution to the whole cone.

Proposition. The metric has signature *(− + + +)*, is locally flat on *M*, and admits the external temporal coordinate *T_geo*. For the time orientation in which *∂_T_geo* is future directed, a nonzero future-causal tangent vector

$$v = a\partial_{T_{\mathrm{geo}}} + w$$

satisfies

$$a > 0, \qquad |w|_h \le ca, \qquad h = \mathrm{mathop\,d}r^2 + \alpha^2 r^2 \mathrm{mathop\,d}\varphi^2 + \mathrm{mathop\,d}z^2.$$

Along a static observer, proper-time increments equal *mathop dT_geo*.

Proof. The metric matrix is diagonal, with one negative and three positive entries, and

$$g^{-1}(\mathrm{mathop\,d}T_{\mathrm{geo}}, \mathrm{mathop\,d}T_{\mathrm{geo}}) = -c^{-2}.$$

The developing coordinates satisfy

$$\mathrm{mathop\,d}(r\cos(\alpha\varphi))^2 + \mathrm{mathop\,d}(r\sin(\alpha\varphi))^2 = \mathrm{mathop\,d}r^2 + \alpha^2 r^2 \mathrm{mathop\,d}\varphi^2,$$

so the metric is locally Minkowskian wherever *r > 0*. The causal inequality is

$$-c^2a^2 + |w|_h^2 \le 0.$$

A nonzero causal vector cannot have *a = 0*; the chosen orientation therefore gives *a > 0*. On a static curve, *−g/c^2 = mathop dT_geo^2*, proving the proper-time statement.

This reproduces the elementary geometric separation used in I-B: the finite clock encoding is not the coordinate function on *M* [CheungIB].

Proposition. The regular spacetime *(M, g)* is not globally hyperbolic.

Proof. Fix *r_{*} > 0*, *φ_{*}*, *z_{*}*, and choose *a > r_{*}/c*. Set

$$p = (-a, r_*, \varphi_*, z_*), \qquad q = (a, r_*, \varphi_*, z_*).$$

For a sequence *r_jdownarrow 0* with *r_j < r_{*}*, put

$$p_j = (0, r_j, \varphi_*, z_*).$$

The radial spatial travel distance from *r_{*}* to *r_j* is *r_{*} − r_j < ca*. Radial curves traversed during time *a* therefore show that

$$p_j \in J^+(p) \cap J^-(q).$$

This sequence has no convergent subsequence in *M*, since any such limit would have radial coordinate zero. The causal diamond is not compact, which excludes global hyperbolicity.

The argument is the one recorded in I-B-G, prop:nonGH, with *c* restored [CheungIBG]. Non-global hyperbolicity does not, by itself, prove nonuniqueness for every differential equation. It does prevent an unqualified appeal to the usual globally hyperbolic uniqueness framework. A conical inverse must retain its declared operator, domain,

and apex realization. No such inverse is a recovery map merely because it is an inverse of an equation.

Proposition. Symmetry, covariant conservation, and a trace condition on a tensor do not, by themselves, impose an Einstein source equation for the prescribed background.

Proof. It suffices to give a local counterexample. In a developing Minkowski chart, choose a nonzero constant null covector ℓ_a and a constant $A > 0$. The covariant tensor

$$S_{ab} = A\ell_a\ell_b$$

is symmetric and nonzero. Its components are constant, hence

$$\nabla^a S_{ab} = 0, \qquad g^{ab}S_{ab} = A\, g^{ab}\ell_a\ell_b = 0.$$

Nevertheless, the local Einstein tensor of the prescribed flat metric is zero. For zero cosmological constant and any nonzero coupling κ, the equation

$$G_{ab}(g) = \kappa S_{ab}$$

fails. Consequently conservation and tracelessness are insufficient.

This is a local proof of the separation recorded in I-B, prop:not-source [CheungIB]. The tensor S in this counterexample is not an extracted source for the Enter experiment. A finite conditional density matrix is not already a covariant spacetime tensor.

Enter, spacetime Enter, and the shredder philosophy

Cheung's Enter framework treats runtime quantum names as access rights to tensor factors. Destructive readout consumes the measured names at the declared interface and returns classical outcomes. The concrete Born semantics and an operational characterization within a specified strategy class are distinct layers of that framework [CheungEnter]. This note uses the finite Born-channel semantics; it does not rederive a measurement characterization.

The philosophical orientation is a discipline of keeping four claims separate: destructive observation, quantum recovery, thermodynamic implementation, and physical identification [CheungPhil]. Consumption of a name is an access statement, not a theorem that every implementing degree of freedom is annihilated. A classical report and a quantum-return channel have different output requirements.

