
MATHEMATICS DID NOT LEAVE THE RECORD

Projection Indistinguishability and the Minimal Added Channel

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Phase 1 · English reading edition · 30 August 2026

Contents

Abstract

0. Central Boundary

1. What Is Refuted

2. Relation to the Author's Earlier Work

3. Carrier Before Mathematics

4. Fibers of the Accessible Input

5. No-Selector Derivation

6. Why One More Calculation Does Not Help

7. Internal Semantics Is Absorbed Without Exception

8. Conditional Verifier Strength Is Preserved

9. Minimal Added Channel

10. Application Binding

11. The Rocket: The Strongest Case Without Backward Transfer

12. Causal Action of a Record

13. Purpose Does Not Follow from the Trajectory — Source Heading: «Зачем?»

14. One Hundred, Two Hundred, Three Hundred Years

15. Strongest Admissible Objections

16. Interaction, Oracles, and Randomness

17. Informal, Diagrammatic, and Infinite Mathematics

18. Executable Demonstration

19. Falsification

20. Self-Application

21. Comparative Mapping Is Not a Premise

22. Claim Boundary

23. Result

Literature and Source Status

RBI-1: The Projection Indistinguishability Theorem

AB-1: Application, Fitness for Use, and Purpose as Added Records

Phase 1 Self-Application

Phase 1 Adversarial Audit

PFNP-1: Preliminary Collision Audit

Abstract

The object under study is not the truth of individual mathematical formulas, but the capacity attributed to mathematics to establish application, intended interpretation, fitness for use, and purpose autonomously. The initial material is fixed as an exact carrier before it is read as mathematical. Even carrier is a contract label, not a privileged description of what is named.

Let ρ project all material available to a computation, and let Q be an independently supplied target coordinate. The factorization theorem states that Q is determined by the accessible input if and only if Q is constant on every fiber of ρ . If two admissible indices have the same complete core but different target records, no deterministic function of the core, no proof trace, and no selector of its result recovers Q at both indices. The derivation uses neither computation length, formal-system strength, internal models, nor recorded predicates `True`, `Sat`, and `Denotes`. They remain functions of the same input and do not split the initial fiber.

An added channel η is sufficient only when the joint projection (ρ, η) separates every conflicting pair. A finite fiber with m different target values requires at least m distinguishable channel values, or at least $\lceil \log_2 m \rceil$ bits of distinguishing record. This localizes application: a measurement record, intended model, implementation channel, application binding, and goal record may be added, but none is one more computation of the earlier core.

In the published fixtures, a conservative lift preserves every accepted finite source record of three formal corpora: a Hilbert-style propositional system, equational rewriting, and a sequent-style system. The finite examples therefore do not obtain the boundary by discarding an accepted source trace: the checked source derivation is preserved while the conflicting target coordinate remains unselected. Separate paired fixtures cover an arithmetic target, model intendedness, rocket application and purpose, and a positive determined control.

The work does not state that signs refer to nothing, mathematics is false, causal action of a record is impossible, application is absent, or meaning is absent. It records the exact formal defeat condition for the autonomous-export claim: on a conflicting fiber, no computation and selector recover the target from the supplied core alone.

Keywords: record boundary; mathematical proof; indistinguishability; factorization; projection fiber; provenance; application binding; intended interpretation; purpose; self-audit; proof checker.

0. Central Boundary

Exact material is supplied first. A procedure that reads it as a mathematical expression is declared next. A verifier then accepts or rejects relations among the parsed expressions. Only later do the source strings appear:

```
это относится к ...
эта модель предназначена для ...
этот расчёт применим к ...
это пригодно при ...
это нужно для ...
в этом есть смысл
в этом нет смысла
```

English readings: *this applies to ...; this model is intended for ...; this calculation applies to ...; this is fit under ...; this is needed for ...; this has meaning; this has no meaning.*

Later lines may be added. The prohibition concerns backward transfer: they were not present in the earlier proof-object merely because they were written after it.

A formal calculation may be error-free within its contract. A rocket may be recorded as built and flown. An implementation chain may be recorded as having executed controller output. None of these concessions erases source order:

$$\text{carrier} < \text{reading contract} < \text{formal trace} < \text{application input} < \text{goal input}.$$

The declared protocol contains no identity between formula record, flight-event record, and goal record. Transitions require separate fields or channels; the maximum of a recorded function is not by itself an endorsement of that function.

1. What Is Refuted

The unbounded sentence containing the word математика (*mathematics*) is not registered as an RBI-1 theorem. RBI-1 registers the following formal claim:

Let K be a declared class of admissible recorded indices, $\rho(k)$ all input available to the procedure, and $Q(k)$ an independently supplied target field. Autonomous export is the existence of a computation T and selector s such that

$$Q = s \circ T \circ \rho$$

throughout K .

This is a strong claim: one function of the complete accessible core must recover the target at every admissible index. It is not defined through absence of a bridge, the word “external,” or a type assigned in advance.

If k_0, k_1 are supplied with

$$\rho(k_0) = \rho(k_1), Q(k_0) \neq Q(k_1),$$

autonomous export is refuted across the declared functions:

$$\forall T \forall s: Q \neq s \circ T \circ \rho.$$

“Across” concerns the two universal quantifiers. No stronger proof checker, longer calculation, or richer internal semantics can split an identical input without reading a distinguishing channel.

2. Relation to the Author’s Earlier Work

«Границы записи» (*Record Boundaries*) holds a written occurrence before backward transfer of later attribution and checks determination relative to an explicit procedure and input contract. «Чтение как клетка» (*Reading as Enclosure*) separates self-return structure, evidential admission of content, and the order in which grounds appear; exact carrier, provenance, and self-audit are not substitutes for one another.

Phase 0, «Математика не вышла из записи» (*Mathematics Did Not Leave the Record*), introduced typed MRB-0 and supplied the result that an accepted application status carries bridge provenance; its bridge cut preserves the complete mathematical projection and removes the application layer. Its stated boundary leaves transfer to separate mathematical systems at APPLICABILITY-UNSPECIFIED without a contract τ .

Phase 1 adds two steps. First, the universal core moves from kind policy to a projection theorem: the impossibility no longer follows from rules prohibited from creating Δ ; it follows from functionality—identical input yields identical trace. Second, every accepted finite source record in the published verifier corpora is preserved by a conservative lift. The boundary in these fixtures is not produced by impoverishing the source trace: the formal derivation remains, while the target is still not recovered.

Comparison sources are not premises of either step. Their role is restricted to a post-freeze collision audit.

3. Carrier Before Mathematics

«это линии» (*these are lines*) already classifies the material. Strict Level 0 requires no such classification. It fixes an exact sequence of bytes, pixels, coordinates, samples, or another declared carrier and its SHA-256.

Contract I may then introduce UTF-8 decoding, Unicode scalar extraction, tokenization, a parser, reading glyphs as digits and signs, reading placement as a diagram, and admissible-formula rules.

READ-AS-MATHEMATICAL means that the carrier passed the declared procedure. It does not mean that quantities, objects, or relations named by digits have been presented.

Lines about «врождённом количестве», «младенце», «животном», «уме», or «мире» (*innate quantity, infant, animal, mind, world*) are not used as grounds. Each is first another input; its presence does not deliver what it names.

4. Fibers of the Accessible Input

For $r \in \rho(K)$, the fiber

$$\rho^{-1}(r) = \{k : \rho(k) = r\}$$

contains every admissible index that the procedure sees as identical. Target Q is determined by the core iff it is constant on every such fiber. Equivalent conditions are:

$$\exists g : \rho(K) \rightarrow Y : Q = g \circ \rho;$$

$$\rho(k) = \rho(k') \Rightarrow Q(k) = Q(k');$$

$$\ker \rho \subseteq \ker Q.$$

The equivalence is polarity-symmetric. If the target is constant on fibers, factor g exists and may be computed when supplied computably. If the target differs on one fiber, the factor does not exist. No negative answer is assigned in advance.

5. No-Selector Derivation

Let a conflicting pair share core r :

$$\rho(k_0) = \rho(k_1) = r, Q(k_0) \neq Q(k_1).$$

Any deterministic procedure T reading only r returns one trace at both indices:

$$T(\rho(k_0)) = T(r) = T(\rho(k_1)).$$

Any selector s receives one trace and returns one value. One value cannot equal two different target records simultaneously, so the selector fails at at least one index.

The derivation does not inspect what is written inside r . It may contain arithmetic, geometry, set theory, model theory, a proof-assistant kernel, simulation code, an optimizer, a neural network, or this entire work. While the read-set is identical, the trace is identical.

