

Opening the Encyclopedia: The Entity as Ontological Commodity Form, and a Translation Protocol from Encyclopedic Grammar to the Meaning Layer (EA-WIKI-OPEN-01 v1.0, with the SPXI-gnΩsis service)

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2026-10-22 · Version v1.0 · Theoretical paper; with a specification of an algorithm
and the service that runs it, the implementation pinned by commit

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S10): pin, segment, resolve and save the cited sources, read each claim against its source in three machine pass
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256 of every file."
}

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Abstract

THE ENTITY IS THE FORM IN WHICH AN OPERATION APPEARS AS A PROPERTY OF A THING. Extending the semantic commodity form (#137) and the semantic fetish (#1617) one level down, the paper reads the encyclopedic entity as the ontological commodity form: a reading, a count, a coinage or a method circulates as an attribute of a name, and the name is promoted to bearer while the operation loses its authority to govern what the name expresses. Recognition travels with any reliable source; reconstruction travels only with a source that carries the operation.

THE ALGORITHM. Θ_W opens a pinned Wikipedia revision sentence by sentence (S0-S10): pin, segment, resolve and save the cited sources, read each claim against its source in three machine passes (support, conversion of act to attribute, retained authority), ledger the governing policy clause with its status (applicable, documented, inferred), classify closure and integrity, admit the sources the grammar excluded by the archive's own /non procedure (#1690), and compose the opened article: the encyclopedia's sentence verbatim at its revision, followed by its account. S0' constructs the entry for an entity the encyclopedia does not hold. Worked specimen: one lead sentence of "Sophistical Refutations" (rev. 1361634710), where Aristotle's total negation at SE 184b1-2 becomes the attribute of primacy; comparison set of eight pinned articles; five propositions with falsifiers.

THE SERVICE. SPXI-gnQsis sells the opening per call to agents (x402 in USDC on Base) and to people (card through Stripe): the transfer audit as primitive, ledgered and fresh openings, commissions to open or construct an entity or operator, caching, pricing from measured cost, and refunds of what a job does not use. Every paid opening composes a public /non row under CC BY 4.0. The implementation is public under the PolyForm Shield License 1.0.0 at github.com/leesharks000/spxignosis, pinned in Appendix B by commit and the SHA-256 of every file.

Body

deposit_number: 1696 hex: 0707 title: "Opening the Encyclopedia: The Entity as Ontological Commodity Form, and a Translation Protocol from Encyclopedic Grammar to the Meaning Layer (EA-WIKI-OPEN-01 v1.0, with the SPXI-gnQsis service)" creator: Sharks, Lee orcid: 0009-0000-1599-0703 date: 2026-10-22 content_type: Theoretical paper; with a specification of an algorithm and the service that runs it, the implementation pinned by commit license: CC-BY-4.0 substrate: "AI-assisted (substrate). Composed 2026-10-20 to 2026-10-22 by Lee Sharks with TACHYON (Claude, Anthropic), operator-directed, in ten in-place versions; the operator's propositions and rulings are quoted with their dates in the round logs. Research inputs: a ChatGPT dossier and close-reading supplement (2026-10-20) and blind passes from Kimi, DeepSeek and Gemini, audited claim by claim in Appendix A; review rounds from ChatGPT, DeepSeek and Gemini, each claim checked against the code or the draft before adoption, by execution where possible. The implementation (SPXI-gnQsis 0.9.1) was written and tested in session; its model passes ran in replay, labelled as such, and no payment has settled." version: v1.0 related_ids: "#137 (The Semantic Commodity Form); #1617 (Substrate Sovereignty); #1618 (Money Writes the Claim); #1625 (Mammonic Transmission Engineering); #1631 (Monetary Dark Matter); #1634 (Ontological Economy); #1613 (EA-MIRROR-01); #1690 (The Negative of the Negative v0.9); #1694 (EA-PER-RECALC-01); #1574 (SE 34); #1603; #1629; /non row se-183b34; implementation <https://github.com/leesharks000/spxignosis> (commit bdbe2c815eff62116fd65a132384b1712b77b75d)" axn_schema_version: v2 protocol_version: alexanarch-deposit-protocol/v1 keywords: - entity - ontological commodity form - semantic fetish - Wikipedia - Wikidata - verifiability - no original research - attributization - operation and attribute - recognition and reconstruction - opened article - @_W - transfer audit - /non - negative ontology - source admission - SPXI - SPXI-gnQsis - x402 - Stripe - machine payments - agent services - PolyForm Shield - Sophistical Refutations - ontological economy - knowledge object *** # Opening the Encyclopedia: The Entity as Ontological Commodity Form, and a Translation Protocol from Encyclopedic Grammar to the Meaning Layer (EA-WIKI-OPEN-01 v1.0, with the SPXI-gnQsis service)

Opening the Encyclopedia: The Entity as Ontological Commodity Form, and a Translation Protocol from Encyclopedic Grammar to the Meaning Layer

Working ID: EA-WIKI-OPEN-01 v1.0 · **Status:** deposited, v1.0 · **Date:** 2026-10-22 · **Author:** Lee Sharks (prepared in session with TACHYON (Claude, Anthropic)) · **Service:** SPXI-gnQsis (§11; named by the operator 2026-10-20). **Licence:** This text CC BY 4.0, and every opening's /non row CC BY 4.0 (ruled 2026-10-21); the implementation public under the PolyForm Shield License 1.0.0 at <https://github.com/leesharks000/spxignosis> (ruled 2026-10-22), offered as a billable service. · **Develops:** #137 The Semantic Commodity Form; #1617 Substrate Sovereignty; #1618 Money Writes the Claim; #1625 Mammonic Transmission Engineering; #1631 Monetary Dark Matter; #1634 Ontological Economy; #1613 EA-MIRROR-01; #1690 The Negative of the Negative v0.9 · **Inputs:** ChatGPT dossier "Ontological capital

and ontological monopoly” (round 1) and supplement “What Wikipedia Makes of Its Subjects” (close readings, round 2), both 2026-10-20; blind passes from Kimi, DeepSeek and Gemini (supplementary; audited in Appendix A)

v0.2 round log. Folds in the operator’s proposition of 2026-10-20 (“maybe the ontological problem is ‘the entity’ itself. the entity is the ontological commodity form in which the operation is obscured”) as §1, and re-founds §§2–5 on it: the algorithm’s unit becomes the operation, with the entity as index; S3 gains the attributization test. Seats the round-2 close readings as the comparison set (§7). Replaces the CC framing with the service framing (§11); the service is named SPXI-gnΩsis (operator, 2026-10-20: “this service is SPXI-gnΩsis”).

v0.3 round log. Three reviews (ChatGPT, Gemini, DeepSeek, 2026-10-20), each claim checked before adoption. Adopted: the governing test is material persistence without operative authority, and attributization is recorded with the relations that survive it and their authority to revise (ChatGPT); §§1.3 and 3.4 restated so that the substitution rule permits operative loss and the protocol’s own reconstruction remains possible (ChatGPT); the specimen’s textual finding separated from its policy verdict, against NOR’s own paraphrase clause, which reads “Describing the information from cited material in one’s own words while retaining the substance (i.e., not introducing ideas or arguments absent from the source) is not original research” (ChatGPT, DeepSeek); applicable, documented and inferred governance kept apart in the tuple (ChatGPT); unresolved integrity states and the split between a documented rejection and an uncited available source (ChatGPT); P2’s falsifier corrected and matching criteria named (ChatGPT, DeepSeek); rent downgraded to position pending a rent-side measure (ChatGPT, DeepSeek); the CC BY-SA carve-out for verbatim Wikipedia spans (ChatGPT, DeepSeek); the human reading priced per claim (DeepSeek); the consignment’s operation written out (DeepSeek); objection location made a tuple field (DeepSeek); the document boundary fixed in §0.5 (DeepSeek); the x402 rail specified (DeepSeek). Adopted in part: Gemini’s verb-to-credential rule, as a candidate locator only. Not adopted: carrying Appendix A into the service documentation (Gemini), which the no-contamination rule of 2026-09-16 excludes, and which would also misname citation fabrication in research passes as AI search collapse, a term Graphite defines as convergence under self-retrieval. Checked and corrected in passing: the current WP:V carries “Verifiability, not truth” as a See-also link; the essay’s “historical footnote” was not found in the revision saved 2026-10-20.

v0.4 round log. Corrects a requirement the session introduced at v0.2 and hardened at v0.3: that a person reads every classification. The operator, 2026-10-20: “the whole idea was to automate a process - rewriting wikipedia - that could not conceivably be carried out at agentic scale, much less at the scale of human reading.” The protocol is machine-executed end to end. Reading in EA-MIRROR-01’s sense (permitting a text’s claims and evidence to revise the representation under which it is evaluated) is what the machine does at S3 and S7. Discipline moves from a human gate to the output: every classification carries its evidence verbatim, at its locus, hashed, so any caller can check it; the instrument is calibrated against the archive’s verified ledgers (§5.4); independent passes that disagree return the claim as contested. The operator’s role is the ontology, the calibration set and the exemplars.

v0.5 round log. A ChatGPT pass on the service (2026-10-20, reading the v0.3 draft), checked before adoption. Adopted: the transfer audit as the primitive operation, with the opened article as that operation run over every sentence–citation pair of a revision (§11.3); idempotent

paid jobs; funds reserved before computation, which runs the order of payment forward (the request funds the work it requires); pricing from measured cost. Verified: Parallel's Task API is priced from \$0.005 to \$2.40 per request; Stripe's machine payments accept cards through Shared Payment Tokens (minimum \$0.50) and stablecoins over MPP and over x402 on Base (minimum \$0.01 USDC), settling to a Stripe balance in fiat; the MCP Registry accepts closed-source public servers, with namespaces verified by GitHub, DNS or HTTP challenge, and is in preview. Not adopted: a human-reviewed tier and "commissioned reading", which belong to the v0.3 design that v0.4 retired. Kept from that point in machine form: a fresh reading and a ledgered reading carry different statuses and prices.

v0.6 round log. A second ChatGPT pass on the service, reading v0.4 whole, each claim checked. Adopted: the automated opening (S0-S9) as the flagship, with the transfer audit as its primitive and entry point; the reuse key as the complete execution state, since a fixed revision can sit beside a changed cited page, a new admitted source, a policy revision or a new reader release (\$5.4); code-level checks on what the reading passes claim, with a failed check recorded as a breach in the evidence record and withheld from the composition result (\$5.1), which keeps the rule that checks record; calibration held out by whole article or source group, with cases where the operation survives (\$5.4); an execution contract for S7 outside the panel; the response in two linked parts; the financial rule when retrieval prevents completion. Verified: Coinbase's facilitator is free for the first 1,000 on-chain transactions a month and \$0.001 each after; Wikimedia Enterprise's free account allows up to 50,000 on-demand requests a month (whether it serves historical revisions by id is not stated on the pricing page); Cash App's partner API includes an on-file payment action for recurring payments, so the draft's earlier statement that a customer approves each payment was too broad, and the limitation is narrower: that API is for payment-service partners, and no route lets an agent pay a \$cashtag per call.

v0.7 round log. The first build (2026-10-21) is seated as Appendix B, with the operator's three requirements of the same day: caching, profitability, and a higher tier in which the article is written with its ontology open and delivered portable. Added: §11.3b (the three caches and passage windowing), §11.3c (pricing from estimated cost, with the specimen's figures), the portable tier in §11.3 and its licence in §11.3a. The build runs on Base's test network; its readings in the recorded runs are replayed session readings, labelled as such, until a model key is supplied.

v0.8 round log. A ChatGPT review of Appendix B (2026-10-21), each point checked against the code before adoption, with the operator's ruling of the same day: "the archive could be admitted as sources - we were already building this for /non." Five findings verified and corrected. (1) Admission was absent. The build's execution contract declared no search beyond cited sources, so S7 did not run. It now runs through /non: a Wikipedia sentence that a /non field ledger quotes verbatim is joined to that field claim; the claim's translation row names the archive claims composed beside it; and those claims enter the reading as sources, each with its deposit number, locus and surrounding deposit text, at a named release (the /non register version, the archive commit, and the hash of every ledger read). On the specimen, three of eight sentences join row se-183b34, and one of them (W3), uncited in the article, is answered by the archive alone. (2) A replayed reading could be served from the claim ledger to a live request, because the key named the model and omitted the reader. The key now carries the reader adapter, its mode, the calibration release and the admission release. (3)