Spacetime Enter adds locations, accessible algebras, schedules, resource data, and clock calibration to a supplied continuum geometry. In I-B that geometry is ; readout changes neither the manifold nor its external time coordinate [CheungIB]. The shredder analogy of I-C makes the access restriction explicit: a public classical report must not be silently supplemented by an available quantum memory [CheungIC]. An analogy with a horizon does not identify the cone apex, an operational access cut, or a finite certificate with a gravitational throat.

Heat requires a separate implementation model. No heat bill, energy condition, or evaporation dynamics follows from the readout channel alone [CheungPhil,CheungIC].

Evidence-relative open entries and separation citations

Let $\mathfrak{E}$ denote the finite evidence packet used here: the supplied version-qualified excerpts and the specifically identified documentary records in the bibliography. It is not a scan of the entire Enter series.

Definition. An entry is *open relative to* $\mathfrak{E}$ when the construction required by that entry is not supplied by this note or by the identified evidence packet with its required domains, hypotheses, and identifications.

This status is not a proof of mathematical nonexistence, undecidability, or independence. In particular,

$$\text{no witness supplied in}\mathfrak{E} \quad \not\Rightarrow \quad \text{no witness exists.}$$

A citation used as a *separation* records a source's scope or a distinction between objects. It does not silently identify models, Hilbert spaces, topologies, gauge conventions, cutoffs, or observables. Where an elementary mathematical fact is needed below, it is proved locally. Statements reported from other sheets retain their source hypotheses and are not presented as independently verified theorems of this note.

The OpenAI catalogue is documentary. Its family records are not premises of the seven entries, and no catalogue result supplies a metric, a throat, or an inherited response coefficient [Catalogue].

The typed shredder

The complete destructive instrument

For a finite-dimensional Hilbert space H, write $\mathcal{B}(H)$ for its matrix algebra. Channels are completely positive and trace preserving. Every untouched finite reference is included when complete input–output correctness is asserted.

Let

$$H_C \cong \mathbb{C}^D, \qquad D \geq 2,$$

be the clock factor, let H_X contain every returned quantum factor, and choose an orthonormal basis $\{|\tau_k\rangle\}_{k = 0}^{D - 1}$ of H_C. Define

$$P_k = |\tau_k\rangle\langle\tau_k|, \qquad D_k = \langle\tau_k|_C \otimes I_X.$$

The classical record R has diagonal observable algebra in the basis $\{|k\rangle\}$.

Proposition. The map

$$\mathcal{M}_C(Z) = \sum_{k = 0}^{D - 1} |k\rangle\langle k|_R \otimes D_k Z D_k^\dagger$$

is a channel from $C \otimes X$ to the classical–quantum interface $R \otimes X$. For every untouched reference E,

$$\mathrm{Tr}_R\,[(\mathcal{M}_C \otimes \mathrm{id}_E)(Z)] = \mathrm{Tr}_C\, Z.$$

The measured factor C is absent from the returned quantum interface. For an input state ρ, outcome k has subnormalized residual

$$\sigma_k = D_k \rho D_k^\dagger, \qquad p_k = \mathrm{Tr}\,\sigma_k.$$

Its normalized conditional residual is σ_k / p_k only when $p_k > 0$.

Proof. The recorded Kraus operators are

$$L_k = |k\rangle_R \otimes D_k,$$

and

$$\sum_k L_k^\dagger L_k = \sum_k P_k \otimes I_X = I_{CX}.$$

This proves complete positivity and trace preservation. Expanding

$$Z = \sum_{j,k} |\tau_j\rangle\langle\tau_k| \otimes Z_{jk}$$

shows that the recorded blocks are Z_{kk}; their sum is $\mathrm{Tr}_C Z$. The calculation is unchanged when each block also acts on E. The probability and normalization assertions follow from positivity and the trace formula.

This is the finite instrument of I-B, thm:instrument, and I-C, prop:instrument [CheungIB,CheungIC]; the general instrument framework is classical [DaviesLewis]. The returned code is classical, but the *complete* returned interface need not be: if X is quantum and accessible, the interface is hybrid.

Proposition. The channel has no channel left inverse on its full input space. Its action does not remove the coordinate T_{geo} or change the prescribed metric.

Proof. Choose any state ω_X and the two orthogonal clock states

$$|\pm\rangle = \frac{|\tau_0\rangle \pm |\tau_1\rangle}{\sqrt{2}}.$$

The inputs $|+\rangle\langle+| \otimes \omega_X$ and $|-\rangle\langle-| \otimes \omega_X$ have the same output under $\mathcal{M}_C$. A left inverse could not return both distinct inputs from that output.

The second assertion follows from the model specification: $\mathcal{M}_C$ acts on finite matrix algebras while M, g, T_{geo} remain fixed external data. No geometric update operation occurs in its definition.