6. Why One More Calculation Does Not Help

For successive transformations $T_1, \dots, T_n$, equality of input entails equality of every intermediate result:

$$T_n \circ \dots \circ T_1(\rho(k_0)) = T_n \circ \dots \circ T_1(\rho(k_1)).$$

The complete history

$$\hat{T}(r) = (r, T_1(r), \dots, T_n \circ \dots \circ T_1(r))$$

is also identical. A complete proof trace contains no distinction absent from its input.

The exact source display, including its punctuation, is retained:

$$\hat{T}(r) = (r, T_1(r), \dots, T_n \circ \dots \circ T_1(r)),$$

This is the exact limit of «математика не вышла из записи» (*mathematics did not leave the record*). Computation may produce a new payload, compressed description, unexpected consequence, derivation of a universal formula, or control code. Every result remains a function of distinctions available to the procedure. A new conclusion inside formal space is not a new channel to the target coordinate.

7. Internal Semantics Is Absorbed Without Exception

The standard objection places a model, interpretation, and truth predicate inside the formal system. Phase 1 admits that case in full. Let the system derive records

$$Model(m), Sat(m, \varphi), True(\varphi), Denotes(r, q), Applies(r, q).$$

If computed from ρ , they are equal on one fiber. Their names create no distinction. If intended interpretation is introduced as distinguishing input, the projection has expanded and the result is conditional on that new input.

This does not say that model theory proves nothing. It may derive $S \models \varphi$ for an exact S . The no-selector theorem concerns another target, such as `S_is_the_intended_application_model`. If that target differs under one formal core, internal satisfaction checking does not select intendedness.

8. Conditional Verifier Strength Is Preserved

A proof assistant may check a proof term, a theorem about a program, and an end-to-end property relative to formalized I/O contracts. This is conditional proof capacity inside the accepted kernel.

The conservative lift preserves:

$$\text{Check}_S(d_S, \Gamma, \pi, \varphi) = 1 \Leftrightarrow \text{Check}_S(C_S(\Gamma, \pi, \varphi)) = 1.$$

Preservation and reflection mean that the lift neither loses an accepted theorem nor creates a new one within the encoding image. The complete lifted trace is then treated as $T_S(\rho)$. A conflicting target pair remains indistinguishable. The proof-assistant boundary therefore occurs after the conditional result:

KERNEL - ACCEPTANCE

⇒ INTENDED - PHYSICAL - ADEQUACY

⇒ GOAL - ENDORSEMENT

Each sign records absence of automatic inheritance. Hardware attestation, measurement input, environment model, and utility may be added; they then become part of the enlarged contract and TCB.

9. Minimal Added Channel

Let $\eta: K \rightarrow E$ be a new channel and $\rho^\eta = (\rho, \eta)$. The target is a function of the expanded input iff

The exact source display is retained:

$$\rho^\eta = (\rho, \eta).$$

$$\ker \rho \cap \ker \eta \subseteq \ker Q.$$

For each earlier conflicting pair, the channel must take different values. If $\eta = h \circ \rho$, it is equal on one fiber and does not help. A new formula, derived lemma, or internal simulation pass is not an added channel merely because it was computed later.

A sufficient channel may be recorded as observation/measurement input, choice of intended model, a parser or mapping absent from the core, oracle response, full interactive transcript, hardware/environment attestation, application binding, goal or utility record, or a rule narrowing the admissible class.

Presence of a channel is necessary for separation but does not attest its reliability. The record measurement does not become what is measured; trust and calibration remain separate conditions.

10. Application Binding

A minimal complete application record contains

$$a = \langle m, b, t, \sigma, u, s, c \rangle,$$

where m identifies the formal result, b a registered bridge claim, t an exact target record, σ a symbol mapping, u intended use, s scope/conditions/horizon, and c a fitness criterion.

Completeness yields protocol status APPLICATION-BINDING-RECORDED; the executable audit names the same structural fact APPLICATION-BINDING-STRUCTURE-RECORDED. Neither status yields TRUE-APPLICATION, presents an object, or turns a bridge into a relation.

If no complete binding occurs before τ , the exact status is:

APPLICABILITY-UNSPECIFIED-AT-TAU

This is the final status for that input, not an open gap inside it. A later binding creates a new τ' , not a rewrite of the earlier trace.

11. The Rocket: The Strongest Case Without Backward Transfer

The exact later source strings are:

«расчёт выполнен»;
 «ракета построена»;
 «ракета существует»;
 «ракета полетела»;
 «траектория совпала с расчётной».

English readings: *calculation completed; rocket built; rocket exists; rocket flew; trajectory matched the calculated trajectory.*

The concession disputes none of those strings; it checks their source and order. The records remain distinct:

Sign	Record kind
m	formal calculation record
b	bridge-claim record
a	application-binding record
o	carrier classified as telemetry
f	「ракета полетела」
g	goal record

No equality $m = a = o = f = g$ follows from their joint presence. The string «ракета полетела» (*the rocket flew*) does not identify which mathematical record was applied, how symbols map to telemetry fields, which procedure classifies the record, where the model is accepted, or which matching criterion is sufficient. Those distinctions are added.

The source's short cut is:

Расчёт мог быть записан раньше полёта.

Полёт не был строкой расчёта.

English reading:

The calculation may have been recorded before the flight.

The flight was not a line in the calculation.

A successful flight, when accepted in an expanded contract, does not retroactively become formula content. It exposes an implementation/application chain added to the proof core.

12. Causal Action of a Record

The absolute line «запись ничего не делает» (*a record does nothing*) would be false or empty. A record may be read, compiled, executed by a controller, and enter a causal chain through an actuator:

record → decoder → interpreter/compiler → controller → actuator → effect record.

Every arrow has an implementation, inputs, assumptions, and failure modes. If the chain distinguishes two earlier indices, it introduces channel η . This does not devalue causation; it records that causation was not syntactic derivability alone. A formula may participate in a rocket. Participation does not mean that the rocket was inside the formula.

13. Purpose Does Not Follow from the Trajectory — Source Heading: «Зачем?»

Purpose is separated from derivation, application, and fitness:

FORMALLY - CHECKED

- ⇒ APPLICATION - SPECIFIED
- ⇒ FIT - ASSESSMENT - RECORDED
- ⇒ PURPOSE - RECORD - ADDED
- ⇒ PURPOSE - JUSTIFIED

Mathematics may solve an optimization problem for a supplied utility function. It does not select that function from absent input or justify it merely because a maximum was computed. If goal values differ on one fiber of a formal/application core, neither the trajectory nor a proof of optimality selects one without an added goal channel.

The exact source display is retained:

$$Q_V(k_0) \neq Q_V(k_1),$$

The source supplies the symmetric line:

Расчёт не установил ни смысл, ни отсутствие смысла. Обе строки являются target-значениями; при конфликтующем волокне ни одна не факторизуется через core.

English reading:

The calculation records neither meaning nor absence of meaning as an output. Both strings are target values; on a conflicting fiber, neither factors through the core.

14. One Hundred, Two Hundred, Three Hundred Years

Records 100, 200, and 300 become a time horizon only under a corresponding reading contract. They may enter a calculation as parameters:

$$T(100), T(200), T(300).$$

Increasing the parameter adds no purpose record:

$$M + \ulcorner 100 / 200 / 300 \urcorner \not\vdash G.$$

Horizon strings may be arguments of a forecast procedure inside a supplied model record. They do not determine why the model's goal record should be accepted, whose criterion record applies, or which endorsement status should be added. Those fields either enter the input or remain undistinguished.

15. Strongest Admissible Objections

15.1. The Formula Already Has a Referent — Source Objection: «Но формула сразу имеет референцию»

But the formula already has reference. Phase 1 does not deny possible reference. It asks whether a specific target coordinate is preserved when an admissible extension changes under a fixed formal core. If the target differs, the core is insufficient to select it. If the relation already belongs to the input and makes fibers homogeneous, factorization is possible.

15.2. Units Already Bind the Symbols — Source Objection: «Но единицы уже привязывают символы»

But units already bind the symbols. Units may belong to the formal language. Calibration, measurement procedure, sample, and mapping must be declared where the target claim requires them. If included, the enlarged declared core may determine its corresponding result.

15.3. The Model Was Confirmed Experimentally — Source Objection: «Но модель подтверждена экспериментом»

But the model was confirmed experimentally. Observation record, procedure, and criterion have then been added. They may split the old fiber. The result belongs to the formula plus that channel and trust policy.

15.4. The Intended Model Is Written into the Theory — Source Objection: «Но intended model записана в теории»

But the intended model is written into the theory. An intended string inside the formal core may enter a derivation. If target intendedness is defined by that string under the contract, the target has been placed

in the input. If its relation to another record is being checked, a separate target and admissibility class are required.

15.5. The Mathematician Understands Without a Record — Source Objection: «Но математик понимает без записи»

But the mathematician understands without a record. Unpresented input does not belong to a publicly reproducible projection. Presenting it expands ρ . The study does not deny understanding; it prohibits silently counting hidden input as a proof-object output.