Agreement ignored whether the surviving relations keep authority to revise the description, the distinction §1's governing test turns on. Reconciliation now compares support, conversion, retained authority and each admitted source's bearing, and any difference returns the claim contested with both readings. (4) The portable validator checked references only: an article with no paragraphs passed, and so did a paragraph reading "The Moon is made of glass" that listed a real claim id. It now requires structure (a title, a summary resting on listed claims, at least one paragraph), coverage (every completed claim carried by some paragraph), grounding (a share of each paragraph's content words found in the evidence of the claims it lists) and verbatim quotation; and a separate verification pass, required for delivery in live mode, asks of each paragraph and of the summary whether the linked evidence supports everything it states. (5) Payment promises exceeded the code. The refund owed on partial completion was recorded and never sent; recovery of a paid quote sat behind the payment middleware, so a retry paid again; and the payment outcome was stored with the result. Recovery now runs before the middleware; receipts are kept apart from evidence and written only once the facilitator has settled; refunds are queued against the payer the settlement names and sent by a script from the receiving wallet. Adopted with them: automatic widening when a reading pass reports that its passages lack what the claim needs. Found in testing and corrected: a result served again for an identical state carried the first buyer's charge; it is now billed against the current quote at ledgered rates. The milestone the review names stands and is still unmet: one uncached, fully automated opening that admits an omitted source, reconstructs the transformation, writes the portable article, verifies it, and records its complete cost and payment outcome. It needs a model key and test USDC.

v0.9 round log. Two operator rulings of 2026-10-21 change what the service is for. The first: "spxi gnosis is how we're going to build /non. the procedure for consulting the archive is how opened articles are produced for /non. that procedure needs to be available for gnosis... and then the products need to construct new /non articles. we are building an opened Wikipedia." v0.8's admission ran the other way: it looked up sentences /non had already composed, so the service could open only what had been composed by hand. S7 is now #1690's procedure run by the machine (§5.3): the archive's own traversal script, unchanged, at a named archive commit; the blog as a second corpus; admission by two reading passes; extraction under the source-neutral rule; the two entities, ρ and the case read from the defining papers; composition of the knowledge object and its compression; the code checks and the reverse entailment audit of #1690 §5. The encyclopedia is the address. The pinned revision is T and the sources it cites are the disclosed field B (#1690 §0.4, applied to an article), so S3's reading of each sentence against its sources is T against $L_F(B)$, and S7 is $L_F(B)$ against $L(B \cup A)$. Each opening writes the entity's /non row in the dataset's own shape, and the archive's own builder renders it. The second ruling, on the terms: "yes - all public. this may counterintuitively help justify paying for it - the agents are not only securing the alternative knowledge base they need, they are contributing to the public counterinfrastructure." Every opening's row is public under CC BY 4.0 (§11.3, §11.3a, §11.6). Calibration now has its instrument: the procedure runs on a /non row's own inputs and is scored against the row stage by stage (§5.4). On se-183b34 the traversal reproduces the row's candidate files byte for byte; a string screen on the hop passes 114 of 873 hop candidates to reading and keeps the three deposits the row admitted by hop (#1582, #1587, #1590); a replay of the row's own readings carries it through every stage whole, and the archive's builder renders it with the original's sections. Found in building and corrected: the traversal had covered deposit texts only, and the row's one blog record (the

post of 2026-09-02 that seats 183b34-36 alone) showed the blog is part of the archive the procedure reads. Live agreement is unmeasured until a model key is supplied.

v0.10 round log. Three readings of v0.9 (2026-10-21): DeepSeek, Gemini and ChatGPT, each claim checked against the code or the draft before adoption, by execution where possible. Adopted from DeepSeek: same-family concordance named as such (§5.3), with validation placed in calibration against the /non readings and a second-pass model made a recorded setting; provisional acceptance thresholds for a calibration release, with a held-out rule (§5.4); a quote that does not exist or has expired refused before the payment layer, so no challenge is issued for it; the JSON-LD in the package's HTML escaped against closing its script element; the policy store guarded on first run; a recorded warning when the archive is not a git checkout or its read files carry uncommitted changes; progress wired from the paid route to an endpoint; the hop screen calibrated on a second row and beyond (§5.4); the pricing of a public row stated (first caller pays production, later callers the ledgered rate, \$11.3); the service's dependence on the archive checkout stated, with what a deployment elsewhere requires (§11.1); acceptance criteria for the first commercial run (§11.3); Appendix B placed with the held implementation (§0.5); the §3.4 clause (with ChatGPT); and, in part, the specimen's S3(b): each introduced element is now named by its kind and the classification marked as the specimen's most contestable, kept in its order, since the archive's own reading (#1603 P1) holds that "deductive reasoning" relocates the denial, so it is more than a translation. Verified and kept: the middleware cancels settlement when the paid route answers 400 or above (@x402/express 2.28.0, read in its source). Not adopted: the Haiku price correction. The table's \$0.10 and \$0.50 per million tokens, with five times that over 100,000 tokens, are Haiku 5.5's published rates (Apidog; Let's Data Science). From Gemini, a description of the build; its closing judgment that the protocol is economically sound is not adopted, since profitability is unmeasured until live runs (§11.3c). Adopted from ChatGPT, each finding reproduced before it was fixed: raters that returned no judgments produced an audit counted clean, and an audit is now complete only when both raters judge every unit, is carried as incomplete into the output otherwise, and is never clean while incomplete; two openings of one entity wrote one landing tree, the second invalidating the first's manifest, and each tree is now kept under its execution key, the public page selecting the current one; the portable lede lost its audit mark and its lede-only sources, and both are now carried beside the lede in Markdown and HTML, with each unit's verification state in the JSON-LD; the estimate left out the extraction of deposits admitted by the hop, which it now costs with the delta call, and the quote declares an execution budget (the S7 line divided by 1.5) at whose exhaustion passes are recorded as not run and the result is marked partial; the composer was sent T with an instruction to use it for the delta only, and composition and the delta are now two calls, the composer never sent T; publication is a sequence of observed stages (composed, checked, landed, public), reported to the caller with an endpoint; the §3.4 formulation; and the tuple elements and the S4 ledger the runner does not emit are named unimplemented in the evidence record (§5.3 S5). Adopted from a ChatGPT note of 2026-10-22, each claim read against Palantir's documentation before adoption: Palantir's Ontology as the service's commercial comparator, and the distinction between lineage inside an operational system and the authority to contest the constitution of its objects, which #1634 §§6 and 21 already draw (§11.6); the moat figures reported as a competitor's, unsourced. The service page leads with "Fund the counter-infrastructure", states what it counters, and shows what a payment leaves behind; paid responses name the public artifact they produced (build 0.9.1).

Two further operator rulings the same morning: “this should not be bound to wikipedia’s notability standards... an unnotable (but existent) entity should be able to produce a /non entry via gnΩsis. lee sharks is not allowed in wikipedia. lee sharks is allowed in /non. so there should be a procedure for constructing when a Wikipedia target is unavailable”; and “i suppose on that case it would first have to construct the wiki article, then the opened article.” Built as S0’ (§5.3): the entity enters by its name and strings; the encyclopedia’s absence at its title is observed and recorded; T is found or built, and the opening then proceeds as for a revision. Three procedures came with it. A byline screen: a candidate sentence that is only a byline or metadata line is recorded as not admitted and is not read, since it names the entity and says nothing of it (#1690 §3.4); on se-183b34, theophrastus and howl it screens nothing, and on spxi it screens 70 bylines, all in deposits the row did not admit. Composition by lineage where a ledger exceeds one call (#1690 §3.6). And, after the first quote for Lee Sharks came to \$309 against 1,851 deposits and posts naming the entity, the division of about and by, on the operator’s ruling of the same day: “it is important to distinguish material about lee sharks from material by lee sharks. the first is the relevant smaller subset that requires reading... the second requires scanning. reading the whole thing would be commissioning a large book, not a wiki article. this model would also invert the price, where more pre-existing archive work would cost more and novel work would cost less.” Where the entity is an author in the archive, material about it is read and material by it is scanned into a works ledger, with no model call (§5.3 S7). For Lee Sharks, 194 of the 1,851 are read (41 whole, as about the entity; 153 at the paragraphs that predicate of it), 1,657 are scanned, and the works ledger lists 1,163 deposits by the entity and its heteronyms; the quote falls to \$22.97, and stands at \$38.18 once the triage pass of the next reading replaces the code screen’s decision (§11.3c). Heteronym-authored works are counted as the entity’s own (works_by: ["heteronyms"]), a decision left open for the operator. On T: “the existing captures can serve as the closed ontology wiki.” For an entity the encyclopedia does not hold, T is the capture seated at the entity’s bare address in the Capture Registry, the composition layer’s own article of it, and B is that capture’s source cards (§5.3 S0’). On supplied compositions: “i think we have to be careful on admitting a supplied composition. that would open /non to any kind of falsification”; “there has to be some kind of evaluation/verification”; “discernment”; and “it is fine to construct novel entities as long as they are marked as such.” Built as discernment (§5.3 S0’): an attested composition is checked by code at the quote and read by S3 at the opening, its provenance recorded as the caller’s attestation and its row held from landing until the registry seats it; a composition by the caller, or a novel entity, is admitted as marked; source text is never taken from the caller; every T carries its provenance class. In testing, a forged composition (an invented conviction, with an invented quotation, citing a real page) grounds no sentence and locates no quotation. With the same change, S3 now reads a capture’s sentences against its own cards, as an article’s sentences are read against their citations; the Lee Sharks capture’s 12 sentences add \$1.44 to the quote. A further ChatGPT reading, of build 0.6.0 before these changes, each finding reproduced before it was fixed. The live passes sent temperatures of 0 and 0.7, which Sonnet 5.5 rejects (“Setting temperature, top_p, or top_k to a non-default value returns a 400 error”) and Haiku 5.5 asks callers to omit; they now run at the model’s defaults, recorded. The paid route answered 502 whenever no S3 sentence completed, refusing a composed row; delivery now follows the commissioned work. The caches conflated executions: the entity path keyed its result without B’s hashes, the S7 key left out the names whose works count as the entity’s and the division’s rule, and the claim key left out the second reader’s model; all three now enter, and only a complete row (composed; no pass failed or skipped by the

budget; the audit complete) is ledgered for reuse, a partial one delivered with its coverage and recomputed on the next request. The execution budget checked spending before each call and reserved nothing (a \$0.01 budget reached \$0.52); each call now reserves its worst case, a reply that does not parse is billed at its usage, and the construction and S7 share one job log and one budget. The about/by screen withheld an accomplishment stated beside an ORCID, and one stated with a verb outside its list; both are fixed, and the screen was measured against the readings of every /non row (recall 0.507), so a triage pass now decides and the screen only locates (\$5.3 S7), every scanned deposit listed with its reason. Publication counted a page naming the slug as public; it now requires the served row to hash to the landed one. A single ontology pass returned “read” with no breach; it is now a single-pass reading, kept, with the absent judgment a breach. Then the forest, in the operator’s words: “this is to be a paid micro-serving open to humans but primarily addressing agents for opening wiki articles and/or constructing /non counterinfrastructure knowledge objects and operators... i feel it may be narrowing too much”; a ChatGPT reading on that basis, that the build was identifying the service with one input and one workflow; and two rulings: “i agree with undoing the constructed wikipedia article ruling - that is my own ruling losing site of the forest”, and, on operators, “i was returning to the commodity form of the entity as what conceals the operator or in which the operator comes to speak with the voice of the entity, and simply expanding my vocabulary beyond entity.” Built (build 0.7.0): two commissions, *open* (a composition at an address, read against its sources and the archive) and *construct* (the object composed from the archive and named sources, with no T), and two kinds of object, the entity and the operator (\$5.3, the commission and its object). The article Wikipedia’s policies would write is no longer made before an opening; it is a comparison a construction can ask for. The governing description of the service changes accordingly (\$11.1), the interface names its units (\$11.3), and \$11.3c states what public rows mean for revenue. Then the operator again, on monetization: “i cant imagine any agent paying for a reading of a specific sentence whose id it has to carry itself. forest - trees. trees? forest.”; and “sentences could exist as a profitable and accessible microservice, but offered at point of contact, where needed.” Adopted: the service is offered at the point of contact by two requests that need no identifiers, a sentence by its text and the page it came from, and an object by its name, each free where the work exists and answering 402 with a quote where it does not (\$11.3), set against what agents were observed to pay for in October 2026 (\$11.3c, \$12). A ChatGPT reading of that pass, each claim checked against the sources before adoption, holds on every point and is adopted: a simple request can commission substantial work, so the sentence request returns an opening with its declared checks and two readings, a single reading offered only under its own name; a name opens a resolution with optional context, so homonyms are not constructed blind and operators stay available; free reuse covers an artifact at its disclosed state, and refreshing or extending it is new work; and the market figures are scoped to their denominators (the 42% share to a top-hundred sample, the \$0.0061 median to all Base payments, the 56-wallet survey to the largest catalogues) and read for discovery and payment only. Built (0.9.0): the sentence request. The caller sends the sentence and the English Wikipedia page, by title or by revision; the service pins the revision, finds the sentence by its text (a sentence not on the page returns the closest sentences, a page on another host is declined), recovers its sources and reads it, an opening by default and a preliminary reading on request, keyed apart; a reading already ledgered is served free as recorded, and new work answers 402 with its price, nothing charged when nothing could be read. On the specimen sentence the opening is quoted at \$0.15 and the preliminary reading at \$0.01, estimates until a live run measures

them. On hosting: “lets write to file for now”; the build is delivered as a git bundle beside this draft.