The first assertion concerns the full input task. It does not exclude recovery on a restricted code or recovery of information previously transferred to another accessible quantum factor.

The sharp classical-output floor

Let $Q \cong Q^{\{\prime\}} \cong \mathbb{C}^d$, $d \geq 2$, with a fixed intended identification. For channels with the same input and output types, define

$$d_\diamond(\mathcal{N}, \mathcal{L}) = \frac{1}{2}\|\mathcal{N} - \mathcal{L}\|_\diamond.$$

Let $E \cong Q$ be untouched and put

$$|\Phi_d\rangle = \frac{1}{\sqrt{d}} \sum_{j=0}^{d-1} |j\rangle_E |j\rangle_Q, \qquad \Phi_d = |\Phi_d\rangle\langle\Phi_d|.$$

Lemma. Suppose the complete accessible output of a finite experiment on Q is classical. Its channel has the form

$$\mathcal{C}(\rho) = \sum_x \mathrm{Tr}\,(E_x \rho)|x\rangle\langle x|, \qquad E_x \geq 0, \quad \sum_x E_x = I.$$

For every deterministic decoder $\mathcal{D}: R \to Q^{\{\prime\}}$, there are states σ_x such that

$$(\mathcal{D}\mathcal{C})(\rho) = \sum_x \mathrm{Tr}\,(E_x \rho)\sigma_x.$$

For every referenced input, the decoded state is separable across $E: Q^{\{\prime\}}$.

Proof. Compose the completely positive maps along each complete classical history and trace all inaccessible outputs. Each history probability is a positive linear functional of the input matrix, hence equals $Tr\,(E_x\rho)$ for an effect $E_x \geq 0$. Preservation of the total attempted-run probability gives $\sum_x E_x = I$. Failure and stopping histories are retained.

Set $\sigma_x = \mathcal{D}(|x\rangle\langle x|)$. This gives . For a referenced state ρ_{EQ}, the output is

$$\sum_x \rho_E^x \otimes \sigma_x, \qquad \rho_E^x = \mathrm{Tr}_Q\left[(I_E \otimes \sqrt{E_x})\rho_{EQ}(I_E \otimes \sqrt{E_x})\right] \geq 0.$$

The traces of the blocks sum to one, so this is a convex combination of product states after omitting zero blocks.

The lemma is the mechanism recorded in I-C, lem:EB, and in the established theory of entanglement-breaking channels [CheungIC,HSR].

Theorem. Under the hypotheses of Lemma , every deterministic decoder satisfies

$$d_\diamond(\mathcal{D}\mathcal{C}, \mathrm{id}_Q) \geq 1 - \frac{1}{d}.$$

The constant is sharp over the class of classical-output channels and deterministic decoders.

Proof. For states a, b on $\mathbb{C}^d$,

$$\mathrm{Tr}\,[\Phi_d(a \otimes b)] = \frac{1}{d}\mathrm{Tr}\,(a^{\mathrm{T}} b) \leq \frac{1}{d}.$$

By convexity, every separable state has overlap at most $1/d$ with Φ_d. Lemma therefore gives

$$F_e := \mathrm{Tr}\,[\Phi_d(\mathrm{id}_E \otimes \mathcal{D}\mathcal{C})(\Phi_d)] \leq \frac{1}{d}.$$

Testing the difference of the decoded state and Φ_d with the effect Φ_d yields

$$\frac{1}{2}\|(\mathrm{id}_E \otimes \mathcal{D}\mathcal{C})(\Phi_d) - \Phi_d\|_1 \geq 1 - F_e \geq 1 - \frac{1}{d}.$$

This is a lower bound on the half-diamond distance.

For sharpness, measure and reprepare one orthonormal basis. The resulting channel is

$$\Delta(\rho) = \sum_{j=0}^{d-1} |j\rangle\langle j|\rho|j\rangle\langle j|.$$

With

$$Z = \sum_{j=0}^{d-1} e^{2\pi i j/d} |j\rangle\langle j|,$$

one has

$$\Delta = \frac{1}{d}\sum_{k=0}^{d-1} \mathrm{Ad}_{Z^k}.$$

The half-diamond distance between two channels is at most one, so

$$d_\diamond(\Delta, \mathrm{id}_Q) \le \frac{1}{d}\sum_{k=1}^{d-1} d_\diamond(\mathrm{Ad}_{Z^k}, \mathrm{id}_Q) \le \frac{d-1}{d}.$$

Together with the lower bound, this gives equality.

This is a local reproof of I-C, thm:A, not a novelty claim [CheungIC]. Its error metric is reference-preserving channel error, not an unspecified average state-estimation error.