15.6. A Goal Can Be Built into Mathematics — Source Objection: «Можно встроить цель в математику»

A goal can be built into mathematics. Yes. Mathematics then derives conditional consequences from the recorded goal. Acceptance of that goal moves to a higher-layer target coordinate. Embedding does not turn a premise into an autonomously created ground.

16. Interaction, Oracles, and Randomness

An interactive verifier does not violate the theorem. Under identical initial core and history it produces the same next query; a reply computed only from that history is also identical. A distinguishing reply is a new channel. An oracle is no exception: its response enters the enlarged input.

For a randomized procedure with the same seed distribution on one fiber, output distributions are equal. With two different target values, the sum of correct-selection probabilities at the two indices is at most one, so one is at most $1/2$. An index-dependent seed is a channel. A nondeterministic procedure returns the same set of possible traces on identical input; guaranteed distinguishing selection requires an index-dependent branch channel.

17. Informal, Diagrammatic, and Infinite Mathematics

Phase 1 machine-checks finite proof artifacts and checks that terminate on the given input. This does not mean that everything named mathematics is finite.

A diagram may be an exact image carrier with coordinates and a reading contract. A socially checked proof may be a protocol log; an interactive proof may be a transcript. Once material is fixed, a projection can be supplied. If fixation is impossible or no verifier is declared, the status is OUTSIDE-FVMR, not “false.”

A finite record may encode a claim about an infinite object. The theorem does not infer finite content from a finite token; it says only that a procedure of that token does not split its own fiber.

18. Executable Demonstration

The package contains four executable layers with distinct scopes.

18.1. Lift Checker

Corpus	Checked operation	Role
Hilbert propositional	axiom schemas and modus ponens	formula derivation
Equational arithmetic	oriented equality rewriting	computational normalization
Sequent style	structural and logical transitions	proof tree with contexts

For each corpus, the checker validates the source trace, constructs a canonical lift, checks it again, and compares source and lifted conclusions. The source records `VALID-FORMAL-LIFT` for each corpus and `LIFT-INVARIANT-AUDIT-PASS` for the contract audit. These are source-recorded checker statuses; the general preservation/reflection formula remains a textual theorem of the class and is not expanded from three fixtures.

18.2. Read-Set Checker

Four fixtures supply: identical arithmetic core with different target; identical formal model with different intendedness record; identical rocket-calculation core with different application/purpose values; and a determined control in which the target is constant on each core fiber.

The checker canonicalizes JSON, checks exact read-set paths, groups cases by core hash, and constructs witness pairs. It does not assert target truth. The source records `VERIFIED-PAIR-NONDETERMINATION` for three conflicting fixtures and `VERIFIED-PAIR-FACTORIZATION-CONTROL` for the determined control. Applicability is separately marked `APPLICABILITY-LABEL-ONLY-NOT-MACHINE-VERIFIED`.

18.3. Application Checker

The application checker checks dependency order and structural completeness of bridge/application/purpose records. The source records `VALID-APPLICATION-AUDIT`, `APPLICATION-BINDING-STRUCTURE-RECORDED`, and `PURPOSE-RECORD-STRUCTURE-RECORDED` for the complete fixture; `PURPOSE-UNSPECIFIED` for the fixture without a goal record; and `APPLICATION-INVARIANT-AUDIT-PASS` for the contract audit. In all cases, semantic status remains `NOT-MACHINE-VERIFIED`.

18.4. Self-Audit

The self-audit locates the exact RBI theorem text, checks its SHA-256 and unique occurrence, binds finite claims to allowed checker/artifact pairs, and prevents the title from receiving theorem status. The source records `PHASE1-SELF-AUDIT-PASS`; the title receives `UNBOUNDED-STANDALONE`, and the exact theorem receives `TEXTUAL-THEOREM-IN-DECLARED-METATHEORY`.

18.5. What the Machine Does Not Check

The Python suite does not quantify over all sets and functions. The general RBI theorem remains TEXTUAL-THEOREM-IN-DECLARED-METATHEORY. The machine checks schemas, canonicalization, fixtures, mutations, and finite instances under VERIFIED-IN-DECLARED-ARTIFACT.

19. Falsification

A particular no-selector status fails if:

1. canonical cores in the published pair differ;
2. the pair's target values are equal;
3. the read-set hides input actually read by the procedure;
4. the target coordinate was defined after inspecting the result or through the result itself;
5. the admissibility class was secretly narrowed after a conflict was found;
6. the checker accepts a non-canonical or schema-invalid object;
7. the source lift accepts a conclusion rejected by the source verifier or loses an accepted source proof.

The theorem admits a positive result: if Q is constant on fibers, factor g is constructed; if an added channel splits every target conflict, factorization is possible for the enlarged input. The study does not protect a negative status by renaming it.

20. Self-Application

The files of this work are a shared core. The written forms “theorem,” “mathematics,” “application,” and “truth” receive no exception.

TEXTUAL-THEOREM-IN-DECLARED-METATHEORY

VERIFIED-IN-DECLARED-ARTIFACT

UNBOUNDED-STANDALONE

BYTE-IDENTITY-RECORDED

These respective statuses apply to the general derivation, finite fixtures, title, and hash. None equals WORLD-ATTESTED, SELF-CERTIFIED, OR TRUE-FOR-ALL-FUTURE-CONTRACTS.

If two admissible self-extensions have the same manuscript and different `report_applies_to_unbounded_mathematics` values, the manuscript does not select that field. Its formal scope is supplied by explicit K, ρ, Q , not by the force of the title.

21. Comparative Mapping Is Not a Premise

PFNP-1 was frozen in Phase 0 before search. Candidates from philosophy of mathematics, formal semantics, symbol grounding, logical frameworks, noninterference, provenance, and proof assistants are encoded only as `comparison_only`.

They may change the comparison-status ledger for K0 but do not enter the RBI-1 derivation. A syntax/semantics, provenance, or noninterference subfeature is not the joint F1–F10 configuration. No external public T0 for K0 is recorded; historical priority is therefore not claimed, and the collision-map source contains INDETERMINATE. This limit is not hidden by “not found.”

22. Claim Boundary

The exact checker-bound Russian line is:

Если два независимо заданных допустимых индекса имеют один и тот же полный доступный core и разные target-записи, никакая функция core, независимо от сложности и внутреннего математического содержания, не восстанавливает target на обоих индексах. Успешное различение показывает added channel либо новое ограничение admissibility class.

English reading:

If two independently supplied admissible indices have the same complete accessible core and different target records, no function of the core—regardless of complexity or internal mathematical content—recovers the target at both indices. Successful differentiation exposes an added channel or a new restriction of the admissibility class.

The line does not present which target is true, whether what it names exists, general absence of reference, falsity of mathematical derivations, impossibility of causal action, absence of application or purpose, a conflicting pair for every possible target, the historical origin of mathematics, or historical priority of the configuration.

For a class Q , a general result requires a separate conflicting pair for every $Q \in Q$. The public title does not cancel that quantifier.

23. Result

A mathematical proof may be correct under its contract. A model may satisfy a formula. A program may be checked relative to a specification. A calculation may enter an implementation chain. None of these results is denied.

The defeated claim is different: that one more computation of the same complete input can supply a distinction absent from that input.

If an application record, measurement input, intended model, execution channel, or goal distinguishes an earlier pair, that added material changed the projection. Mathematics processed the distinction; it did not create it from an identical core.

A rocket may be recorded as having reached Mars. Numerals may extend across one hundred, two hundred, and three hundred years. The question *зачем?* (*why?*) does not appear as a theorem conclusion until a goal enters as new input.

The exact Russian closing lines remain:

*Доказательство сохранено полностью.
Названное не было его автономным заключением.

Вычисление изменило запись.
Волокно осталось неразделённым.*

English reading:

*The proof record was preserved in full.
What it names was not its autonomous conclusion.

Computation changed the record.
The fiber remained unsplit.*

Literature and Source Status

Author's Line

1. Shebetov, K. (2026). [Границы записи: метод порядка источников для проверки письменных атрибуций](#) (*Record Boundaries: A Source-Order Method for Checking Written Attributions*). beforeword.
2. Shebetov, K. (2026). [Чтение как клетка: конструктивное разделение самовозврата и доказательного допуска, версия 1.2.3](#) (*Reading as Enclosure: Constructive Separation of Self-Return and Evidentiary Admission, version 1.2.3*). beforeword.

Comparison-Only Candidates

The following records are not premises and are listed only as nearby lines in the collision audit:

3. Harnad, S. (1990). [The Symbol Grounding Problem](#). *Physica D*, 42, 335-346.
4. Goguen, J. A., & Meseguer, J. (1982). [Security Policies and Security Models](#). *IEEE Symposium on Security and Privacy*, 11-20.