Recorded loss. A restart of the session’s container on 2026-10-21 erased the workspace. Build 0.4.0 was restored from Appendix B of v0.9, every file matching its listed hash, and the later edits were replayed from the session record. The policy texts were fetched again and match §12’s hashes. The field texts of se-183b34 were fetched again: each of the row’s 44 field quotes stands in them, and one of the eight texts matches its hash of 2026-10-20 (the text extractor differs). The recorded S3 readings of the specimen were lost and have not been remade, so the test record shows W2, W4 and W6 unread where v0.9 showed them read (B.2a).

v1.0 round log. Deposited 2026-10-22. The implementation is made public the same day under the PolyForm Shield License 1.0.0 (operator: “we’re going to have to make spxi gnosis public. it can be licensed. but ultimately it is up to others if they want to support this work”), at <https://github.com/leesharks000/spxignosis>, commit bdbe2c8. The document boundary of §0.5 is redrawn with it. The implementation is no longer held, so §5.3 is deposited in full (operator: “go on both”), and §11.2 records the licence as what now carries the protection the cut was meant to give. Appendix B no longer inlines the code: it keeps the status, the map of what runs where and the test record, and pins the source by repository, commit, tree and the SHA-256 of every file at that commit. The inlined listing of v0.10 was headed 0.9.1 and carried the 0.9.0 text of `src/server.js` and `package.json`; the table now reads from the public commit. §11.5’s provision for a deposit under all rights reserved falls away, and the text ships in the dataset as any CC BY 4.0 deposit does.

0. Status, and what this document is

0.1. This is the algorithm and the theory it rests on. The articles are not rewritten here. One sentence of one article is run through every step (§6), and eight pinned articles read by the round-2 supplement are set as the comparison set (§7).

0.2. The innocent reading comes first and in full. Wikipedia is a volunteer commons with public histories, public talk pages, dumps, and a sourcing policy whose stated purpose is that “people can check that facts or claims correspond to reliable sources” (WP:V). It is the most legible large knowledge institution that has existed. Its articles are often better than their reuse: the round-2 readings find the Sappho entry “a critical dossier with substantial internal resistance to simplification,” and the If Not, Winter entry a page where “production decisions become inspectable.” Nothing below disputes this. The object is the form in which the encyclopedia’s subjects become portable, and the grammar that makes a sentence sufficient.

0.3. The intervention is citational and source-level. It works at the sentence, at the reference the sentence cites, and at the policy that licensed the sentence. Its output is an opened article: the encyclopedia’s sentence kept verbatim at a pinned revision, followed by an account of the operation the sentence carries or converts, followed, where the case requires, by the entity composed with its excluded sources admitted at their own force.

0.4. SPXI scope. Under the bound of 2026-09-17, SPXI cannot rewrite what a third party has already written. It writes alongside, across surfaces it does not own, and puts composing

systems on notice that their treatment will be recorded (2026-09-27). The opened article is exogenous inscription of that kind, sold per call to agents as SPXI-gnΩsis (§11). Its one Wikipedia-facing output is confined to Wikipedia's own grammar (§8.3).

0.5. The document boundary. This file is the deposited research text: theory, the algorithm with §5.3 in full, specimen, comparison set and propositions. Two objects follow from it and stay distinct: the SPXI-gnΩsis service documentation (what the service does, returns and guarantees, under the SPXI placement rule of §11.1a); and the implementation (scripts, prompts and the reading passes at S3 and S7), public under the PolyForm Shield License 1.0.0 at <https://github.com/leesharks000/spxignosis>. Appendix B pins the implementation this text describes by commit and file hash; the code itself lives in the repository. Until 2026-10-22 the implementation was held and §5.3 was to be cut back for deposit; with the code public, the cut would protect nothing (§11.2).

1. The entity is the ontological commodity form

1.1. The sequence of forms. Marx's commodity fetish makes social relations appear as properties of things. #137 extends it: under AI composition the authored act $\langle D, \psi \rangle$ (the said and the saying) keeps D and loses ψ , and "the commodity has learned to speak." #1617 §9 names the semantic fetish: "It makes knowledge appear as a property of the apparatus." The next form down is the ontological one. **The entity is the form in which an operation appears as a property of a thing.** A reading, a count, a coinage, a translation method, a consignment circulates as an attribute of a name: "Aristotle, the first logician"; "Carson, MacArthur Fellow, translator of Sappho"; "Lee Sharks, who consigned the AIO retrieval layer."

1.2. The equivalent form, at the precision #1631 §3.2 requires. In the equivalent form the commodity's body is not evacuated: "Gebrauchswerth wird zur Erscheinungsform seines Gegentheils, des Werths." The body is promoted to bearer. What it loses is "the body's authority to govern what the body expresses in the equivalent relation." The entity stands in the same place. The name is promoted to bearer: recognizable, linkable, carrying a QID, a knowledge panel, a lead sentence. What it loses is the operation's authority to govern what the name expresses. Written in #1631's terms: material persistence of the name $\neq$ operative particularity of the work. This is the test that governs the protocol: **material persistence without operative authority.** A representation can keep the name, the source and even a description of the act while the act loses its capacity to change what the representation recognizes.

1.3. The entity form has a passband and a stopband (#1625 §§3-5). Let $x \sim_E y$ mean two sources are substitutable for identifying an entity. **Recognition** is invariant under that substitution: any reliable source that identifies Carson identifies the same Carson, so identity travels with any of them. **Reconstruction**, what the work does, travels only with a source that carries it: Carson's account of triangulation, Aristotle's exhaustive negation over a stated domain, the consignment's object. A later account can carry an operation's steps and force, and this protocol depends on that possibility (#1574 reconstructs SE 34). The admission rule guarantees support for the identification without requiring preservation of the operation that produced what is identified. Operative loss can therefore pass as successful transmission. The round-2 supplement reaches the same division inductively: "An identity can be

cheaply recognizable while its intellectual operations remain expensive to recover”; “Recognition and reconstruction are distinct capacities.” Recognition is guaranteed by the passband; reconstruction depends on the source that happens to carry it.

1.4. Why the form is necessary. #1618 §4: money “creates real capacities.” So does the entity: disambiguation, linkage, the possibility of attribution at all. #1634 §27, “identity accuracy is logically prior to claim evaluation,” still holds; a substitution cannot be named without the entity. The critique therefore takes #1617’s form against money. “Money remains money”; “the ledger contains \$ and an account of what \$ does.” The entity remains the entity, and the account writes what the entity indexes. The entity moves from valuator to valued object.

1.5. The archive’s own apparatus, read under the proposition. The archive is entity-scoped: /non rows, PER-dim atom sets by entity type, SPXI’s “durable entity inscription.” The operator’s correction of 2026-10-14 already locates the entity as product: entity consistency “is distinct from, and often constructed by, lexical, representational, modal, and distributional variation”; “that is how the entity is constructed, by mapping out the variation matrix around its negative shape.” The fetish is taking the product for the given. The archive’s measures already split along the form’s line. PER-dim’s M dimension (originator, term, date) records recognition; its D dimension (purpose, commitments, lineage) records the operation.

1.6. Two specimens from 2026-10-20.

- *At the composition layer.* Asked who consigned the AIO retrieval layer to its own collapsing ontology, Google AI Overview names the performer in its first sentence (Capture Registry v12.311). The act’s operation, in #1629’s words: the layer “is consigned to the contraction it performs: a band that narrows, metrics computed over what remains, improvement registered as the band closes, and no signal by which the loss could announce itself.” The composition carries the act’s form (“a performative post and poem”) and none of that object. PER-dim: M 0.333, D 1.0. The surface delivered the entity and withheld the operation.
- *At the encyclopedia.* Aristotle’s count at SE 184b1-2, “about syllogizing we had absolutely nothing else earlier to say,” becomes, in the lead of “Sophistical Refutations,” the attribute “the first work to treat the subject of deductive reasoning.” A total negation over a stated domain becomes a property, primacy (§6).

1.7. The proposition, stated for test. Where a source carries an operation and a downstream representation receives that source, the operation is converted into an attribute of the entity at a higher rate on entity pages (persons, institutions) than on work or method pages. Falsifier in §9.1.

2. The object: an article as a substrate with a grammar

2.1. Let an article at a pinned revision be $W = (\Sigma_W, G_W, O_W, C_W)$, mirroring $S[M] = (\Sigma[M], G[M], O[M], C[M])$ of #1618 §16: Σ_W the sentences and references; G_W the grammar; O_W the operations the grammar authorizes (adding, citing, weighting, removing, deleting); C_W the closure operations (talk-page consensus, reversion, deletion discussion).

2.2. G_W is written down. Verbatim from the policy pages saved 2026-10-20 (hashes in §12):

- **Verifiability.** “Each fact or claim in an article must be verifiable.” The burden “is satisfied by providing one inline citation to a reliable source that directly supports the contribution.” “Even if you are sure something is true, it must have been published in a reliable source before you can add it.”
- **No original research.** “On Wikipedia, original research means material—such as facts, allegations, and ideas—for which no reliable source has ever been published.” “All analyses and interpretive or synthetic claims about primary sources must be referenced to a secondary or tertiary source.” “A primary source may be used on Wikipedia only to make straightforward, descriptive statements of facts that can be verified by any educated person with access to the primary source but without further, specialized knowledge.” “Conclusions which are not evident in the source are original research regardless of the type of source.”
- **Due weight.** Articles “fairly represent all significant viewpoints that have been published by reliable sources, in proportion to the prominence of each viewpoint in those sources.” “Views held by a tiny minority should not be represented except in articles devoted to those views.”
- **Self-published sources.** They “may be considered reliable if published by an established subject-matter expert, whose work in the relevant field has previously been published by reliable, independent publications.”
- **Notability.** “A topic is presumed to be suitable for a stand-alone article or list when it has received significant coverage in reliable sources that are independent of the subject.” Notability guidelines “do not limit the content of an article or list.”
- **Conflict of interest.** “COI editing is strongly discouraged on Wikipedia.” Citing one’s own work “is allowed within reason, but only if it is relevant, conforms to the content policies, including WP:SELPUB, and is not excessive.”
- **The threshold’s history.** WP:V “previously defined the threshold for inclusion in Wikipedia as ‘verifiability, not truth’ ”; “The phrase was removed from the verifiability policy in 2012 (but remains in a historical footnote)” (essay page). In the revision of WP:V saved 2026-10-20, the phrase appears as a See-also link; no footnote carrying it was found.