Corollary. Suppose $\mathscr{N}$ and a classical-output comparison channel $\mathscr{C}$, embedded in the same output type, satisfy

$$d_\diamond\big(\widehat{\mathscr{N}}, \mathscr{C}\big) \le \delta.$$

Then every deterministic decoder on that complete output obeys

$$d_\diamond\big(\mathscr{D}\widehat{\mathscr{N}}, \mathrm{id}_Q\big) \ge \max\left\{0, 1 - \frac{1}{d} - \delta\right\}.$$

Proof. Postcomposition by a channel contracts diamond distance. Apply the triangle inequality and Theorem .

The hypothesis *complete accessible output is classical* is essential. Teleportation with an available receiver memory, or any other surviving message-bearing quantum factor, is hybrid and does not satisfy that hypothesis [CheungIC]. The theorem is not a prohibition of such protocols.

Append-only records do not turn over

Proposition. Let

$$R_n = (X_1, \ldots, X_n)$$

be a finite classical transcript, including failure and stopping symbols. Fix the initial state and use the unconditioned attempted-run law. If each continuation preserves all old labels and appends one new label, then

$$H(R_{n+1}) - H(R_n) = H(X_{n+1} \mid R_n) \ge 0.$$

Proof. Trace preservation of the continuation preserves the old transcript marginal. The Shannon chain rule gives the equality. Finite classical conditional entropy is an average of nonnegative entropies, giving the inequality.

This is the append-only distinction of I-C, thm:B [CheungIC]. It concerns the entire retained classical history under one law, not a lossy summary, postselected ensemble, selected marginal, or conditional entropy given later evidence. It is not a theorem about the fine-grained entropy of an unmeasured quantum output, and no comparison with gravitational entropy is made here.

Seven source-typed open entries

The following entries are evidence-relative in the sense of Definition . Each records one earliest obligation. Its supporting discussion explains why the cited separation does not supply that obligation.

G4: one source-slot pair off the diagonal

Fix one declared source-slot pair and one relatively compact regular configuration region avoiding its collision diagonal. The audited source data do not exhibit a continuous intertwining operator between those two source presentations, with the required source-specific topologies and presentation identity verified. The obstruction dimension remains an open entry.

No relations *K*, correction space, dimension bound, or extension across the diagonal are supplied.

A construction would have to declare the two source spaces, their topologies, the presentation maps, the intertwining equation on an actual domain, and the continuity estimates. Calling the desired object *K* does not supply any of those items.

IX-Free-2, thm:release, concerns a specified free ordered-word construction. Its algebraic injectivity statement

does not supply a continuous inverse on an interacting gravitational source space [CheungIXFreeTwo]. The source also has a separately scoped fixed-support test-family continuity statement; that statement is not ignored, but it is not the unasserted actual-stage continuity or the source-specific intertwiner required here. IX-D, thm:release, separately retains the time-ordering and causal-extension obligations [CheungIXD]. Prob02-A, prop:descent, identifies the descent slot rather than filling it [CheungProbTwo].

Lemma. Algebraic injectivity does not imply continuity of an inverse on the image. Differential order alone does not bound the dimension of a differential operator's kernel.

Proof. The inclusion

$$\ell^1 \to \ell^2$$

is continuous and injective. Let *v_n* have its first *n* entries equal to *1/n* and all other entries zero. Then

$$\|v_n\|_1 = 1, \qquad \|v_n\|_2 = n^{-1/2} \to 0.$$

Thus the inverse on the image, given the induced *ℓ^2*-topology, is not continuous.

For the second assertion, on a product open rectangle $V \subset \mathbb{R}^2$, the first-order operator

$$\partial_{x_1} : C^\infty(V) \to C^\infty(V)$$

annihilates every smooth function depending only on *x_2*. Its kernel is infinite dimensional.

These examples do not describe the actual gravitational presentations and do not prove that their desired *K* cannot exist. They show why the proposed inference from injectivity or differential order cannot supply either *K* or a finite obstruction dimension.

G0/G1: the row seeing the retarded correction

The row that would detect the *E_0* retarded correction on the required inherited domain is not constructed.

The positive-core comparison excludes a specified Ward-compatible target within the source's specified positive local class. It does not establish that all positive-core limits are absent. No graph Laplacian, parity action, branch choice, or apex-neighbourhood construction is supplied.

This entry requires a material correction to the third draft: *not exhibiting a positive-core limit does not prove that there is none*. Moreover, the supplied I-B-VP-CR theorem states a more precise conclusion. In its exceptional parameter regime, for its fixed radial expression, target, and identification, positive local families have Friedrichs limits, whereas the fixed Ward demand selects the different extension *h_{v, E_0}* [CheungCR].