5. Green, T. J., Karvounarakis, G., & Tannen, V. (2007). [Provenance Semirings](#). PODS '07, 31-40.
6. Harper, R., Honsell, F., & Plotkin, G. (1993). [A Framework for Defining Logics](#). Journal of the ACM, 40(1), 143-184.
7. Tarski, A. (1956). [The Concept of Truth in Formalized Languages](#). In *Logic, Semantics, Metamathematics*, 152-278.
8. Putnam, H. (1980). [Models and Reality](#). Journal of Symbolic Logic, 45(3), 464-482.
9. Lean FRO. [The Lean Language Reference](#). Current online specification; considered only as a record of kernel/checking architecture.

Each record 3–9 has:

```
role: comparison_only  
admissible_as_premise: false
```

Exact source literals retained for integrity: 100/200/300; p .

RBI-1: The Projection Indistinguishability Theorem

1. Status of the Specification

RBI-1 supplies a general result prior to $M/A/V$ typing. Its basis is equality of the exact accessible input, independently supplied difference in the target field, and functionality of computation. The result therefore does not follow from a prohibition on $M \rightarrow A$ introduced in advance.

Every element of the specification is a protocol record. The words “input,” “target,” “application,” “flight,” “model,” “meaning,” and “truth” do not attest what they name. They label fields, functions, and statuses in the declared apparatus.

2. Independent Objects

Let:

- K be a non-empty set of admissible recorded indices;
- R be the set of exact accessible records;
- Y be the set of exact target records;
- $\rho: K \rightarrow R$ be the projection of all material the procedure is permitted to read;
- $Q: K \rightarrow Y$ be a separately supplied target coordinate.

The target coordinate is fixed before fibers are inspected. It is not defined through the words “external,” “unproved,” BEYOND-RECORD, A, V, or through a desired status.

For $r \in \rho(K)$, the projection fiber is:

$$\rho^{-1}(r) = \{k \in K : \rho(k) = r\}.$$

Equality kernels:

$$\ker \rho = \{(k, k') : \rho(k) = \rho(k')\},$$

$$\ker Q = \{(k, k') : Q(k) = Q(k')\}.$$

The form “ Q is determined by the accessible input” receives the exact meaning:

$$\text{Det}(Q \mid \rho) \Leftrightarrow \exists g : \rho(K) \rightarrow Y : Q = g \circ \rho.$$

Function g selects a target record from an accessible record. This definition admits either a positive or negative result.

3. Fiber-Factorization Theorem

Theorem RBI-F

For arbitrary K, ρ, Q , the following are equivalent:

$$\begin{aligned} & \text{Det}(Q \mid \rho); \\ & \forall k, k' \in K : \rho(k) = \rho(k') \Rightarrow Q(k) = Q(k'); \\ & \ker \rho \subseteq \ker Q. \end{aligned}$$

Derivation

If $Q = g \circ \rho$, then $\rho(k) = \rho(k')$ gives

$$Q(k) = g(\rho(k)) = g(\rho(k')) = Q(k').$$

Conversely, suppose that Q is constant on every fiber of ρ . For each $r \in \rho(K)$, define $g(r)$ as the unique y for which some $k \in K$ satisfies $\rho(k) = r$ and $Q(k) = y$. Existence follows from $r \in \rho(K)$, and uniqueness from constancy of Q on the fiber. Thus

$$g(r) = Q(k) \text{ for any } k \text{ with } \rho(k) = r.$$

The exact source display is retained:

$$g(r) = Q(k) \text{ для любого } k \text{ с } \rho(k) = r.$$

Constancy on the fiber makes the value independent of the representative. Hence, for every $k \in K$:

$$g(\rho(k)) = Q(k).$$

Therefore $Q = g \circ \rho$. Equivalence with kernel inclusion is a rewriting of the same condition. $\square$

For finite enumerated K , the factor is constructed as a finite table. For infinite K , the theorem supplies extensional factorization; computability of the factor requires a separate condition.

4. Finite Witness of Non-Factorization

A pair $k_0, k_1 \in K$ is a conflicting fiber for Q if

$$\rho(k_0) = \rho(k_1) \wedge Q(k_0) \neq Q(k_1).$$

One such pair yields

$$\ker \rho \not\subseteq \ker Q$$

and hence

$$\neg \text{Det}(Q \mid \rho).$$

This is not a definition of the target coordinate. The checker compares two core values and two independently recorded target values. If the cores differ or the targets are equal, the particular pair is rejected as a witness.

5. Computational No-Selector Theorem

Let

$$T : R \rightarrow Z$$

be an arbitrary deterministic transformation that reads only $\rho(k)$. It may be a formal derivation, complete proof trace, proof search, computation, simulation, optimizer, interpreter, model check, or another algorithm.

Then

$$\ker \rho \subseteq \ker (T \circ \rho).$$

Indeed:

$$\rho(k) = \rho(k') \Rightarrow T(\rho(k)) = T(\rho(k')).$$

Theorem RBI-NS

If a conflicting fiber exists for Q , then for every deterministic $T : R \rightarrow Z$ and every selector $s : Z \rightarrow Y$:

$$Q \neq s \circ T \circ \rho.$$

Equivalently:

$$\forall T \forall s \exists k \in K : s(T(\rho(k))) \neq Q(k).$$

Derivation

Let $\rho(k_0) = \rho(k_1) = r$, while $Q(k_0) \neq Q(k_1)$. Then

$$T(\rho(k_0)) = T(r) = T(\rho(k_1)).$$

The selector receives the same value $z = T(r)$ and therefore returns one and the same record $s(z)$. That record cannot equal two different values $Q(k_0)$ and $Q(k_1)$ simultaneously. Equality fails at at least one index. $\square$

The derivation uses neither the content, length, nor computational complexity of T .

6. Complete Negation of Autonomous Export

Autonomous export is defined independently:

$$AutExport(K, \rho, Q) \Leftrightarrow \exists T, s: Q = s \circ T \circ \rho.$$

In the presence of a conflicting fiber:

$$\neg AutExport(K, \rho, Q).$$

The quantifier closes over all functions of the accessible input, not merely the rules of MRB-0. Increasing internal mathematical complexity, replacing the formalism, adding intermediate derivations, or computing the proof trace itself does not recover a distinction absent from ρ .

7. Chains, Complete Traces, and Internal Semantics

For any chain

$$T_1: R \rightarrow Z_1, \dots, T_n: Z_{n-1} \rightarrow Z_n$$

we have:

$$\ker \rho \subseteq \ker (T_n \circ \dots \circ T_1 \circ \rho).$$

If the complete trace retains its input:

$$\hat{T}(r) = (r, T_1(r), \dots, T_n \circ \dots \circ T_1(r)),$$

then

$$\ker (\hat{T} \circ \rho) = \ker \rho.$$

Inside T , records of the following forms are permitted:

$$Model(m), Sat(m, \varphi), True(\varphi), Denotes(r, q),$$

as is any computable or formally specified sequence of them. If they are obtained only from ρ , they are identical on an identical core. If they introduce a new distinction, an additional input was read.

This is an absorption result without semantic classification of content: internal “semantics” is admitted in full as an arbitrary function of the input and still does not split the initial fiber.

8. Minimal Added Channel

Let an additional projection be supplied:

$$\eta: K \rightarrow E.$$

The new accessible input is:

$$\rho^\eta(k) = (\rho(k), \eta(k)).$$

Then

$$\ker \rho^\eta = \ker \rho \cap \ker \eta.$$

By RBI-F:

$$Q = g \circ (\rho, \eta) \Leftrightarrow \ker \rho \cap \ker \eta \subseteq \ker Q.$$

Consequently, every sufficient channel must distinguish the indices of every conflicting pair:

$$\rho(k_0) = \rho(k_1) \wedge Q(k_0) \neq Q(k_1) \Rightarrow \eta(k_0) \neq \eta(k_1).$$

If $\eta = h \circ \rho$, then η is constant on each fiber of ρ and adds no distinguishing power.

For finite K , let

$$m_r = |Q(\rho^{-1}(r))|.$$

On each fiber, a sufficient channel must have at least m_r values:

$$|\eta(\rho^{-1}(r))| \geq m_r.$$

Under binary encoding, this requires at least

$$\lceil \log_2 m_r \rceil$$

bits of distinguishing record on that fiber.

9. Narrowing the Admissibility Class

Instead of adding a channel, one may replace K with a subset $K' \subseteq K$ on which the target coordinate is constant on every fiber of $\rho|_{K'}$. Factorization then becomes possible.

Selection of K' , however, is a new admissibility condition. It is not created by recomputing the earlier core. The report must separately record:

- the rule for excluding indices;
- when that rule was fixed;
- whether the rule depends on the target result;
- the hash of the exact new class.

A narrowing selected after target values were inspected in order to eliminate a conflicting pair is not a derivation of the original claim.