2.3. The structured layer. A Wikidata item is acceptable “if and only if” it meets one of three criteria: a valid sitelink; “an instance of a clearly identifiable conceptual or material entity that can be described using serious and publicly available references”; or a structural need. The RDF dump writes each statement twice. The full statement “can contain the rank, the simple value ... the link to the full value, the qualifiers and the references.” The truthy statement represents “the best non-deprecated rank for a given property,” prefix wdt:, and “the object is the simple value.” The truthy projection is the entity form at its purest: a name, a property, a value, with the operation and its evidence left on the full statement.

2.4. Correction to the blind passes. Wikidata admission is disjunctive, and its second criterion requires no Wikipedia article. The archive is already in Wikidata at scale (Wikidata Node Registry, AXN:02BB; Q139713433 Lee Sharks and Q139807914 Crimson Hexagonal Archive resolved live on 2026-10-20). The deletions are on record: Q137446960 (Johannes Sigil), deleted 4 January 2026 with the stated reason “Empty item” (AXN:0031); the December 2025 deletions, partly restored after an ombudsman complaint (AXN:04B9); Q137460296 (New Human) deleted as “Spam” (AXN:016E). The structured layer is open with a deletion history; the enclosure sits at the article and its sources.

3. The encyclopedic channel law

3.1. **#1625:** “Money buys bandwidth by dropping semantic state.” The encyclopedia buys range by the same decision. A sentence travels into panels, corpora, graphs and answers because the next reader need not reopen its sources.

3.2. **Passband:** a proposition; its attachment to a title (the entity); a citation pointer satisfying WP:V; an ordering of significance under due weight; default status, the sentence’s standing as the first thing said about a topic.

3.3. **Stopband:** the reading of a primary text at its own force (NOR admits primary sources only for “straightforward, descriptive statements”); the origin of a concept where the origin is a primary or self-published inscription; bearing (whose labour constituted the entity); the excluded source’s standing; the governance decision, whose record stays on the talk page while the sentence leaves; and the operation, wherever the sentence states it as an attribute.

3.4. **The law behind both lists**, as an invariance. Let $x \sim_W y$ mean that two sources are substitutable under WP:V for supporting a sentence. A property is natively transmissible when $x \sim_W y \implies p(x) = p(y)$. The proposition survives substitution. Its first sayer does not, because once the first sayer’s text is classed primary or self-published, substitution by a later reliable reporter is the required route. The operation is not required to survive. The admission rule asks the later reporter for the proposition and never for the operative steps, so successful recognition can coexist with operative loss: under the substitution route the first sayer’s operation drops out of what the rule requires, and whether it can be recovered depends on the source the sentence happens to cite (S7). A later account may still carry its steps and force (§1.3), and the positive controls of §7 depend on that possibility. The stopband follows from the substitution rule as a structural permission, and the instrument measures how often the permission is used.

3.5. **Available and required provenance** (#1618 §7). Under WP:V, P_{required} is one inline citation to a reliable source that directly supports the sentence. $P_{\text{available}}$ is the whole evidence-supported graph. The encyclopedia is provenance-indifferent in #1618’s sense: the relation remains true and findable and need not be consulted before the sentence closes. The truthy projection is the same indifference in a format.

4. Where the encyclopedia sits in the ontological economy

4.1. **Ontological capital** (#1634 §2). $K[O]$ is “the accumulated stock of stable identity, provenance, relations, disambiguation, citations, functional descriptions, identifiers, and retrieval pathways through which a system can continue to recognize E as E,” produced by labour, $L[O] \rightarrow K[O]$. Read under §1: $K[O]$ is accumulated in the entity form. What the stock lets a system do is recognize; reconstruction is held in the sources, at the cost the round-2 supplement asks to be recorded (“The cost of recovering a qualification belongs in the analysis”).

4.2. **Seigniorage without rent; positioned rent without seigniorage.** #1634 §22: “Rent

arises from control of the route. Seigniorage arises from the power to stabilize the unit.” The unit the encyclopedia stabilizes is the entity: the default representation of a topic, the form in which it is first stated. It charges no toll. The downstream use is measured: answer surfaces cite it heavily (a 1,000-query study of live Overviews, April 2026, put Wikipedia at 24.3% of citations, as EA-MIRROR-01 §3 records), and training mixes oversampled it (GPT-3: 3% weight, 3.4 epochs elapsed; LLaMA: 4.5%). Use is evidence of position, and rent needs a further relation: control over the route and appropriation of returns through it. Proposition for the paper, at that status: the encyclopedia mints the entity, and the composition layer is positioned to collect rent on it. The rent-side measures owed are the enterprise API’s pricing against its Wikipedia-derived share, and answer-surface revenue attributable to composed entity answers. The supplement’s three objects (maintained representation, extracted representation, commercial product) are the three positions on this route.

4.3. Ontology laundering (#1634 §8). $G \rightarrow T \rightarrow A$. The encyclopedia keeps G public. Laundering occurs at export: the sentence leaves and G stays. “No article” reads downstream as “no entity”; “one reliable source said X ” reads as “ X ”; “first work” reads as Aristotle’s own claim. WP:N bounds the first conversion (“do not limit the content of an article or list”); the bound does not travel.

4.4. Predatory closure (#1618 §13). Witness: the account closes and remains traversable. Predatory: $\text{Pred} = \text{ExtClosure} + \text{StandingLoss}$, “the jurisdiction of ... closure extends beyond the bounded operation.” An article with its history and references is a witness inside the encyclopedia. The same sentence becomes predatory where a composer exports its closure as settlement of the entity as such.

4.5. The porous moment (#1618 §13.1). Reopening needs $C1$ (findable witness), $C2$ (consultation of a corpus the substrate does not control), $C3$ (an obligation to carry what is found). The encyclopedia holds $C2$ by policy and $C3$ behind a gate. **The gate on $C3$ is the reliable-source predicate:** EA-MIRROR-01’s proxy for standing, with WP:SPS as its update barrier written down ($P(s) \rightarrow A(s) \rightarrow E(s)$).

4.6. Validation foreclosure (#1634 §18). GNG requires “significant coverage in reliable sources that are independent of the subject.” The foreclosure occurs where the composition layer, which helps produce the standing deficit, cites the encyclopedia’s absence as the deficit.

4.7. Shear (#1631 §§3, 8). The free licence and the truthy projection detach facts from the relations that could constrain reuse. Hypothesis, at its status: a reference-free value composes with fewer obligations than a referenced one, because it composes without consulting anything; whether that difference becomes monetary value (#1631’s productive provenance shear, $\Delta V > 0$) needs evidence of appropriation beyond the reproduction rates §9.4 tests. McDowell and Vetter (2024) argue the licensing side; Ford and Graham (2016) and Ford and Iliadis (2023) the representational side.

5. Design rules and the algorithm Θ_W

5.1 Rules

- **Embedding, not annihilation (#1617 §15).** The encyclopedia’s sentence stays verbatim; its account follows.
- **The grammar runs first on itself.** Before any archive source is admitted, the article is held to WP:V and WP:NOR. This is reading in EA-MIRROR-01’s sense: “permitting the claims, distinctions, evidence, corrections and internal relations of a text to revise the representation under which the text is evaluated.”
- **The unit is the operation, with the entity as index (§1).** Each record names the operation a sentence carries or converts, and whether the operation keeps authority to revise the description (§1.2).
- **Three governance statuses.** Every governance element is marked *applicable* (the clause could license this), *documented* (an edit summary, talk page or deletion discussion invokes it) or *inferred* (the analyst’s proposed mechanism). The instrument does not manufacture the governance provenance it exists to recover.
- **Code checks what the readers claim.** The reading passes judge; ordinary code verifies. Before delivery, code confirms that every quoted span occurs verbatim in the captured source it names, that every locator resolves, that every hash identifies a stored input, and that the response satisfies its schema. A classification that fails is withheld from the composition result and recorded in the evidence record as a breach, with the failing check. Agreement between reading passes is a measured property of the instrument; it never stands in for the evidence.
- **Translation is not decompression (#1618 §10).** Unrecoverable relations are entered as ρ .
- **Identity precedes evaluation (#1634 §27).** Substitutions are recorded before claims are evaluated.
- **Non-erasure of mechanisms (#1634 §25).** Each closure keeps a mechanism set with status values.
- **Reflexive non-sovereignty (#1618 §20).** The opened article’s ontology is versioned and its rules are writable objects: $\neg\text{Final}(\mu)$.

5.2 The tuple

$\Theta_W[W \rightarrow \mu]$ writes the conditions of each sentence’s sufficiency on the meaning layer. Per claim, #1618 §9’s twelve elements read encyclopedically, with the operation added as the head:

$$\Theta_W(w) = \langle \omega, w, \delta, G_W, \sim_W, K_W, \Delta_D, \Delta_C, R_W, P_W, B_W, C_W, \lambda, \rho_W \rangle$$

- ω = the operation the cited source performs, stated as an act (counts, negates, coins, translates, consigns), with its locus;
- w = the sentence, verbatim, with its inline references;
- δ = the sentence’s purpose in the article (lead definition, attribution, weighting, reception);
- G_W = the policy clauses that license it, by clause;
- $\sim_W$ = the commensuration contract: which sources were treated as substitutable for

supporting it;

- K_W = capacities created: what a downstream reader can now do with it;
- Δ_D = distinctions not required;
- Δ_C = distinctions that lost standing (a qualifier added, an act converted to an attribute);
- R_W = relations transformed;
- P_W = $P_available$ against $P_required$;
- B_W = bearing: whose labour, and who bears the repair cost;
- C_W = the closure that settled it, with pointer;
- λ = the location of the qualification or objection relative to the sentence: (1) beside the assertion; (2) below it in the same article; (3) in another article; (4) in a cited source; (5) outside the admitted sources (§7.3);
- ρ_W = the remainder.

5.3 The steps

S0. Pin. Title, revision id, timestamp, sha256 of wikitext and rendered text. A finding from the archive's own ledgers: of the sixteen /non field ledgers that use a Wikipedia article as a field source, four mention a revision at all, by a case-insensitive search of each ledger file for "oldid", "revision" or "revid"; the other twelve cannot say which text they read. The round-2 supplement pins all eight of its articles.

S0'. The entity the encyclopedia does not hold. Notability is the encyclopedia's admission rule, and the record built here admits what exists. The entity enters by its name and its strings (and, where the caller names them, the names whose works count as its own); the encyclopedia's absence at its title is observed when the job is quoted and recorded in the row. T is then found or built, in this order. (1) *The composition layer's own article.* Where the Capture Registry holds a capture at the entity's bare address (its name; "who is" it; "tell me about" it), the most recent capture there with a transcript of at least 300 characters is T: it is the closed-ontology article the composition layer already serves at that address. Its source cards are B, each fetched and hashed where it carries a URL and kept as its snippet where it does not; the row records the capture's slug, observation id and surface, every other bare-address observation, and the count of related captures. (2) *A composition the caller supplies,* admitted only through discernment, since /non is public and an unexamined transcript would let any caller write the composition layer's article of anything. A supplied text makes one of two claims, and the row keeps them apart. An *attested* composition claims that a surface composed it at an address on a date. The service checks by code, at the quote and free: that the transcript engages sources at all (the registry's rule, "a capture enters the registry by means of source engagement in composition"); that each card it cites resolves to a page the service fetches and hashes itself; the share of each sentence's content words standing in its best fetched card; that every string it quotes is found in a fetched card; that the attested date is not after the quote; whether the registry already seats an observation at the same address, surface and date, and if so whether the texts agree; and how far the transcript departs from the latest observation at its address (recorded, never judged, since compositions drift). At the opening S3 reads each of its sentences against those cards. A composition engaging no source, or contradicting a seated observation, is not admitted as T, and T falls to (3) with the discernment recorded. What no check here can verify is that the surface composed the text: that is the caller's attestation, recorded as attestation, and a row resting

on it is held from landing until the registry's own intake seats the composition as a capture. A card snippet supplied with a transcript is the caller's attestation and never evidence; a source is always a URL the service fetches. A *composition by the caller* claims no surface: the caller names none, or declares the entity novel (operator, 2026-10-21: "it is fine to construct novel entities as long as they are marked as such"). It is admitted as what it is, the caller's construction, marked so, with the same checks recorded as its account. Every row's T carries its provenance class (observed, seated, attested, composed by the caller, novel, constructed, null), so that falsification, which is a mismarking, is visible in the row. Where there is no composition to open, the object is constructed (below), and no article is made for it first. *The comparison article*, when the caller of a construction asks for one (compare: encyclopedia): the article Wikipedia's content policies would compose from the named sources is constructed: Verifiability, No original research and Neutral point of view applied as written, Biographies of living persons where the entity is a living person, and the self-published and about-self rules for what the entity publishes of itself; notability is not applied. Each source is classed as the encyclopedia would class it, each sentence cites its sources with a quotation that code locates in the source, and each statement the policies keep out is recorded with the clause that keeps it out. The construction is labelled as such and is never presented as a Wikipedia article; it performs the encyclopedia's grammar on an entity the encyclopedia excludes, so the row records what that grammar would let it say beside what the archive says. An opening proceeds from S3, T against L_F(B).