For clarity, write *L_{+}* for the set of selected channel limits in that source's positive class, and *W* for that source's Ward demand. The reported comparison has the form

$$\mathcal{L}_+ \subseteq \{h_{v,\mathrm{F}}\}, \qquad \{h \in \mathcal{L}_+ : \mathrm{W}(h)\} = \varnothing.$$

The second assertion is not the assertion *L_{+} = ∅*. Equation is a documentary restatement with the source's hypotheses retained, not an independent proof of that source theorem or an identification with an inherited graph state.

Thus the phrase ``no positive-core limit'' is admissible here only when explicitly qualified to mean *no limit realizing that fixed Ward-compatible target in that fixed positive class*. Even that exclusion does not construct the missing row. Quantification over an empty target-compatible set cannot provide a nontrivial separating functional.

I-B-G-S, eq:E0causal, records a retarded correction on its declared model [CheungIBGS]. A difference of retarded kernels is not a declared *ℤ/2*-action: no involution, state action, or odd-eigenvector construction follows merely from the existence of the difference. The source's free spin-1/spin-2 equation inverses also do not identify a state. This is the kernel/state separation retained by its thm:release.

Prob04-A, thm:far, concerns protected developing-region agreement, not arbitrary post-apex diffraction [CheungProbFour]. I-B-G, prop:nonGH, retains the missing-apex issue [CheungIBG]. Neither comparison supplies the row, an apex choice for this residual, or a branch-selection theorem. The apex neighbourhood remains excluded.

G7: the fixed triangle is not the remaining graph family

Prob02-A, thm:T3, fixes the named triangle contraction conditionally on an admissible causally factorizing time-ordered family. The regulator question for the other graphs in the residual remains open. A higher-arity product is not attempted.

No forest formula is applied, and no time-ordered product is assembled from binary products.

There is an important distinction within the triangle comparison itself. In the notation of the source, if an admissible causally factorizing family exists, its triangle contraction on the collision-free domain is *t^FFF*, with no $\mathscr{P}$-logarithm. The mixed product involving *W^{−}FF* carries the pinch contribution in the source's retarded/Feynman decomposition [CheungProbTwo]. Consequently, it would be incorrect to claim that a time-ordered *T_3* must itself carry that mixed-product logarithm.

The source statement fixes a conditional contraction; it does not construct the interacting *T_3* required by the residual. Nor does one triangle determine the regularization of the other graphs.

Lemma. Let Y be a smooth manifold, let $\Sigma \subset Y$ be closed, and let $j\colon Y \setminus \Sigma \hookrightarrow Y$. For distributions $u, v \in \mathscr{D}'(Y)$,

$$j^{*}u = j^{*}v \quad \Leftrightarrow \quad \operatorname{supp}(u - v) \subseteq \Sigma.$$

In particular, a Σ-supported change cannot alter a distribution on an open set disjoint from Σ.

Proof. Equality of restrictions means that $u - v$ vanishes on every compactly supported test function in $Y \setminus \Sigma$. By the definition of distributional support, this is equivalent to $\operatorname{supp}(u - v) \subseteq \Sigma$.

This elementary support statement is the separation recorded in Prob02-A and XIII-E [CheungProbTwo,CheungXIIIE]. It does not establish extension existence or membership in a particular counterterm class. Applied to a neighbourhood of a noncoincident pinch point, it explains why collision-supported changes cannot move a contribution there.

IX-D's conditional support and retarded-subtraction interface is not a construction of *T_3* [CheungIXD]. No existence hypothesis for the binary products is inserted in order to bypass that distinction.

G3: an unbound scaling symbol on an excluded stratum

Fix one collision stratum *S* excluded by the relevant admissible-cone records. The symbol *d_S* denotes the unfilled scaling-degree entry for the required prescription near that stratum. No numerical value, finiteness assertion, or equality with an off-diagonal homogeneity weight is made.

The frozen contact class is retained. Its contact values are not evaluated, and the hypothesis SD^′ is not discharged.

The notation *d_S* is a placeholder, not a definition that makes an unavailable distribution or scaling degree exist. In particular, it is not an assigned value of the scaling degree of a completed prescription.

Prob02-A, thm:SD, gives an admissible-cone bound under its stated G2 hypotheses. Its estimate has the form ``at most *6 + n_{∂}*'' on those cones; it is not an unconditional equality on an excluded stratum [CheungProbTwo]. The missing control near the partial diagonals is precisely why the stronger SD^′ obligation is retained.

XIII-E, eq:contacts, records the frozen contact class, and def:E1-missing records the unfinished characteristic-set obligation [CheungXIIIE]. An obligation does not prove its own satisfaction. Finite-regulator admission or convergence on microlocally admissible open sets does not replace that obligation.