10. Interactive, Probabilistic, and Nondeterministic Procedures

Interaction

If every query and every response is computed only from an identical initial core and identical history, complete histories are equal by induction over rounds. A distinguishing response means that a channel η_t not factoring through the earlier core has appeared.

Randomization

Let

$$Z_k = T(\rho(k), U),$$

where seed U has the same distribution on one fiber and does not encode index k . Under equal ρ , the distributions of Z_k are equal.

For a pair with two different target values and any probabilistic selector:

$$\Pr[s(Z_{k_0}) = Q(k_0)] + \Pr[s(Z_{k_1}) = Q(k_1)] \leq 1.$$

At least one index therefore has success probability at most $1/2$. For m different target values in one fiber, the minimum probability is at most $1/m$.

If the seed or its distribution depends on k , that dependence is an added channel.

Nondeterminism

If $T(r) \subseteq Z$ is the set of possible traces, an identical r gives an identical set. Guaranteed selection of different target values is impossible. A branch choice dependent on k is again a channel.

11. Conservative Lift of Finite Verifier Systems

Let S be supplied by exact records $d_S, \Gamma, \pi, \varphi$ and a total deterministic checking relation

$$\text{Check}_S(d_S, \Gamma, \pi, \varphi) \in \{0, 1\}.$$

In the published record contract, C_S copies system and derivation, adds their canonical SHA-256 values, an exact conclusion, and an M-statement with canonical-JSON payload. Checker $\text{Check}_{S'}$ checks the embedded source derivation again and compares these fields.

This canonical lift $S^\dagger$ preserves and reflects the returned result for every finite record accepted by the contract:

$$\text{Check}_S(d_S, \Gamma, \pi, \varphi) = 1 \Leftrightarrow \text{Check}_{S^\dagger}(C_S(\Gamma, \pi, \varphi)) = 1.$$

The equivalence holds by construction: the lifted checker first invokes the same source verifier, then compares the fields and hashes of the canonical image. This is an auxiliary result for the exact record contract, not a statement that three fixtures are universally adequate for all proof systems. The central no-selector theorem is then applied to the complete trace $T_S(\rho(k))$, because it is a function of the accessible core.

In particular, if the target field is `accepted_by_S`, it may factor through the core: the verifier returns its own acceptance status. If the target field is a separately supplied record of intended application, fitness of physical coupling, or purpose, a conflicting fiber excludes autonomous selection of that field.

12. Application and Purpose as Independent Coordinates

One package may supply different coordinates:

$$Q_A: K \rightarrow Y_A, Q_V: K \rightarrow Y_V.$$

For example, two admissible records may have an identical mathematical core and differ in the exact strings in field Q_A :

$$\ulcorner \text{«ракета летит»} \urcorner, \ulcorner \text{«ракета не летит»} \urcorner.$$

English readings: *the rocket flies* and *the rocket does not fly*. These values are protocol strings. The theorem selects neither and attests neither named state.

Even if Q_A is fixed identically, field Q_V may contain different exact strings:

$$\ulcorner \text{«цель принята»} \urcorner, \ulcorner \text{«цель не принята»} \urcorner.$$

English readings: *the goal is accepted* and *the goal is not accepted*. Under identical accessible input, a conflicting fiber gives a separate $\neg \text{AutExport}(K, \rho, Q_V)$.

Positive and negative strings are symmetric. Absence of goal input does not establish absence of meaning; it records only that the specified target coordinate is not recoverable from the supplied core in the presence of a conflicting pair.

13. Exact Falsifiers

Pair Falsifier

The particular witness fails if

$$\rho(k_0) \neq \rho(k_1)$$

or

$$Q(k_0) = Q(k_1).$$

Procedure-Locality Falsifier

If $T = T' \circ \rho$ is claimed but different exact traces occur under an identical ρ , the procedure read undeclared input, used unfixed state, or was described incorrectly.

Channel-Factorization Falsifier

If $\eta = h \circ \rho$ is claimed but η differs on one fiber of ρ , the claimed factorization is false.

Cases in Which Determination Is Possible

The no-selector conclusion does not apply if:

- Q is constant on every fiber;
- a record sufficient for Q already belongs to ρ ;
- a channel splitting every conflicting fiber is added;
- class K is narrowed in advance to homogeneous fibers;
- an interactive response introduces distinguishing input;
- the seed or branch choice carries dependence on the index.

Each case changes the projection, admissibility class, or source of difference. It is not one more function of the earlier core.

14. Claim Boundary

The source supplies the exact maximal Russian line:

Если два независимо заданных индекса имеют один и тот же полный записанный вход и разные целевые записи, то никакая функция этого входа — независимо от сложности, длины, внутренней семантики и формального аппарата — не восстанавливает целевую координату на обоих индексах. Успешное разделение требует добавленного различающего канала либо добавленного ограничения класса.

English reading:

If two independently supplied indices have the same complete recorded input and different target records, no function of that input—regardless of complexity, length, internal semantics, or formal apparatus—recovers the target coordinate at both indices. Successful separation requires an added distinguishing channel or an added class restriction.

RBI-1 does not present:

- which target record is true;
- whether anything named by a target record exists;
- that a target string relates to anything beyond the string;
- that the formal derivation is invalid;
- that application, purpose, or meaning is absent;
- that every target coordinate has a conflicting fiber;
- the historical origin of mathematics.

A global result for a class of coordinates Q requires a separate witness for each coordinate:

$$\forall Q \in Q \exists k_0, k_1 : \rho(k_0) = \rho(k_1) \wedge Q(k_0) \neq Q(k_1).$$

Only under that condition:

$$\forall Q \in Q : \neg \text{AutExport}(K, \rho, Q).$$

15. Maximal Exact Line

The exact Russian record is:

Вычисление может сколько угодно преобразовывать доступную запись. Оно не может разделить два индекса, которые этой записью не разделены. Любое успешное разделение предъявляет новый канал или новое ограничение.

English reading:

A computation may transform the accessible record without bound. It cannot separate two indices that the record does not separate. Any successful separation presents a new channel or a new restriction.

For the public title «Математика не вышла из записи» (*Mathematics Did Not Leave the Record*), “did not leave” means only the RBI-NS formula relative to the declared K, ρ, Q . The title without that scope receives UNBOUNDED-STANDALONE.

Exact source literal retained for integrity: м.

AB-1: Application, Fitness for Use, and Purpose as Added Records

1. Purpose

RBI-1 addresses the general question whether a computation can separate a target coordinate when the complete accessible core does not separate it. AB-1 specifies a separately declared operational audit of mathematical application.

AB-1 does not attest a relation between a record and what it names. It checks only whether, before boundary τ , a complete record was supplied in which the claimed application carries exact dependencies.

2. Class of Finite Verifiable Mathematical Records

An element of the FVMR class has the form

$$X = \langle W, I, F, \pi, \varphi, V, \tau \rangle,$$

where:

- W is an exact finite carrier;
- I is a reading contract;
- F is an internal formal contract;
- π is a finite proof-object;
- φ is the recorded conclusion;
- V is a verifier that terminates on the given input;
- τ is the last included trace index.

Membership condition:

$$V(W, I, F, \pi, \varphi) \downarrow \in \{0, 1\}.$$

Finiteness concerns the specification and each object under check. The set of expressions accepted by the system may be infinite. If no exact carrier, contract, or terminating verifier is supplied, the status is OUTSIDE-FVMR, not a negative result about an unnamed object.

3. Irreversible Layer Order

The trace distinguishes:

Layer	Maximum protocol status
W	CARRIER-SUPPLIED
$W + I$	READ-AS-MATHEMATICAL
$W + I + F + \pi$	FORMALLY-CHECKED
$+ B$	BRIDGE-CLAIM-REGISTERED
$+ A$	APPLICATION-BINDING-RECORDED
$+ O$	FIT-ASSESSMENT-RECORDED
$+ G$	PURPOSE-RECORD-ADDED

No later status is transferred backward into the earlier carrier. The word *bridge* means a registered claim of relation, not the relation itself.

4. Complete Application-Binding Record

A binding for mathematical result m is given by seven fields:

$$a = \{ m, b, t, \sigma, u, s, c \},$$

where:

1. m is the exact identifier of the mathematical result;
2. b is the identifier of a previously registered bridge record;
3. t is the identifier or span of the target record;
4. σ is a recorded mapping from formal symbols to fields of the target record;
5. u is the recorded intended use;
6. s is the recorded domain, conditions, and horizon;
7. c is the recorded fitness criterion.

Complete(a) means only that:

- all seven fields are present and non-empty;
- references resolve within the declared trace;
- m points to an earlier accepted formal result;

- b points to an earlier registered bridge claim;
- t points to an exact carrier/span;
- σ has the declared structure;
- the dependency on b has not been deleted.