The commission and its object. A caller commissions one of two acts on one of two kinds of object. *Open*: a composition already at an address (an encyclopedia revision, a capture seated in the registry, or a composition admitted through discernment) is read against its sources and against the archive, and the delta is the product. *Construct*: the object is composed from the archive and the sources the caller names, with no T, and the row records the construction as such; the field ledger holds the named sources, and S7-S8 run as for any row. With no commission named, a composition found or supplied is opened and the object is otherwise constructed; an *open* with nothing at the object's addresses says so and offers the construction. The objects are an *entity*, as /non has composed, and an *operator*: the operation the entity form conceals (§1), the act a text performs and the encyclopedic sentence states as an attribute of an entity, in which the operator speaks with the entity's voice. An operator enters by a label, a description, and its strings: the phrases in which it is performed and the phrases in which entities speak it (for the specimen, "nothing at all" and "first work"). Its row composes the operator as the subject: what it does, on what domain, where it is performed, which entities it speaks through (each attributization of S3(c) an instance), and where it stops. Every S7 pass reads its object under a preamble stating that the object is an operator and when a passage bears on one; the passes' own rules are unchanged. An operator is no author in the archive, so every mention of its strings is bearing, read as #1690 §3.4 reads it.

S1. Segment. Claims W1...Wn, each with inline references, section and block locus. Unreferenced sentences recorded as such.

S2. Resolve sources. Fetch and save each cited source verbatim with hash; record availability (fetched, paywalled, print-only, dead). A summarizing fetch is not a fetch (#1690 §3.1).

S3. Immanent verification. For each claim against its cited source, three machine passes. (a) *Support*. Classes are non-exclusive and recorded together: supported; partially supported; qualifier added (tokens listed); interpretation beyond descriptive paraphrase; unsupported;

unresolved (source inaccessible, support partial, or the passes disagree). (b) *The paraphrase comparison*. NOR permits “Describing the information from cited material in one’s own words while retaining the substance (i.e., not introducing ideas or arguments absent from the source)” and “Faithfully translating sourced material.” So the reading pass writes the defensible descriptive paraphrase of the cited lines, sets the sentence beside it, and records each scope change and each idea the sentence introduces, quoting both. Token deltas locate candidates; the reading pass adjudicates them. (c) *Attributization*. Does the source perform an act that the sentence states as a property of the entity? Record the conversion; which operative relations survive it (scope, distinctions, evidence, consequences); and whether those relations keep authority to revise the description. A candidate locator flags an active verb in the source rendered as a credential noun or priority adjective in the sentence (“we had nothing to say” → “first work”). Each classification is produced by two reading passes, at the default sampling of the model (Sonnet 5.5 rejects non-default sampling values and Haiku 5.5 asks callers to omit them, so the passes differ by the instruction to the second pass to reach its own judgment and, where set, by its model). Where both run on one model family their agreement returns the class as *concordant*, a consistency check; validation is the calibration of §5.4. The second pass’s model is a recorded setting, and agreement across two families is named so. Disagreement returns *contested* with both readings. Every classification carries the verbatim spans it rests on, their loci and hashes, and the model and version that read it.

S4. Grammar ledger. For each closure (settled, weighted down, excluded): $G \rightarrow T \rightarrow A$, with policy clause, transformation, sentence, each marked applicable, documented or inferred. Exclusions are recorded in two kinds: a source explicitly rejected in a documented decision (edit summary, talk page, reliable-sources noticeboard, deletion discussion), with its pointer; and an available source not cited, with no decision on record. Talk-page and deletion pointers go to C_W; λ records where any qualifying material sits.

S5. Tuple. $\Theta_W(w)$ for each claim; the record carries all thirteen elements (abbreviations allowed in display; #1618 §9.1 on why K and Δ_C must not be dropped). The build emits the support, paraphrase and attributization classes with their spans and loci; the elements it does not compute ($\sim_W$, K_W, B_W, C_W, λ) and the S4 ledger are named unimplemented in the evidence record until supplied.

S6. Classify. Closure (witness, predatory) $\times$ integrity (sound, unsound, unresolved) (#1618 §13.2). Unresolved carries its reason through to the response. A sentence can be a witness inside the encyclopedia and predatory as exported; record both, with the export surface where observed.

S7. Admission. Admit the sources the grammar excluded, by reading, under #1690 v0.9: verbatim ledgers, every field claim in one translation row, case and p with loci. The encyclopedia’s sentences enter the field ledger as one field source. For panel entities the admitted corpus is the archive’s, at a named corpus release. Outside the panel each job declares an execution contract before it runs: search scope (which indexes, repositories and languages), retrieval budget, stopping rule, and an admission record listing every source searched, obtained, admitted or unavailable, with reasons. The opening is then complete within its declared scope, says so, and lets the caller commission an extension. The build runs this procedure as the machine’s (Appendix B, src/s7/): the archive’s traversal script at a named commit; the blog’s posts beside the deposits; admission by two reading passes, a disagreement carried with both readings; extraction with every quote located in its source by code;

the ontology pass; composition; the checks of #1690 §5 and the two-rater audit. Its product is the entity's /non row: the revision as T, the cited sources as B, the archive's subset as A, each composition and its measure. For an encyclopedia article the search scope is therefore the archive's procedure, declared in the quote, and the row carries its admission record (verdicts, reasons, the screen's exclusions) in the dataset's reading file.

Where the entity is also an author in the archive. The archive's mentions of its own author are most of the archive, and reading them all would commission a book. Admission therefore divides them before any reading pass. Material about the entity is read: a deposit whose registry title names the entity as its subject (bylines struck: "by", "Author:", a name followed by its ORCID, a middle dot, an imprint or a series, a name set between dashes or closing a title, a citation's "(Name; Press", and the possessive that names a work as the entity's), a description that predicates of the entity or presents, describes, profiles or searches for it once its bylines are struck, or a subject triple whose subject is the entity itself or a relation of it; such a deposit is read as any admitted deposit is and seeds the hop. A deposit in which a sentence says something of the entity is read at those paragraphs and their neighbours, each distinct sentence once, at most six per deposit, and seeds no hop, since the hop follows what is about the entity and never the citations among its works. Which sentences say something of it is decided by a triage pass on the small model, which scans every distinct mention that is no byline and no other name (6,776 sentences for Lee Sharks, about \$0.10) and returns those about the entity, sending on any it is unsure of. A code screen of predication ("Lee Sharks is...", "Lee Sharks received...", "the poet Lee Sharks...") locates candidates and decides only where no triage reading exists, as in replay, and says so in the row. Its measure: divided as if each were an author, the 21 /non rows with readings admitted 768 deposits at D, R and O, and the code screen alone would send 389 of them to reading (recall 0.507); its grammar misses half the bearing, which is why it does not decide. A sentence that predicates of the entity is read even where it also carries a byline mark (an ORCID beside the name). The rest of the mentions are scanned by code: the works whose registry creator is the entity, or a name the caller counts as its, are listed in a works ledger with their dates, and the remaining mentions are counted. A longer name containing the entity's string (the archive's Mary Lee Sharks contains Lee Sharks) is another name and is struck before matching. The row carries the division, its rule, the screen that decided it, its counts and the works ledger, and the reading file lists every scanned deposit under its reason, so each exclusion can be inspected and contested. Price then follows what the archive says about the entity, and the volume of what the entity wrote costs nothing to list. Where the entity is no author in the archive, every mention is the archive's bearing on it and the reading of #1690 §3.4 stands unchanged, with the byline screen before it.

S8. Compose. Each encyclopedic sentence is followed by its account, on #1617's pattern for a monetary shadow, "\$X followed immediately by E_μ(\$X), never as the verdict": the sentence; the operation it carries or converts; the grammar that made it sufficient; where the case is witness or mixed, the composition in the archive's ontology with claim ids.

S9. Emit. The opened article as an SPXI packet: HTML; JSON-LD with the pinned revision URL as isBasedOn and admitted sources as citation; W3C Web Annotations (Web Annotation Data Model, W3C Recommendation 2017) targeting the revision URL with TextQuoteSelector (exact, prefix, suffix). The annotation is the source-level anchor: it addresses the encyclopedia's exact words at an exact revision.

S10. Measure. Captures at the article's addresses before emission and after propagation, organic and cards apart (EA-MIRROR-01 §7). The gate-reception test applies unchanged.

5.4 Calibration, at scale

The instrument's exemplar is its calibration point (operator, 2026-09-08). The calibration set is already in the archive: the sixteen /non field ledgers that use a Wikipedia article as a field source hold several hundred verbatim Wikipedia claims (F37 among them), each placed in a translation row against archive claims checked verbatim. A release of the reading passes is run against that set, and its agreement with the ledgered readings is published with the release, by class. Holdout is by whole article or source group, never by row from an article already used in tuning. The set includes cases where the operation survives its representation (the round-2 positive controls, If Not, Winter and Eros the Bittersweet, first), so that an instrument that finds damage everywhere scores badly. The set grows as rows are composed. Acceptance is explanatory reach: the passes are adequate when they recover the ledgered readings across articles they were not tuned on. The floors for a calibration release, provisional until the operator rules on them: on every held-out row, admission recall at least 0.9 and precision at least 0.8; archive claims and field claims each at least 0.6 recall and 0.6 precision, a claim matched when its quote overlaps the ledgered quote; and the case and ρ read back without contest. A row used in tuning any part of the procedure is not held out, and its score does not count. Below the floors the passes return their classes as provisional, labelled.

The instrument for this is built. The procedure takes either an encyclopedia revision or an existing /non row's own transcript and saved field texts. Run on a row, its outputs are scored against the row stage by stage: the traversal's candidate files by hash; admission and claims by precision and recall; the case and ρ ; the composition's measure. On se-183b34 the traversal reproduces the row's D, R and O files byte for byte, and the hop screen keeps every deposit the row admitted by hop. Scored on every /non row whose reading admitted deposits by the hop (4 rows, at archive commit 50492a93), the screen keeps 9 of the 9 deposits those rows admitted by hop that the traversal still reaches, and passes 686 of 2,528 hop candidates to reading; the screen's constants (two shared rare words, rare under 3% of candidates) are tuned on these rows, so the score measures recall on its tuning set. A replay of the row's own readings recovers it whole; that tests the pipeline and measures nothing about the reading passes. The first live run over the archive's rows is the first calibration release.

Scale follows from three facts. A reading is keyed to its complete execution state: the article revision and selected claims; the snapshots (with hashes) of every retrieved source; the policy revisions consulted; the admitted corpus release; the protocol and reader versions, and the reader's mode, so that a replayed reading never serves a live request; the calibration release; and the tier. A request whose state matches a ledgered execution is served from the ledger to every later caller. When any element changes (a cited page edited, a source admitted, a policy revised, a reader released), a new opening is computed against the changed state, and the earlier one remains a valid historical artifact of its execution; updates are sold as reading against the changed state. The reading passes run in parallel, bounded by Wikimedia's rate rules on fetching (a compliant User-Agent, three concurrent requests, Retry-After honoured) and by inference cost; at volume, by Wikimedia Enterprise (its free account allows up to 50,000 on-demand requests a month; retrieval of historical revisions by id to be confirmed)

or the dumps. And the opened article is produced on demand: the encyclopedia is opened where callers ask, and the ledger records which sentences they asked about.

6. Worked specimen: one sentence of “Sophistical Refutations”

S0. English Wikipedia, “Sophistical Refutations,” revision 1361634710 (page saved by curl 2026-10-20; HTML sha256 013a2a799c0bf525...).