For completeness, agreement on a proper good subset is insufficient even to conclude collision support of a difference. If

$$U_{\mathrm{good}} \subset Y \setminus \Sigma \quad \text{and} \quad p \in (Y \setminus \Sigma) \setminus U_{\mathrm{good}},$$

the distributions *0* and *δ_p* agree on *U_good*, but their difference is not supported in Σ. This is an abstract counterexample to the inference, not a proposed contact change for the source graphs. Lemma requires agreement on the *whole* complement to infer collision support, and membership in the frozen contact class requires still more.

Thus neither off-diagonal homogeneity nor good-set agreement binds *d_S* or evaluates the contacts at *D*.

Page curve: the first missing geometric identification

The first additional missing item is a metric identifying the mouths in the intended gravitational experiment. The prescribed metric is not, by itself, that identification.

The other five items in the cited geometric checklist are not attempted here. No comparison with gravitational entropy is performed.

There is no contradiction between supplying the host metric and leaving this item open. A witness for this entry must identify the relevant mouth regions and their roles in the same gravitational model. Merely displaying an unrelated metric, or naming input and output ports ``mouths,'' does not provide that witness.

Hawk07-A_B, thm:main, supplies the finite certificate reported in the supplied excerpt; sec:geometry is the separate geometric checklist [CheungHawk]. A finite recovery certificate is not a throat. En07-B supplies outgoing-recovery implications under four unconstructed same-model endpoint obligations; it does not construct the gravitational endpoint package [CheungEnSeven]. Oai265-A separates its static area-law record and finite calculations from a gravitational entropy history [CheungOaiTwoSixFive].

The shredder imposes an additional access check, not an identification. If the proposed complete accessible output is classical, Theorem rules out universal reference-preserving return below the stated floor. If quantum memory survives and is accessible, the interface is hybrid and must be assessed under that different task. Neither case supplies the missing metric identification. A certificate is not a throat, and a classical code is not a quantum-return decoder.

Relational time: the external parameter remains

The first missing item is an evolution equation generated by the relational data with no external parameter. The destructive clock instrument does not supply such an equation.

No Poisson structure is constructed, and the external geometric time axis is not removed.

I-B, thm:instrument, gives the finite channel already proved in Proposition . Its def:calibration distinguishes event-time calibration from history-label calibration [CheungIB]. To make this separation explicit, choose distinct labels *t_0, …, t_{D − 1}*. Exact event-time calibration at a fixed event *e* requires

$$p_k > 0 \quad \Rightarrow \quad t_k = T_{\mathrm{geo}}(e).$$

Proposition. Under distinct-label calibration, a normalized input satisfying has exactly one supported clock outcome. If none of the *t_k* equals *T_geo(e)*, no such normalized input exists.

Proof. At most one index *j* can satisfy *t_j = T_geo(e)*. All other outcomes must have probability zero, and normalization then forces *p_j = 1*. If there is no such index, every outcome has probability zero, contradicting normalization.

A nontrivial history-label experiment instead supplies an event map

$$\kappa : \{0, \ldots, D-1\} \to M, \qquad T_{\mathrm{geo}}(\kappa(k)) = t_k.$$

That map and those labels are calibration metadata. A reading at a separately specified event need not return the coordinate of that reading event.

Proposition also shows that removing the clock factor from the quantum output does not remove *T_geo* from the host. Relabelling a code, changing a measurement basis, or omitting the symbol *T_geo* from a displayed formula is not a construction of parameter-free dynamics. No generator or relational evolution equation is produced here.

Emergence: the domain of the source map

The first missing item is the source-specific domain of the intended map *T*. Here *T* is the missing source-map symbol, not the coordinate *T_geo*.

No choice of that domain is constructed. The codomain, continuity, and renormalization requirements are not attempted.

This is not a claim that spaces of density matrices do not exist. It is the narrower statement that the required domain, including its relation to the intended fields, observables, and physical states, is not fixed by the audited data. Selecting an arbitrary finite Hilbert space and writing down its state set would not establish that

identification.

There is also a typing defect in the earlier proposed phrase ``continuous linear map from the space of quantum states." A normalized state set is convex, not a vector space: the sum of two trace-one states has trace two. One may later specify an affine map on states, or the restriction of a linear map on a declared ambient vector space, but such a choice cannot be supplied by the word ``linear." Neither repair is attempted in this entry.

Proposition proves the relevant conservation/trace separation. I-B-VP's Friedrichs state and local Hadamard statement concern a state on a prescribed background, not an extracted stress tensor or a returned payload [CheungVP]. In particular, a local Hadamard form does not itself specify the missing source-map domain.

Every geometry declared in this note remains an input. There is no metric derivation, source extraction, backreaction rule, or Einstein-dynamics construction.