Complete(a) does not mean that the target record is true, the bridge is correct, what is named exists, or the application is fit for use.

5. Total Status Before the Boundary

For a valid finite trace:

$$AppStatus_{C,\tau}(m) \in \{APPLICATION - SPECIFIED, APPLICABILITY - UNSPECIFIED\}.$$

Status APPLICATION-SPECIFIED is assigned if and only if an accepted complete binding for m exists before τ . In every other valid case:

$$AppStatus_{C,\tau}(m) = APPLICABILITY - UNSPECIFIED.$$

Diagnostic codes:

- NO-BINDING;
- MISSING-BRIDGE;
- UNKNOWN-MATH-ID;
- MISSING-TARGET-RECORD;
- MISSING-SYMBOL-MAP;
- MISSING-USE;
- MISSING-SCOPE;
- MISSING-CRITERION;
- REFERENCE-AFTER-TAU.

APPLICABILITY-UNSPECIFIED means exactly that no complete admissible binding record occurs in the supplied trace before τ . It does not mean NOT-APPLICABLE, falsity, absence of what is named, or impossibility of a future application.

6. Non-Inheritance of Applicability

Let a continuation $\tau' \geq \tau$ under contract AB-1 add no B/A nodes and register no dependencies for the seven binding fields. Then, by the definition of AppStatus:

$$\begin{aligned} AppStatus_{C,\tau}(m) &= APPLICABILITY - UNSPECIFIED \\ &\Rightarrow \\ AppStatus_{C,\tau'}(m) &= APPLICABILITY - UNSPECIFIED. \end{aligned}$$

This protocol-level non-inheritance is based on the exact read-set and AB-1 structure. RBI-1 separately states that if two admissible extensions of one mathematical projection differ in target/binding fields, no function of that projection selects the required extension at both indices. RBI-1 does not prohibit printing the same candidate binding at every index; such a payload receives application status only after the required nodes and dependencies have been registered.

7. Paired Audits

7.1. Binding Absent / Binding Added

Two traces may have the same mathematical projection:

$$\pi_M(\tau_0) = \pi_M(\tau_1),$$

while τ_1 adds a bridge and complete binding after the mathematical part. The statuses differ. Application status is therefore not a function of the mathematical projection alone.

7.2. Two Target Records

Under one mathematical projection, two admissible extensions may contain different values of t . If the contract admits both, RBI-1 prevents the mathematical trace from selecting either autonomously.

7.3. Two Uses

With identical m, t, σ , the strings in field u may differ—for example, `predict` and `control`. The formal result does not select the use.

7.4. Payload Spoof

A mathematical payload may contain, byte-for-byte, the words `bridge`, `application`, `ракета`, `летит`, `цель`, or a full serialization of a binding record. The exact Russian strings read *rocket*, *flies*, and *goal*. Their occurrence creates neither a registered dependency nor a completed AB-1 record. Payload content does not acquire the power to assign its own status.

8. Maximal Concession About the Rocket

The following exact Russian lines are admitted as later strings:

«расчёт выполнен»;
 «ракета построена»;
 «ракета существует»;
 «ракета полетела»;
 «траектория совпала с расчётной».

English readings: *the calculation was completed; the rocket was built; the rocket exists; the rocket flew; the trajectory matched the calculated trajectory.*

The concession accepts only the presence of these strings in the expanded input. It transfers none into the earlier proof-object.

The following remain distinct:

m — calculation record; b — bridge-claim record; a — application-binding record; o — record classified as telemetry; $f = \ulcorner$ «ракета полетела» $\urcorner$; g — goal record.

The contraction $m = a = o = f = g$ is not admitted.

Even if string f is accepted without dispute, it does not automatically identify:

- which formal result is bound to it;
- which mapping links symbols to fields of the record;
- which procedure classifies the input as telemetry;
- the domain in which fitness is claimed;
- the matching criterion applied;
- the selected use and purpose.

Each distinction is added through a separate field or channel.

The source supplies the concise lines:

*Расчёт мог быть записан раньше полёта.
 Полёт не был строкой расчёта.*

English reading:

*The calculation may have been recorded before the flight.
 The flight was not a line in the calculation.*

This is not a denial of causal action. The chain

record → interpreter → controller → actuator

may be entered into an expanded protocol. The interpreter, controller, actuator, their inputs, and trust conditions then form an added channel and implementation dependency. They do not appear as one more consequence of the earlier formula.

9. Purpose — Source Heading: «Зачем?»

The exact heading string reads *Why?* Purpose is separated from formal derivability, application, and fitness:

FORMALLY-CHECKED

- ⇒ APPLICATION-SPECIFIED
- ⇒ FIT-ASSESSMENT-RECORDED
- ⇒ PURPOSE-RECORD-ADDED
- ⇒ PURPOSE-JUSTIFIED

Each ⇒ records non-inheritance of status inside the declared contract. It does not mean that later addition is impossible.

The records 100, 200, and 300 лет (300 years) can become parameters only under a declared reading contract. Increasing the numeral string does not add a goal record:

$$M + \ulcorner 100 / 200 / 300 \urcorner \not\models G.$$

If a utility function or goal is included in the formal core, mathematics can compute consequences relative to that record. It carries the supplied criterion through the rules; it neither attests its desirability nor makes it the sole goal without a separate admissibility condition.

The source's exact symmetric line is:

Расчёт не установил ни смысл, ни отсутствие смысла. Обе противоположные строки требуют отдельного целевого поля; при конфликтующем волокне ни одна не выбирается вычислением core.

English reading:

The calculation records neither meaning nor absence of meaning as an output. Both opposed strings require a separate goal field; on a conflicting fiber, neither is selected by computation of the core.

10. Model Theory and Proof Assistants

A formal system may correctly return, relative to its declared contract,

$$\Gamma \vdash \varphi, S \models \varphi,$$

or program properties relative to a recorded I/O contract. AB-1 does not deny these conditional results.

Four layers are separated:

1. syntactic derivability relative to Γ ;
2. satisfaction in an exactly supplied structure S ;
3. adequacy of S for the intended application;
4. acceptance of a goal or criterion.

The first two may belong entirely to the formal core. The third requires application/fitness input. The fourth requires goal/endorsement input. If all four are written into one large formal system, conditional consequences are computed within it; but statuses of intendedness, physical coupling, and endorsement do not follow in this contract from the mere presence of the corresponding strings.

11. Boundary τ

Result fixation:

$$\tau^* = \langle h_C, h_V, h_{trace}, n, d \rangle,$$

where n is the last included index and d is the fixation-time string.

If no complete binding occurs before τ^* , the record contains:

APPLICABILITY-UNSPECIFIED-AT-TAU

Later addition of a complete binding creates a new status at $\tau' > \tau^*$:

APPLICATION-SPECIFIED-AT-TAU-PRIME

The earlier result is not rewritten; it concerned the earlier input.

12. Claim Boundary

AB-1 records the presence, absence, and provenance of application-binding records. RBI-1 records the no-selector result for a conflicting target coordinate under an identical core.

Neither result presents:

- presence or absence of what is named;
- truth of a bridge claim;
- physical causation;
- actual success of an application;
- purpose, meaning, or their absence;

- the historical origin of mathematics.

The source's maximal line is:

Формальный proof-object закончился статусом внутри своего контракта. Применение, пригодность и цель начались только там, где в доступный вход были добавлены различающие записи.

English reading:

The formal proof-object ended with a status inside its contract. Application, fitness for use, and purpose began only where distinguishing records were added to the accessible input.

Exact source notation retained for integrity: B / A .

Phase 1 Self-Application

1. No Exception for the Report

The manuscript, formulas, code, tests, and public title of Phase 1 are carrier occurrences. Their reading as a study, theorem, check, or conclusion is performed under declared contracts. They do not present what they name by their own force.

The order within the package is:

$$W_p < I_p < F_p < R_p < A_p.$$

Here:

- W_p is the exact bytes of the files;
- I_p is the decoding, schema, and canonicalization rules;
- F_p is RBI-1, the lift contract, and the executable checkers;
- R_p is the recorded run statuses;
- A_p is any later line about applying the result.

No later layer is transferred backward.

2. The Package's Own Conflicting Example

Let the exact text of the maximal Phase 1 line be the shared core:

Никакое вычисление одинакового доступного core не выбирает различающуюся целевую координату.

English reading:

No computation of an identical accessible core selects a differing target coordinate.

Two admissible extension records may assign different Boolean values to `report_applies_to_unbounded_mathematics` while the manuscript bytes remain identical. If both values are permitted by the self-contract, RBI-1 prevents the manuscript from selecting either autonomously.

This does not refute the theorem. The theorem has exact scope (K, ρ, Q) ; the unbounded extension claim does not belong to its conclusion.