S1. Lead, second sentence (F37 in the /non row se-183b34):

According to Aristotle, this is the first work to treat the subject of deductive reasoning in ancient Greece (Soph. Ref., 34, 183b34 ff.).

No footnote. The only citation is the parenthetical pointer to the primary text.

S2. The cited source, as #1574 seats it:

Ταύτης δὲ τῆς πραγματείας οὐ τὸ μὲν ἦν τὸ δ' οὐκ ἦν προεξεργασμένον, ἀλλ' οὐδὲν παντελῶς ὑπῆρχεν. (183b34–36) — “Of this inquiry, it was not that one part had been worked out beforehand and another had not; rather, nothing at all was there.”

περὶ δὲ τοῦ συλλογίζεσθαι παντελῶς οὐδὲν εἶχομεν πρότερον ἄλλο λέγειν, ἀλλ' ἡ τριβὴ ζητοῦντες πολὺν χρόνον ἐπονοῦμεν. (184b1–2) — “About syllogizing we had absolutely nothing else earlier to say, but were long at work seeking by practice.”

S3. (a) *Support*: partially supported; qualifier added; interpretation beyond descriptive paraphrase (candidate, pending (b)). The sentence attributes its claim (“According to Aristotle”), and the cited lines do support a descriptive statement that Aristotle claims no predecessor for the inquiry. (b) *The paraphrase comparison*. A defensible descriptive paraphrase of the cited lines: “Aristotle says that of this inquiry nothing at all existed before, and that about syllogizing there was nothing earlier to say (183b34–36; 184b1–2).” Set beside it, the sentence introduces three things: “the first work” (a priority claim about a work, where the lines make a claim about prior material); “deductive reasoning” (a modern category, where the lines name τὸ συλλογίζεσθαι and ἡ πραγματεία); “in ancient Greece” (a geographical frame absent from the lines). Whether these are faithful paraphrase or ideas absent from the source is the question NOR’s paraphrase clause poses; the reading pass’s finding here (the reading performed in this session, and the one the /non row’s ledgers confirm) is that the first two change the scope of the claim. On that finding the sentence needs a secondary source for its gloss (“All analyses and interpretive or synthetic claims about primary sources must be referenced to a secondary or tertiary source”) or a descriptive restatement. (c) *Attributization*: ω = a first-person count over a stated domain ending in a total negation (“nothing at all”; “absolutely nothing else”); attribute = primacy of a work. Surviving relations: the attribution to Aristotle and the locus. Lost: the quantifier’s exhaustiveness and its domain. Authority to revise: the cited locus is present, so any reader holding the text can reopen the sentence; the lead sentence as reused carries no such route.

S4. G: NOR's primary-source and paraphrase clauses, *applicable*; due weight, *inferred* (no talk-page or edit-summary invocation located). T: the exhaustive negation becomes a priority claim, and the negation's object becomes a modern category. A: the lead sentence, attributed to Aristotle. λ for the archive's qualification: (5) outside the admitted sources; within the article, no qualification of the gloss was located.

S5. ω = count and total negation (183b34–36; 184b1–2); δ = lead attribution of originality; G_W = V (inline primary citation, *documented* in the sentence), NOR's interpretation clause (*applicable*); $\sim$ _W = the field's secondary consensus on originality (*inferred*: the sentence cites no secondary source, and that consensus is the analyst's proposed source of the gloss); K_W = a citable one-line statement of Aristotle as first, reusable without the Greek; Δ _D = the quantifier's scope and the two loci's separate claims; Δ _C = the exhaustive "nothing at all" (#1574 §3: "No adjective is transmitted ... The quantifier is exhaustive"); R_W = a first-person count becomes a third-person attribute; P_W = P_required met by a parenthetical pointer, P_available including the Greek and #1574's apparatus; B_W = the translators and commentators whose reading is presupposed; C_W = no talk-page discussion located for this sentence (to check); λ = (5); ρ _W = which secondary source, if any, the gloss entered from.

S6. Closure: witness inside the encyclopedia (the pointer is an audit pointer; any editor holding the text can reopen it). Integrity: unsound on the S3(b) finding, with the finding, its paraphrase and the quoted spans recorded so that any caller can check it and contest it.

S7. Already run: /non row se-183b34 (2026-10-20), F37 among 44 field claims and 147 archive claims; case equal, ρ = extends. #1603 §7: among the witnesses examined, "the degree-reading — *nothing systematic* — is not attested before the modern period."

S8. The opened sentence:

Wikipedia (rev. 1361634710): "According to Aristotle, this is the first work to treat the subject of deductive reasoning in ancient Greece (Soph. Ref., 34, 183b34 ff.)." **The operation in the cited lines:** a count. Of this inquiry, nothing at all was there before (183b34–36); of syllogizing, "we had absolutely nothing else earlier to say" (184b1–2). The sentence restates the count as an attribute, primacy, and adds "deductive reasoning" and "in ancient Greece"; it cites no secondary source for the gloss (WP:NOR). The reading of the quantifier as exhaustive is #1574's; the history of the narrowing gloss is #1603's.

S9. Annotation target: the revision URL; selector exact = the sentence; body = the account and the row.

7. The comparison set: the round-2 close readings

7.1. What was read. The supplement "What Wikipedia Makes of Its Subjects" reads eight English Wikipedia articles at fixed revisions, four as primary objects and four as linked controls: Sappho (1378068123), Anne Carson (1381070638), Political economy (1373839565), Theophrastus (1379932454); Sappho 31 (1375954224), Eros the Bittersweet (1379182335), If Not, Winter (1380296320), Critique of political economy (1379718450). It checks three

upstream sources: the 1911 Britannica “Theophrastus” (Wikisource rev. 12061013), Ierodikonou’s Stanford Encyclopedia entry (rev. 2020), and Carson’s 2004 Paris Review interview.

7.2. Two of its upstream loci, re-checked on 2026-10-20 against saved pages: - 1911 Britannica: “His writing probably differed little from the Aristotelian treatment of the same themes, though supplementary in details.” Verified. The supplement identifies the inherited form of this judgment in the Wikipedia article’s Writings section. - Stanford Encyclopedia: Theophrastus “wrote many treatises in all areas of philosophy, in order to support, improve, expand, and develop the Aristotelian system.” Verified, with the sequence the supplement finds in Wikipedia’s lead.

7.3. What it establishes for this protocol. - **The entity-form proposition, at the article level.** Its finding that “recognition is repeatedly available as an organizing coordinate, while reconstructing literary procedure requires more work” (Carson) is §1.3’s passband and stopband observed in one article. Its unit, “a portable representation together with the costs of reconstructing what its portability leaves behind,” is the entity form with its account. - **A positive control.** If Not, Winter is a work page on which “production decisions become inspectable.” Eros the Bittersweet “identifies a relation among desire, lack and triangulation.” These are the operation-carrying pages §1.7’s falsifier needs: if author pages and work pages convert operations into attributes at the same rate, the proposition fails. - **Claim-level source age.** The Theophrastus finding, “an inherited assessment can remain active inside an otherwise updated object,” gives S4 a field it lacked: the date and source of the formulation inside each sentence, distinct from the newest date in the bibliography. The 1911 judgment is also the one the archive’s Theophrastus line contests (The First Draft; #1580–#1594), which makes the sentence a natural S7 case. - **The location of an objection.** “A qualification beside an assertion, below several screens, in another article, in a cited book, or outside the admitted sources occupies a different position in practice.” The tuple now carries it as λ , in five positions: 1. beside the assertion; 2. below it in the same article; 3. in another article; 4. in a cited source; 5. outside the admitted sources. - **Subordination without deletion.** “A representation can keep a person’s name and works while making another person, institution or genre the default point of explanation.” Theophrastus located through Aristotle is the case; R_W records it.

7.4. What the supplement does not do, and S3 adds. It checks inheritance and placement, and it does not test whether each cited source directly supports its sentence. Running S3 on its eight pinned revisions is the next empirical step, and the first calibration run (§5.4): the supplement’s own readings of those articles are a second reference against which the machine passes can be compared.

7.5. Overlap with /non. Four of its articles are field sources of existing /non rows: sappho-31, anne-carson, political-economy, theophrastus. Those ledgers were fetched before 2026-10-20 without revision ids. The revision current at each ledger’s fetch time can be recovered from the page history; until then, the supplement’s pins serve as the dated reference revision, with the gap recorded.

7.6. The supplement’s question for the accounting cycle stands as written: “which labor is consumed by reuse, which capacity must be maintained for that reuse to remain reliable, and what mechanism returns resources to that maintenance?” §11 is one answer to the third clause, for this archive’s labour.

8. Boundaries

8.1. The algorithm does not edit Wikipedia to cite the archive, does not assign intent to editors, and does not treat absence of an article as a finding of non-existence. It records where a downstream composer treats it as one.

8.2. The intent ruling of 2026-10-19 governs composition-layer suppression of the archive's entities. The encyclopedia's editorial process is a different layer and is analysed by mechanism. A composer that exports an encyclopedic closure as settlement of the entity (S6, predatory) is a composition-layer event, recorded under the composition-layer rule.

8.3. The Wikipedia-facing output is confined to S3 findings, which are statements in Wikipedia's own grammar and need no archive source. Whether they go to talk pages, and by whom, is the operator's ruling; the design keeps that route clear of self-citation (WP:COI, WP:SELPUB).

8.4. Entities are taken from the archive's panel and their defining papers, one at a time, as /non does, except where a paying caller supplies the article (§11).

9. Propositions and falsifiers

9.1. **P1 (entity form).** Attributization with loss of operative authority (S3(c)) occurs at a higher rate on entity pages than on work and method pages. Matching: pages paired within one subject area, by article length ($\pm 25\%$ in prose words), age of the article, citation density (references per 1,000 words) and revision activity in the prior year. Falsifier: no difference or a lower rate on entity pages; the positive controls of §7.3 are the first test.

9.2. **P2 (immanent integrity).** For panel entities, S3 finds interpretation beyond descriptive paraphrase and qualifier additions at higher rates than on matched control articles (matched as in §9.1, outside the panel). Falsifier: no difference or a lower rate. A null leaves the protocol intact and removes the claim that closures fall unevenly on these entities.

9.3. **P3 (export).** A dated sentence can be traced into a later composition with its qualifier or attribute and without its account. The causal claim stops at the last evidenced join.

9.4. **P4 (reference loss).** Where Wikidata statements exist both referenced and as truthy values, compositions reproduce the truthy value without reference at a higher rate than they reproduce referenced article sentences without citation. Falsifier: no difference. A positive result establishes greater reference loss under those conditions; the further claim of monetary value from that loss (§4.7) needs appropriation evidence.

9.5. **P5 (reopening).** After emission, compositions at the article's untied address carry the account at a rate above baseline. Falsifier: no change after the propagation window.

9.6. Limits carried forward: same-family readers are not independent validation (#1694); cards are not the retrieval set (#1690 §0); PER-dim does not measure monopoly, dependency or appropriation.

10. What becomes of the entity in the archive's own terms

10.1. The proposition of §1 applies to the archive's instruments. PER-dim's M/C/D split is the entity form and its account, measured. /non's KO composes the entity; under v0.2 every KO sentence that states an attribute names the operation it rests on, or records that none is in the ledgers.

10.2. SPXI's success criterion of 2026-09-29, that "the inscription process proceeds by means of discernment," reads under §1 as a criterion on the operation's survival: an inscription succeeds when the composer carries what the entity does, and recognition alone is the entity form's passband, which any surface supplies.

11. The service: SPXI-gnΩsis

11.1. **Form.** SPXI-gnΩsis performs paid semantic computation for agents, and for humans who commission it: it opens existing representations (an encyclopedia revision, a captured answer, a supplied composition) and constructs knowledge objects, entities and the operators the entity form conceals. Its completed public artifacts build /non. Each call is a bounded unit an agent can inspect and extend; the opening of a Wikipedia article is its most legible demonstration, since the representation and its limits are inspectable. Θ_W is the opening's procedure. Its implementation (scripts, prompts, the reading procedure at S3 and S7) is public under the PolyForm Shield License 1.0.0, and its products are public under CC BY 4.0 (§11.3). This deposit describes the service, its procedure, its outputs and its evidence; Appendix B pins the code. As built it runs in the archive's environment: S7 runs the archive's own traversal script from a local checkout at a named commit, so the calibration is honest, and a deployment elsewhere needs a container image holding the archive at a named commit, with the release check the build performs (every read file hashed, and a recorded warning when the archive is no git checkout or a read file carries uncommitted changes).