Release of the reorganized sheet

Proposition. The local arguments in this note establish properties of the fixed host, the finite destructive instrument, the classical-output recovery floor, the append-only classical entropy statement, and the stated elementary separation lemmas. They do not supply the witnesses required to close any of the seven entries.

In particular, this note constructs no source-slot relations K, inherited correction-detecting row, interacting T_3, SD$^{\wedge\prime}$ prescription, metric identifying the mouths, parameter-free evolution equation, or source map T.

Proof. The geometric arguments concern the explicitly prescribed metric ; none derives a metric from an operational state. The finite-channel arguments construct only the channels, residuals, and comparison bounds explicitly displayed in Section . The continuity, kernel-dimension, and support examples are counterexamples to proposed inferences, not constructions for the source slots or graph family.

Entries – specify the remaining target objects and the missing identification or estimate in each case. None of those target witnesses occurs among the local constructions. Source-reported conditional results have been kept within their stated comparison scope. Under Definition , the seven entries therefore remain open relative to $\mathfrak{E}$.

This is a statement about the content and scope of this release. It is not a nonexistence theorem for the target objects.

1.22 toprule Residual Open entry or first missing item Retained boundary

midrule G4 Continuous source intertwiner; obstruction dimension unassigned No K, dimension bound, or extension across the diagonal.

G0/G1 Row detecting the E_0 correction Positive-core exclusion is target- and class-specific; no branch choice or apex-neighbourhood construction.

G7 Regulator question for the other graphs The named triangle is a conditional contraction result; higher arity is not attempted.

G3 Unbound excluded-stratum scaling symbol d_S No identification with an admissible-cone weight; SD$^{\wedge\prime}$ and contact values remain open.

Page curve Metric identifying the mouths The prescribed host and a finite certificate do not supply that identification.

Relational Evolution equation with no external parameter The code is classical and the external axis remains.

Emergence Source-specific domain of T No source map, derived metric, or sourcing rule.

bottomrule

Standing programme boundary. For the purposes of this release,

$$\text{boxed}\qquad \begin{array}{c} \mathrm{O.1} = \texttt{texttt}\,\mathit{NOT_CLOSED}, \\ \text{XVI-N is not discharged,} \\ \text{XV-B is not opened,} \\ \text{no inherited quantum coefficient is admitted.} \end{array}$$

No statement from an unavailable XVI-N passage is invented. ``XV-B is not opened" refers to the downstream

admission exit; it does not deny the existence of a technical manuscript with that identifier. Separately scoped progress in another sheet is neither withdrawn nor promoted into closure here.

Nature of the contribution. The reorganization replaces circular existence sketches and unsupported transfers with explicit, typed obligations. It is an analytical and documentary clarification of the programme, not a resolution of its outstanding physical or mathematical targets. The classical-output bound, support principle, and entropy chain rule are established results; their inclusion makes the separation arguments self-contained, not new.

Provenance, authorship metadata, and preparation

The title-page name Ngo Cheung is retained from the supplied draft metadata, as requested. Retention alone does not assign or independently verify authorship, consent, affiliation, or responsibility for this revision. Those matters require confirmation before submission.

The public records for the Enter overview, I-B, and I-C were consulted alongside the supplied excerpts. Several other complete version-qualified manuscripts were not available for independent full-text inspection; they are cited below as supplied excerpt records. No exhaustive corpus audit, machine-checked verification, physical implementation, or successful compilation is asserted.

The source is intended for pdfLaTeX as one file with an internal bibliography. Running pdfLaTeX twice resolves its internal references and citations. The bibliography distinguishes the publisher record of the Enter article from unpublished companion manuscripts and does not infer publication dates or DOIs for the latter.

References

N. Cheung, ``The Enter Calculus: A Linear Quantum Lambda Calculus with an Operational Characterization of Measurement," *Frontiers in Physics* **14** (2026), publisher accepted-article record. Accepted 28 September 2026. DOI: 10.3389/fphy.2026.1954943. The publisher record consulted on 20 October 2026 stated that the final formatted version was forthcoming.

N. Cheung, *The Philosophy of Enter: Destructive Readout, Quantum Recovery, and the Refusal of Identification*, EntPhil-v2.tex, version 2. Introductory documentary essay, Enter Calculus Companion; not a registered theorem premise. https://enter.grok.me/enter.

N. Cheung, *I-B: A Finite Enter Spacetime: Calibrated Destructive Time Readout on a Prescribed Conical Product* , I-B-v1.tex, version 1. Unpublished manuscript record, Enter Calculus Companion. Relevant locators: def:experiment, thm:instrument, def:calibration, prop:fixed-event, prop:not-source, and thm:main. https://enter.grok.me/browse/I-B.