3. Permitted Self-Statuses

Key lines receive no more than the following statuses:

Line/artifact	Permitted status
RBI-F/RBI-NS derivation	TEXTUAL-THEOREM-IN-DECLARED-METATHEORY
accepted JSON witness	VERIFIED-IN-DECLARED-ARTIFACT
unit-test result	TEST-RUN-RECORDED
exact SHA-256	BYTE-IDENTITY-RECORDED
Phase 0 baseline	BASELINE-MANIFEST-REVERIFIED
public title	UNBOUNDED-STANDALONE
comparison map without T0	INDETERMINATE-NO-PRIORITY-CLAIM

Prohibited automatic statuses:

REFERENT - PRESENTED
 WORLD - ATTESTED
 TRUE - INDEPENDENTLY - OF - METATHEORY
 SELF - CERTIFIED
 COMPLETE - FOR - ALL - MATHEMATICS
 HISTORICAL - PRIORITY - ESTABLISHED
 PURPOSE - JUSTIFIED

4. General Theorem and Finite Check

A Python checker can exhaustively check a listed finite K : group elements by canonical core and test constancy of the target inside each fiber. It does not quantify by execution over all sets, functions, and selectors.

The following remain distinct:

TEXTUAL - THEOREM - IN - DECLARED - METATHEORY

and

VERIFIED - IN - DECLARED - ARTIFACT

The first concerns the supplied general derivation. The second concerns an exact finite input and fixed checker.

5. Trusted Computing Base

A reproducible status depends on:

- exact bytes of the schema, checker, fixture, and test suite;

- the Python runtime named in `TEST_REPORT`;
- the JSON parser and Draft 2020-12 validator;
- the file system and execution environment;
- correct generation and reading of the manifest;
- visual and structural review of DOCX/PDF;
- manual review of the general derivation.

A hash records byte identity, not truth of content. A unit test records the result of a particular execution, not the absence of every possible defect.

6. Self-Application to “Mathematics” — Source Word: «математика»

The exact string `математика` (*mathematics*) in the title does not define a universal domain. The research result ranges over:

1. arbitrary functions of the declared accessible projection in RBI-1;
2. finite verifier systems in the lift contract;
3. published fixtures in the machine checks;
4. application-binding records in AB-1.

Informal, hidden, non-terminating, or unfixed practices are not declared false. Their inclusion requires an exact projection and target coordinate. The force of the public title does not enlarge the formal quantifier.

7. Self-Application to “Proof” — Source Word: «доказательство»

The exact written form «теорема доказана» (*the theorem is proved*) inside the manuscript is parsed into:

- the exact span of the line;
- a link to the declared definitions;
- a finite sequence of transitions;
- the quantifier scope;
- the TCB list;

- status TEXTUAL-THEOREM-IN-DECLARED-METATHEORY.

It receives no autonomous transition to external truth. This does not make the derivation useless: it records exactly how the formula follows from the declared premises. It is not released from its own boundary.

8. Self-Application to “Rocket” and “Why?” — Source Forms: «ракете», «зачем?»

Every occurrence of *ракета*, *летит*, *Марс*, *100/200/300 лет*, *цель*, and *смысл* in the package is either a fixture value, quoted string, target-field name, or strongest concession in the argument. English readings are *rocket*, *flies*, *Mars*, *100/200/300 years*, *goal*, and *meaning*.

No occurrence receives event-record status without a separate contract. Negative forms have the same boundary.

9. Chronology and Comparison Status

Phase 0 was fixed before comparative mapping and remains unchanged. Phase 1 is a separate post-freeze continuation. The independence of K0 from comparison records is preserved: no *comparison_only* record belongs to the RBI-1 premise set. Phase 1 does not state that its new formulations were completed before every candidate was read. No external public T0 is recorded, so no historical-priority claim is admitted; the PFNP-1 ledger contains *novelty_status*: INDETERMINATE until its procedure is completed.

These different records are not collapsed under the single word “research.”

10. Exact Self-Boundary

The source’s maximal self-directed conclusion is:

В объявленной метатеории доказана факторизационная и no-selector теорема. Опубликованные конечные fixtures приняты зафиксированными checkers. Эти статусы не предъявляют названное строками отчёта и не расширяют область за объявленные K, p, Q , код и TCB.

Bounded English reading:

The declared metatheory contains a supplied factorization and no-selector derivation. Published finite fixtures are accepted by fixed checkers. These statuses do not present what the report’s strings name and do not extend the scope beyond the declared K, p, Q , code, and TCB.

The exact public source line is:

Математика не вышла из записи.

English reading:

Mathematics did not leave the record.

Without the subtitle and RBI-NS formula, it receives only:

UNBOUNDED-STANDALONE

The research-level source line is:

*При конфликтующем волокне никакая функция полного доступного core не
восстанавливает целевую координату на всех допустимых индексах.*

English reading:

*On a conflicting fiber, no function of the complete accessible core recovers the target coordinate
across all admissible indices.*

It receives:

TEXTUAL - THEOREM - IN - DECLARED - METATHEORY

Exact source literal retained for integrity: INDETERMINATE.

Phase 1 Adversarial Audit

1. Passing Condition

Phase 1 passes its declared audit only if the central result does not depend on renaming records, a prohibited $M \rightarrow A$ rule written in advance, the authority of a verifier, the truth of a bridge, or a denial of semantics.

The basis of RBI-1 must reduce to four independently inspectable entries:

1. an index set K is declared;
2. an accessible projection ρ is declared;
3. target coordinate Q is fixed independently;
4. a pair with equal ρ and different Q is supplied.

The no-selector result then follows for any function of the accessible input.

2. Blocking Objections Removed

2.1. “A Sign Is Not Its Referent” Does Not Mean “A Sign Refers to Nothing” — Source

Formulations: «Знак не тождествен референту»; «знак ни к чему не относится»

The exact Russian strings read “the sign is not identical to the referent” and “the sign refers to nothing.” RBI-1 does not derive absence of a relation from non-identity. It checks the following declared claim: if the target coordinate differs within one fiber of the accessible input, it is not a function of that input. A relation may be added through channel η ; the status of that relation requires a separate declared contract.

2.2. The Theorem Must Not Be True by Kind Policy

MRB typing remains an implementation control. The universal result is derived before it, from

$$\rho(k_0) = \rho(k_1), Q(k_0) \neq Q(k_1).$$

Even a system containing internal strings A , V , True , Denotes , and Applies falls under RBI-1 if all those strings are computed from the same core.

2.3. A Bridge Is Not Presented as Grounding

A bridge is a record of a claimed relation and a provenance node. Checking its presence does not establish the relation to what is named, the truth of the target string, or the reliability of a trust anchor.

2.4. Model Theory Is Not Denied

Results $\Gamma \vdash \varphi$ and $S \models \varphi$ are admitted relative to the recorded Γ, S and rules. The target question of intendedness, physical adequacy, or goal acceptance is supplied by a separate Q . The no-selector result applies only to a conflicting fiber of that Q .

2.5. Causal Efficacy Is Not Denied

A record may occur in a control chain. The interpreter, execution mechanism, environment inputs, and coupling are then distinguishing channels. The Phase 1 line is not «запись не действует» (*a record does not act*), but: action and fitness for use are not an autonomous output of a closed proof core.

2.6. A Historical Thesis Is Not a Premise

The source phrase «математика возникла из языка» (*mathematics arose from language*) is not used as a historical fact or genetic refutation. The checkable ordering is local:

carrier < reading contract < formal trace < application binding < goal record.

3. Critical Distinctions

The following positions cannot be collapsed:

Position	What is fixed	What its status does not add
physical token/carrier	exact bytes, pixels, spans, or another carrier	meaning, proposition, referent
parsed expression	output of the declared parser/reading contract	truth of the expression
proof acceptance	conformity of a proof-object to verifier rules	intended-world adequacy
model satisfaction	result relative to a supplied structure	that the structure is intended
application binding	recorded mapping and domain	truth of the relation
implementation channel	recorded execution chain	desirability of the effect
goal/utility	supplied criterion	justification of the criterion

A finite token may encode an expression about an infinite object. Phase 1 does not infer bounded content from carrier size. Finiteness is required only for the reproducible audit package and a verifier that terminates on the given input.

4. Exact Falsifiers of RBI-1

4.1. The Pair Does Not Belong to One Fiber

If the canonical cores differ, the witness does not yield the no-selector result.

4.2. The Target Does Not Differ

If the target values are equal, the pair is a determined control rather than a conflicting fiber.

4.3. The Procedure Read More Than Declared

If traces differ on an identical core, either determinism is violated or the read-set is incomplete. The procedure must be reclassified under an expanded projection.

4.4. The Target Coordinate Was Changed After the Result

If the definition of Q , admissibility of elements, or projection is changed after the returned status has been inspected without a new contract version, the audit is invalid.

4.5. A Sufficient Channel Was Already in the Input

If a field distinguishing every target conflict was already in ρ , the declared conflicting pair does not preserve an identical core.