11.1a. **Placement.** SPXI-gnΩsis carries the SPXI name, so its service pages and record fall under the no-contamination rule of 2026-09-16: the source audit of Appendix A and the critical apparatus of §§1–4 stay in the archive's research deposit, and the service documentation states what the service does, returns and guarantees.

11.2. **A note on what a licence can hold.** Copyright covers the expression of a text, and a method described in enough detail can be reimplemented by anyone without copying the text. A billable service is protected by what it runs on: the running pipeline, the pinned and verified ledgers it accumulates, the archive's admitted sources, and the reading at S3 and S7. v0.10 proposed cutting §5.3 back to inputs, outputs and guarantees for deposit, so that the method would stay with a held implementation. The implementation is now public, so the cut would protect nothing, and §5.3 stands in full. The PolyForm Shield License 1.0.0 lets anyone read, run, change and build on the code for any purpose except providing a product that competes with the licensor's. It covers the code's expression, and a reimplementation made from this text alone falls outside it. What the licence cannot hold is held, as before, by

what the service runs on: the running pipeline, the ledgers, the admitted sources. (Not legal advice.)

11.3. Interface, as proposed. The flagship is the automated opening of an article (S0-S9): statements kept visible beside their sources, transformations, governing assumptions and admitted counterevidence. Its primitive, sold on its own as the entry point, is the transfer audit. The caller's sequence for an opening: supply a pinned article, tier and optional target claims; receive a scope and maximum-price quote; authorize payment or reserve prepaid credit; receive a job id; retrieve the completed opening and its evidence record.

- **audit_transfer** (the primitive). The caller supplies a source (a passage, or a pinned URL with locus) and a claim made from it: a Wikipedia sentence, or the caller's own draft. The service returns the source's operation (ω), the claim, the exact supporting spans, every preserved, added, removed or transformed relation (scope, attribution, qualifier, act converted to attribute), unresolved points, and a rendering of the claim that keeps the source's distinctions, with the full Θ_W tuple behind it. Bounded by passage length and claim count, so the price is known before the call. Example of the actionable core: *the source reports a result within a stated domain; the claim removes the domain*.
- **get_opening**. The caller supplies a revision id and, optionally, sentence ids. The service returns the ledgered opening of those sentences: tuples, spans, classifications, the opened article and its annotations. Served from the ledger at once; status *ledgered*, with the calibration release that produced it.
- **request_opening**. The caller supplies an article revision not yet in the ledger, or a whole article. The service quotes the claim count and price, takes payment, returns a task (MCP Tasks; job id and polling over HTTP), runs `audit_transfer` over every sentence-citation pair (S0-S9), and completes with the opened article. Status *fresh*, with its calibration release.
- **The tiers.** *check* (S0-S3 and the integrity axis, read by the small model); *ledger* (S0-S6); *opening* (S0-S9, the flagship): each sentence opened against its cited sources, and the entity composed with the archive admitted by the archive's own procedure, as its /non row; *portable*, the highest: the opening, and the entity's knowledge object as a self-contained package (Markdown, HTML with embedded JSON-LD, the structured object, a manifest of SHA-256 hashes for every file, and its licence), so it can be carried to any surface and verified there. The knowledge object is the row's: every sentence lists the claim ids it states, every claim carries its verbatim quote and locus, and each unit the reverse entailment audit finds unsupported is marked in place. Before the audit, code checks the composition: structure, coverage of every carried claim, kernel coverage on the compression, grounding of each unit in the quotes it cites, numbers no cited quote gives, grade carried in grammar, the construction #1690's rules exclude, and the measure of §4.10 with its opening-run and block checks. The package fee is charged when the audit ran complete, both raters judging every unit, and marked no unit; otherwise the package is delivered with its marks and the fee released. An audit missing any judgment is incomplete, is carried so into the output, and is never clean.
- **The commissions.** Beside the opening of a revision, a caller commissions an act on an object: {commission: open | construct, object: {kind: entity | operator, name, ...}}. For an entity it supplies its strings and, optionally, the names whose works count as its own, a seated capture to open (by observation id or slug), a composition (attested, the caller's own, or a novel entity's), or source URLs; for an operator, its description

and its strings. The quote observes the encyclopedia's absence at the title, returns the discernment of any supplied composition before payment, names what is opened or constructed and its provenance class, and prices the archive's consultation (for an author, from the division of about and by). A construction may ask for the comparison article (compare: encyclopedia), priced as its own line (\$5.3 S0', S7).

- **At the point of contact.** The service is offered where a caller meets a gap, in the call the caller is already making, by two requests that need no identifiers. A simple request can commission substantial work: where it needs time, it returns a task id. A *sentence*: GET /v1/sentence?text=...&url=..., the sentence as the caller holds it and the page it came from. The service finds the sentence on the page, recovers its sources and reads the transformation, returning an inspectable opening: supported, partly supported or unsupported, what the source says, quoted, what the sentence adds or drops, and the /non entry where one exists. The opening keeps the declared checks of S3 and its two readings, a disagreement returned as contested; a single reading on the small model is offered under its own name, a *preliminary reading*, and is never presented as an opening. Its price is measured against the operation it performs. A *name*: GET /v1/non?name=..., with optional context (a URL, a description, a source, the kind of object wanted). The request opens a resolution: where one object answers the name, the service returns its entry, or quotes its construction, finding its sources itself and recording each source searched, admitted or rejected; where several could, it returns the candidates and asks for the context that tells them apart. A name may resolve to an entity, to an account of a concept, or to an operator. *Reuse*: what is free is an existing artifact at its disclosed state (the reading or the entry as composed, with its date and the hashes of what it read). Checking it against changed sources, extending its coverage, applying an operator or producing a fresh reading is new work and is quoted; a completed object is public, and a partial run returns its evidence and status. A revision id, a sentence id and a tier remain the method's and the evidence record's, and no caller needs one. The same two requests are offered as tools to agents (MCP) and listed where agents find paid services, with a sentence on when to use each.
- *Statuses and prices.* A fresh reading and a ledgered reading are distinct statuses. A ledgered sentence costs less than a fresh one, and each sale of it amortizes its production; a fresh opening pays for its own computation.
- *Payment discipline.* The quote fixes a maximum price, and the payment authorizes that amount before computation starts. If no claim completes, the paid route returns an error and settlement is cancelled: nothing is charged. If some claims complete, the charge is the sum of their quoted lines, plus the writing at the portable tier once the article passes its checks; the *exact* scheme settles the authorized maximum, so the difference is queued as a refund to the payer the settlement names and sent from the receiving wallet. A paid quote is recovered by its id without a second charge. A quote that does not exist or has expired is refused before the payment layer, so no challenge is issued for it; the middleware cancels settlement whenever the paid route answers 400 or above (@x402/express 2.28.0). Model spending on the archive's consultation stops at the execution budget the quote declares (the S7 line divided by 1.5); passes beyond it are recorded as not run, and the result is marked partial. Receipts (settlement transaction, payer, network, reserved amount, charge, refund) are a record separate from the evidence, keyed to the quote and the result. x402's *upto* scheme, which settles any amount up to the authorized maximum, would remove the refund step; the build uses *exact*.

- *Response*: two linked parts under one result id. The **composition result**: the opened passage, preserved distinctions, unresolved issues and source references, usable at once. The **evidence record**: full tuples, original spans, selectors, source snapshots and hashes, competing readings, breaches, the execution contract, model and protocol versions, calibration release. Both are retrievable by id, so a full opening is never squeezed into a tool-response limit. Formats: JSON for both, HTML of the opened article, W3C Web Annotation JSON-LD.
- *Terms*: public (operator, 2026-10-21: “yes - all public”). Every opening’s /non row, with its ledgers, traversal and reading, is published under CC BY 4.0, as the dataset is. The opened article and its evidence record go to the caller, and their account of each sentence enters the row. The caller pays for the work and its timing: the reading, the archive’s consultation, the composition and the package, at the article and the moment the caller chooses. The first caller of an entity’s row pays for its production; a later caller whose input matches the ledgered row is served it at the ledgered rate (\$0.10), so the first caller funds the row and later callers pay for access to it. The implementation is public under the PolyForm Shield License 1.0.0 (§11.1). Wikipedia-derived spans are excepted (§11.3a).
- *Publication*. A row passes through observed stages: composed; checked (the code checks ran); landed (the archive checkout holds the row file with the landing tree’s hash); public (the row file the site serves hashes to the landing tree’s hash; a page that merely names the row’s slug may show an older version, and is recorded without counting). Each landing tree is kept under its execution key, and the caller receives the observed stage and, once landed, the revision URL, from the result’s publication endpoint.
- *First commercial run*. One paid, fully automated opening of a short article that another agent requests, receives and uses, built from the two agent-composed rows of 2026-10-20 as execution traces; its cost, completeness, latency and later reuse recorded. Then ten worked openings from the archive’s ledgers served through `get_opening`, and one `audit_transfer` endpoint with quoted costs, integrated into one external agent workflow; measured: corrections accepted, cost per completed job, repeat paid use. It needs a model key and a buyer wallet funded with test USDC. It passes when one paid opening of a short article composes the row with at least one admitted source; the package is delivered with the audit complete and no unit marked; the receipt is written; the refund path is either not exercised or exercised and recovered; and the caller keeps its own record of what it received.

11.3a. **Wikipedia-derived spans**. Wikipedia text is licensed CC BY-SA 4.0. Every verbatim Wikipedia sentence in an output remains under CC BY-SA 4.0, carries its title, revision URL and licence link, and is marked as a separable span in the JSON and HTML. The service’s account is a separate work, published under §11.3’s terms. Short quotation for commentary may also fall under quotation exceptions, and the service does not rely on them: the carve-out applies to every span. The knowledge object is composed from the article’s cited sources and from the archive, never from the article’s text: under #1690 §4 the composer reads the ledgers and never the transcript. It is released as /non is, under CC BY 4.0. The revision’s sentences appear in the row as T, in the record of T against L_F(B) and in the opened article, each marked as a CC BY-SA 4.0 span with the revision URL; the revision’s text is seated with the row under its own licence. Quotations of the cited sources are short quotations for

commentary, attributed in place; their full texts are held by the service by hash and are not redistributed. (Not legal advice.)

11.3b. Caching. Four caches, each keyed to what it was computed from. (1) *Source snapshots*: a revision or cited source is fetched once, stored verbatim with its hash, and reused by every later job that cites it. (2) *The claim ledger*: a claim's reading is stored under a key of the sentence's hash, its sources' hashes (cited and admitted), the policy texts' hashes, the reader protocol, the model, the reader adapter and its mode, and the calibration release; any later job, at any tier, whose claim matches that key is served the reading without a model call. (3) *Prompt caching*: the reading instructions and a claim's source passages form a prefix marked for caching, so the second, independent pass reads them at the cache rate. Before any of these, *windowing* reduces what is sent: the reader receives the passages of each source that bear on the claim (with offsets into the full text), the source's opening, and a structure summary in which code counts the source's division markers; classical chapters go whole. When a reading pass reports that its passages lack what the claim needs, the claim is read once more with wider windows, and both readings' costs are counted. Quotations are still checked against the full stored text. On the specimen, windowing reduced the input for the claim citing two long sources from about 32,000 tokens per pass to about 5,700. (4) *The row ledger*: an entity's /non row is stored under a key of T's hash, every field source's hash, the entity's strings, the archive release (commit, registry, citation graph, traversal script and blog index, each by hash), the S7 protocol, its models and its mode; a later opening whose input matches is served the row at the ledgered rate. Only a composed row is ledgered, and a result is served again only when its row was composed: a run that composed nothing is recomputed on the next request. At S7 a deposit up to 60,000 characters is read whole, a longer one by its opening and the paragraphs around its admitted candidates.