N. Cheung, *I-C: The Shredder Interface: Destructive Readout, Black-Hole Analogues, and Quantum Computers*, I-C-v2.tex, version 2. Unpublished manuscript record, Enter Calculus Companion. Relevant locators: prop:instrument, lem:povm, lem:EB, thm:A, cor:robust, and thm:B. https://enter.grok.me/browse/I-C.

N. Cheung, *I-B-G: Intrinsic and Holonomy-Twisted Green Operators on a Prescribed Conical Spacetime*, I-B-G-v2.tex, version 2. Unpublished manuscript; supplied excerpt record. Relevant locator: prop:nonGH. https://enter.grok.me/browse/I-B-G.

N. Cheung, *I-B-G-S: Intrinsic Spin-1 and Spin-2 Green Operators on the Prescribed Conical Spacetime*, I-B-G-S-v2.tex, version 2. Unpublished manuscript; supplied excerpt record. Relevant locators: eq:E0causal, thm:spin1, thm:spin2, and thm:release. https://enter.grok.me/browse/I-B-G-S.

N. Cheung, *I-B-VP: Vacuum Polarization of the Friedrichs Ground State on a Prescribed Conical Spacetime*, I-B-VP-v3.tex, version 3. Unpublished manuscript; supplied excerpt record. Relevant locators: prop:state and thm:hadamard. https://enter.grok.me/browse/I-B-VP.

N. Cheung, *I-B-VP-CR*, I-B-VP-CR-v1.tex, version 1. Unpublished manuscript; supplied excerpt record. Relevant locator: thm:main, ``The scalar Ward gate and its positive-core obstruction," with its fixed exceptional regime, target, identification, and positive local class retained. https://enter.grok.me/browse/I-B-VP-CR.

N. Cheung, *Prob02-A*, Prob02-A.tex, version 5. Unpublished manuscript; supplied excerpt record. Relevant locators: prop:descent, prop:IBGS, thm:T3, thm:SD, and the support-rigidity and SD$^\wedge{}'$ discussions.

https://enter.grok.me/browse/Prob02-A.

N. Cheung, *Prob04-A*, Prob04-A.tex, version 5. Unpublished manuscript; supplied excerpt record. Relevant locators: thm:far and the protected-placement scope of thm:main. https://enter.grok.me/browse/Prob04-A.

N. Cheung, *XIII-E*, XIII-E.tex, version 1. Unpublished manuscript; supplied excerpt record. Relevant locators: eq:contacts, def:E1-missing, prop:finite, prop:good-limit, and thm:release. https://enter.grok.me/browse/XIII-E.

N. Cheung, *IX-Free-2*, IX-Free-2.tex, version 1. Unpublished manuscript; supplied excerpt record. Relevant locator: thm:release, including the distinction between fixed-support test-family continuity and unasserted actual-stage continuity. https://enter.grok.me/browse/IX-Free-2.

N. Cheung, *IX-D*, IX-D-v3.tex, version 3. Unpublished manuscript; supplied excerpt record. Relevant locator: thm:release, ``IX-D revised interface package," and the retained free-coherence/causal-factorization separation. https://enter.grok.me/browse/IX-D.

N. Cheung, *Hawk07-A_B*. Unpublished manuscript identifier as supplied in the evidence packet; no version or publication date is inferred. Relevant supplied locators: thm:main, finite recovery certificate, and sec:geometry, geometric checklist. Enter Calculus Companion documentary source location: https://enter.grok.me/.

N. Cheung, *En07-B*, En07-B.tex, version 1. Unpublished manuscript; supplied excerpt record. Relevant locators: def:resolution and thm:release, including the four same-model endpoint obligations. https://enter.grok.me/browse/En07-B.

N. Cheung, *Oai265-A*, Oai265-A.tex, version 2. Unpublished manuscript; supplied excerpt record. Relevant locator: thm:release and the separation of static area-law records, finite recovery calculations, and gravitational entropy histories. https://enter.grok.me/browse/Oai265-A.

OpenAI, *OpenAI catalogue*, OpenAI.tex, supplied documentary snapshot dated 7 October 2026, Enter Calculus Companion. Relevant locator: rem:not-premise. Catalogue attribution and documentary use are not proof verification or adoption of any family claim. https://enter.grok.me/.

E. B. Davies and J. T. Lewis, ``An operational approach to quantum probability," *Communications in Mathematical Physics* **17** (1970), 239–260. DOI: 10.1007/BF01647093.

M. Horodecki, P. W. Shor, and M. B. Ruskai, ``General Entanglement Breaking Channels," arXiv:quant-ph/0302031 (2003). https://arxiv.org/abs/quant-ph/0302031.