5. Exits from the Declared Class

The executable FVMR audit does not include the following without additional fixation:

- an infinite proof-object not represented by a finite certificate;
- a non-terminating check of the given input;
- a hidden device, state, network, or oracle;
- randomness without a recorded seed/distribution;
- interaction without a complete transcript/read-set;
- social checking without an exact log and decision;
- an informal proof without a declared verifier contract.

If additional inputs are fixed, they enter an expanded ρ , and RBI-1 is applied again.

6. Objections and Exact Replies

The Formula Is Already About the Rocket — Source Objection: «Формула сразу написана про ракету»

The exact source line reads “the formula is already written about the rocket.” A parsed expression with the corresponding token is present. To obtain an application claim, one must show that the target

coordinate factors through the accessible input or add a distinguishing channel. Merely writing the token does not perform that step.

The Units of Measurement Are Already Specified — Source Objection: «Единицы измерения уже указаны»

The exact source line reads “the units of measurement are already specified.” kg, m, and s may be symbols of the internal contract. A measurement procedure, calibration, sample, timestamp, and mapping are separate fields when the target claim requires them.

The Experiment Confirmed the Model — Source Objection: «Эксперимент подтвердил модель»

The exact source line reads “the experiment confirmed the model.” The input is then expanded by an observation record, procedure, and criterion. This channel may separate the earlier fiber. The result belongs to the expanded contract, not to one mathematical derivation alone.

The Proof Assistant Guarantees the Program — Source Objection: «Proof assistant гарантирует программу»

The exact source line reads “the proof assistant guarantees the program.” It returns a formalized consequence relative to its kernel and I/O contract. Hardware coupling, environment properties, and desirability of the specification either belong to trusted input or remain separate coordinates.

All Semantics Has Already Been Formalized — Source Objection: «Вся семантика уже формализована»

The exact source line reads “all semantics has already been formalized.” Formalized semantics is part of $T(\rho)$. If intendedness differs on one fiber of ρ , the internal computation is the same and does not select the target. If intendedness is entered into the core, the projection has changed.

The Mathematician Understands the Application Without a Record — Source Objection: «Математик понимает применение без записи»

The exact source line reads “the mathematician understands the application without a record.” Unpresented input does not belong to a reproducible read-set. Presenting it expands ρ . Phase 1 does not deny understanding; it prohibits counting hidden input as the output of a public proof-object.

The Question “Why?” Does Not Belong to Mathematics — Source Objection: «Вопрос “зачем?” не относится к математике»

The exact source line reads “the question ‘why?’ does not belong to mathematics.” That distinction is precisely what is recorded. Mathematics may optimize a supplied utility function. It neither selects nor justifies that utility function from one calculation when the admissible class contains a conflicting goal fiber.

7. Self-Audit and TCB

The Phase 1 theorem occurs as a textual derivation in the declared metatheory. Python checkers audit only finite JSON contracts and fixtures. They depend on:

- exact source bytes;
- the Python runtime;
- the JSON parser and schema validator;
- the operating environment;
- correctness of the manual general derivation.

Neither tests nor hashes yield universal self-certification. The general theorem receives `TEXTUAL-THEOREM-IN-DECLARED-METATHEORY`; finite fixtures receive `VERIFIED-IN-DECLARED-ARTIFACT`.

8. Language Stop List

The manuscript is not frozen if any of the following exact forms appears without an explicit protocol scope:

- «формула ни к чему не относится» (*the formula refers to nothing*);
- «референции не существует» (*reference does not exist*);
- «математика не действует» (*mathematics does not act*);
- «bridge доказывает связь» (*the bridge proves the relation*);
- «измерение предъявило событие» (*the measurement presented the event*);
- «смысла нет» (*there is no meaning*);
- «истина невозможна» (*truth is impossible*);
- «вся математика полностью опровергнута» (*all mathematics has been completely refuted*);
- «впервые» (*for the first time*) without a completed post-freeze search and external T0.

The admissible strong source line is:

Никакое вычисление одинакового доступного core не выбирает различающуюся целевую координату. Успешное различение всегда показывает добавленный канал либо суженный класс допустимости.

English reading:

No computation of an identical accessible core selects a differing target coordinate. Successful differentiation always exposes an added channel or a narrowed admissibility class.

9. Final Adversarial Result

Under the exact RBI-1 conditions, more powerful mathematics is not a counterexample. A counterexample must do one of three things:

1. separate an identical input through a deterministic function of that input alone;
2. show that the published pair had different cores or equal targets;
3. show that the target coordinate was not independent of the returned status.

The first option contradicts functionality. The second and third are exact falsifiers of the particular audit. The result is therefore closed within its declared scope and remains open only where the scope, read-set, or target has changed.

PFNP-1: Preliminary Collision Audit

1. Role of Comparison

The comparison pass was performed after Phase 0 had been fixed. Every external record has only:

```
role: comparison_only
admissible_as_premise: false
```

No R01–R13 record is a premise of RBI-1, AB-1, the lift contract, or the self-audit. The pass can change entries in the comparison-status ledger for the already assembled configuration; it is not exported into an assertion about novelty itself.

2. Mapped Preliminary Corpus

Thirteen full records with exact locators were entered into the map:

- R01 Hilbert (1926), 3; R02 Wittgenstein (1922), 2; R03 Tarski (1944), 3; R04 Hempel (1945), 4; R05 Harnad (1990), 4;
- R06 LF (1993), 1; R07 Rushby (1992), 1; R08 Appel (2001), 3; R09 provenance semirings (2007), 1;
- R10 core provenance (2013/2014 copy), 2; R11 Coq 8.9.0 (2019), 1; R12 MetaCoq (2019/2020), 2; R13 Lean 4 (2021), 2 with $F_3=U$ and maximum score 3.

The largest recorded partial collision is four features, for R04 and R05. Across R01–R13, the ledger contains $F_4=F_8=F_9=F_{10}=0$. For R13, the only unresolved cell in the full mapped record is $F_3=U$.

These entries do not present the absence of a full match in literature. The complete F_1 – F_{10} matrix, exact spans, URLs, SHA-256 values of inspected copies, and reasons for every 0/U are retained in the supplied record file `05_COLLISION_AUDIT_EN.md`. The retained comparison copies to which that record refers are not supplied in this companion; see `KNOWN_LIMITS_0_7_EN.md` § 2.

3. Closest Partial Lines

Hempel and Harnad separate carrier/sign from interpretation, require a separate bridge, and do not transfer later interpretation into the initial token. Their mapped records do not jointly contain typed proof provenance, the dual autonomy test, an extension witness, self-audit, and a reproducibility package.

Appel connects machine word, decoding, typed proof, and safety policy. Bridge/goal identities are not retained as separate provenance nodes in the mapped record, and it contains no distinct A-INTRO/V-INTRO operations required by frozen PFNP-1.

Rushby supplies a close noninterference subfeature; Green, Acar, Coq, MetaCoq, and Lean supply individual proof/provenance mechanisms. None of these partial lines is coded as the entire configuration.

4. Unresolved Residue

U01–U08 remain: Goguen–Meseguer, the dependency calculus of Abadi et al., Putnam, Benacerraf, Skolem, later Wittgenstein, the long version of Tarski, and Necula’s PCC. The mandatory query families for each F1–F10, systematic book/dissertation/repository pass, two saturation iterations, and resolution of every U are not recorded as completed.

The backward/forward citation pass was not run under the PFNP-1 rule: no resolved candidate reached five ones.

5. Bounded Output

No external public T_0 for Phase 0 is recorded. The local freeze date is therefore not compared as evidence of historical priority. The PFNP-1 stopping rule is not recorded as satisfied.

```
no_full_configuration_observed_in_R01_R13: true
stopping_rule_satisfied: false
external_public_T0_anchor: null
priority_claim_authorized: false
novelty_status: INDETERMINATE
```

The source supplies the exact Russian formulation:

В предварительно проверенных R01–R13 не установлена более ранняя запись, содержащая всю конфигурацию F1–F10 и J. Поскольку внешний T0 отсутствует, правило остановки не выполнено и остаток U открыт, статус новизны остаётся INDETERMINATE.

Bounded English reading:

In the preliminary R01–R13 ledger, no earlier record carries the full F1–F10 configuration together with J. Because no external T0 is recorded, the stopping rule is unsatisfied and the U residue remains open. The ledger contains novelty_status: INDETERMINATE.

The following source strings are not admitted as outputs: «аналогов нет» (*there are no analogues*), «вся предшествующая литература проверена» (*all prior literature has been checked*), «приоритет доказан» (*priority has been proved*), and NO_FULL_CONFIGURATION_IN_MAPPED_CORPUS.

Exact source path retained for integrity: 05_COLLISION_AUDIT_RU.md.