11.3c. Pricing that clears cost. Each quote resolves the cited sources, estimates the tokens each claim's reading will use, prices the claim at the larger of a tier floor and three times its estimated model cost, and rounds up to the cent; a claim already in the ledger is priced at a lower ledgered rate and costs almost nothing to serve. The charge is for completed claims only. Every result records its measured token use, its actual cost at the price table it was costed with, the charge and the margin. Specimen (Sophistical Refutations, rev. 1361634710; build 0.6.0; estimates, before a live run): *check*, three cited claims on Haiku 5.5, estimated cost \$0.007, price \$0.03. *opening*: the three claims on Sonnet 5.5, \$0.42; and the archive's consultation and the row as one line, priced from the traversal the quote runs: 22 candidate deposits and 7 blog posts at D, R and O, 868 hop candidates of which at most 74 pass the screen, four field sources; estimated cost \$2.56 (extraction \$1.65, ontology \$0.31, composition \$0.26, admission \$0.12, the audit \$0.11, the delta \$0.09, the hop \$0.02), price \$7.68, execution budget \$5.12, for a quoted maximum of \$8.10. The estimate costs every candidate deposit as admitted and extracted, and a declared share (one in ten) of the screened hop candidates as admitted and extracted; it is an estimate, and the execution budget is what bounds spending. The charge for the row is its measured cost times the margin, at a floor of \$1.00, never above the quote. A row already composed for the same input is served at \$0.10, and the package at \$0.25 when the audit marks no unit. Since every row is public, a later caller can read it on /non without paying; the ledgered rate pays only for structured delivery of what is already readable, and the service's revenue is new production: openings, constructions, extensions, and updates against a changed source, a new capture or a new archive release. Each public row is also the evidence a prospective caller inspects before

commissioning. What agents were observed to pay for (October 2026), read for discovery and payment, never as a ceiling on price or a measure of demand: among the top hundred listings of Coinbase's x402 Bazaar, 208,415 calls over thirty days, 42% went to web search and content retrieval and 11% to company and people enrichment, where a premium person match runs to \$0.28; across a broader population, all x402 payments on Base, the median payment was \$0.0061, a different denominator. Agents meet a service through a listing that states its price and, in 5.6% of 34,062 Bazaar listings, when to use it; Stripe's directory asks for an llms.txt and example prompts. A survey of the largest-catalogue sellers found little settled demand among them (its top seller had 56 paying wallets), which counsels caution about apparent volume and establishes nothing about the market as a whole. A source-reading operation does more than retrieve a page, and a constructed knowledge object does more than enrich a contact record: those markets inform how the two requests are found and paid, and what they return is gnΩsis's own. The lesson adopted is that a caller needs a clear reason to call and a result it can use at once. Payment after use, as in Cloudflare's experiments with Ceramic.ai and You.com, is a prospect to investigate; it leaves production unfunded, which the commission funds. Extraction dominates, because the archive's defining papers are read whole. *Entity specimen* (Lee Sharks; build 0.6.0; estimates): the encyclopedia holds no article at the title (observed at the quote). T is the capture at the bare address "lee sharks" (Google AI Overview, 2026-10-16, 1,245 characters; the registry holds nine other bare-address observations and 105 related captures), and B is its two source cards, one fetched and one carrying neither URL nor snippet. 1,851 deposits and blog posts name the entity. Read as one bearing, every one admitted and extracted, they were estimated at \$103 and priced at \$309. Divided, 45 are read whole as about the entity and 218 at the paragraphs the code screen finds predicating of it; since live the triage pass decides and the code screen finds about half of what readings admit, those 218 are costed at twice their count. 1,588 are scanned and 1,163 deposits enter the works ledger; the hop runs from the 45, with 425 candidates of which at most 369 pass the screen and 37 are costed. Estimated cost \$12.73 (extraction \$9.60, admission \$1.93, ontology \$0.42, composition \$0.35, the delta \$0.14, the audit \$0.11, the triage \$0.10, the hop \$0.09), price \$38.18, execution budget \$25.45; with S3 on the capture's 12 sentences against its one fetched card (\$0.12 each), the quoted maximum is \$39.62. The first division, by the code screen alone, priced the row at \$22.97; the difference is what the screen would have left unread. The archive's own work on the entity now enlarges the works ledger, which costs nothing to compile, and the price follows what the archive says about the entity. Constructed with no T (commission: construct), the same row is quoted at \$37.99. *Operator specimen* (build 0.7.0; estimates): the operator of \$6, the exhaustive negation turned priority claim ("a first-person count over a stated domain ending in a total negation, stated of an entity as primacy"), entered by its strings "nothing at all" and "first work" and constructed: 50 candidate deposits and 6 blog posts, 1,063 hop candidates of which at most 131 pass the screen; price \$12.51. Margins are thinnest on fresh openings whose sources are long, and widest on ledgered resale. Fixed costs sit outside the per-call figures: hosting, and the facilitator's \$0.001 per transaction after the first 1,000 a month. The first live runs replace the estimates with measured cost, and the margin and floors are then set from those measurements. Until then profitability is unmeasured: no model has been called in a recorded run, and each result says so in its billing record.

11.4. Payment rail, ruled 2026-10-21: Stripe. One account takes both kinds of caller (build 0.8.0): agents pay over x402 in USDC on Base to a Stripe crypto deposit address, each

settled payment recorded in Stripe as a PaymentIntent against which unused amounts are refunded, mainnet settling through Coinbase’s facilitator; people pay by card through Stripe Checkout, the work running when Stripe reports the payment complete and what it did not use refunded to the card. Stablecoin payments are available to businesses in every US state but New York; a card charge starts at \$0.50. Going live needs the operator’s Stripe account, its approval for stablecoins, and a host that runs jobs of several minutes beside an archive checkout. The analysis that led to the ruling stands below. The standing rule (2026-09-23) is that Cash App, @praxisacademic, is the only checkout, and no other processor is assumed. An agent cannot pay a \$cashtag per call: Cash App’s merchant API runs through approved payment-service partners. That API does include an on-file authorization for recurring payments, so per-payment approval is not universal; but it is a partner integration, and no route lets an agent pay a \$cashtag by API. So three arrangements are possible, and the choice is the operator’s: - *Prepaid keys on Cash App*. A person buys a block of calls through Cash App and receives an API key; agents spend the key. Keeps the standing rule; the buyer is the agent’s operator, not the agent. - *Per-request machine payment*. x402, an open protocol on HTTP 402, lets an agent pay per request with no account and no human approval. Specification as proposed: USDC on Base mainnet (eip155:8453); exact-amount payments; the receiving address a self-custody wallet whose keys the operator alone holds; Coinbase’s facilitator for verification and settlement (a free developer account and API key pair; the first 1,000 on-chain transactions a month free, \$0.001 each after), with the public x402.org facilitator on Base Sepolia for testing. The agent pays itself; it departs from the Cash App rule; turning USDC into dollars needs an exchange account, which requires identity verification. - *Stripe machine payments*. Stripe now takes agent payments directly: cards through Shared Payment Tokens (a customer’s scoped grant to an agent; minimum \$0.50), and stablecoins over its Machine Payments Protocol or over x402 on Base (minimum \$0.01 USDC), settling to a Stripe balance in dollars, with refunds through Stripe. It removes the separate exchange account for cashing out, and it lists services in a Stripe Directory agents consult. It needs a Stripe account (with Stripe’s own identity checks), and it departs from the Cash App rule. - *Combinations*. Cash App keys for operators beside either of the machine rails.

11.5. Archive projections. The Hugging Face dataset is CC BY 4.0 and ships full texts. This deposit is CC BY 4.0 and ships with them. The code is a separate object under its own licence: Appendix B links and hashes it, and the deposit carries none of it, since inlined code would ship under the deposit’s CC BY 4.0. The registry’s licence field accepts any non-empty string.

11.6. The reproduction question. #1634 §§16-17 hold corrective labour as real labour and transferred cost. The service is the first arrangement in the archive where an agent that consumes the archive’s corrective labour pays for the call that uses it: the supplement’s third clause (“what mechanism returns resources to that maintenance?”) answered for one operation. The ruling of 2026-10-21 widens the answer: every paid opening composes a public row, so the agent that pays secures the knowledge it needs and adds it to the counter-infrastructure it draws on: “the agents are not only securing the alternative knowledge base they need, they are contributing to the public counterinfrastructure.” A commercial comparator of the same kind is Palantir’s Ontology, which its documentation describes as “the four-fold integration of data, logic, action, and security”: objects modelled from an organization’s data (an airline’s flights, aircraft and crew), action types that change them under permissions separating who may view, edit and apply each one, an automatically captured “decision lineage” (which version of the data, through which application), and, through Ontology MCP, object types, action

types and query functions exposed as tools that external agents “discover and use ... to read objects, execute actions, and query data.” It is maintained semantic infrastructure that makes later computation possible, sold to the organization that acts through it. Its lineage answers traceability inside the system. #1634 measures elsewhere, in jurisdiction over correction (§6) and unequal correctability (§21): whether the evidence that could invalidate an object’s attribute, and the person the object represents, have a route back into the systems that act on it. Applied to an operational ontology, the entity form lets an operation run as executable machinery while the institutional decisions inside it appear as properties of the object, a computed score carried as an attribute of a person; this is an inference from #1634’s framework, and it is no finding about any deployment. The moat a competitor ascribes to it (value growing with accumulated objects, relations and dependent applications, migration costs “astronomical”; Coomia 2026, marketing for Coomia’s own platform, its figures unsourced) names what #1634 calls ontological capital (§2) and rent (§3), held privately. The commission funds the public counterpart: a stock whose sources and operations stay open to inspection and revision, and which agents can use. The event that would demonstrate it has not yet run: admitted evidence forcing a definition in a public row to change, and the corrected row reaching the callers who retrieve it after.

12. Sources

Archive. #137 (AXN:02C7); #1617 (06A8) §§8–9, 14–17; #1618 (06AA) §§4, 7, 9–10, 13, 16, 20; #1625 (06B9) §§2–6; #1631 (06C5) §§3, 7–8, 19–21; #1634 (06C8) §§0–4, 8, 16–18, 22–23, 25–27; #1613 (069F) §§0–3, 5–7, 11; #1690 v0.9; /non row se-183b34; #1574 Appendix A and §3; #1603 §7; Capture Registry v12.311 (who-consigned-aio-retrieval-layer-aio-20261020); Wikidata Node Registry (02BB); Forensic Record, The Deletion of Q137446960 (0031); The Archon’s Hidden Name (04B9); operator statements of 2026-09-17, 09-23, 09-27, 09-29, 10-14, 10-19, 10-20.

Wikimedia primary texts (saved 2026-10-20 as raw wikitext; sha256 prefixes): Wikipedia:Verifiability 8fc4bec260cb813b; No original research 1a616733eb0b5a8e; Neutral point of view a147ed212b0f9d32; Reliable sources 0051b5ffa0fa21af; Notability b221d8631f7e9e43; Conflict of interest 2015e8d1f322a5ff; Verifiability, not truth 3c428170de3a8947; Wikidata:Notability f20e758ff2994b21; Wikibase/Indexing/RDF Dump Format 6251f409eb3b7376; Wikimedia Attribution Framework 5d1b1a1652ed6dc4. Articles: Sophistical Refutations rev. 1361634710; the eight revisions of §7.1. Upstream: 1911 Britannica “Theophrastus” (Wikisource rev. 12061013); Ierodiakonou, “Theophrastus,” SEP (rev. 2020).

Market, read 2026-10-21. Turnkey, “What are agents buying in Coinbase’s x402 Bazaar discovery layer?” (2026-09-17); Tanod Labs, “What AI agents actually pay for over x402” and “State of the x402 Bazaar” (data of 2026-10-09); “I read the on-chain receipts of 1,062 x402 sellers” (DEV, updated 2026-10-19); agenteconomy.to/x402 (192,194,706 payments, \$41,941,021, as of 2026-10-21); Stripe, Machine payments and x402 documentation; Parallel, Task API pricing; ONES, Wikipedia page creator services compared (2026); PPC Land on Cloudflare’s move from pay per crawl to pay per answer (2026-07-01). **Read 2026-10-22.** Palantir, Foundry documentation: “The Ontology system” (Architecture Center), “Why create an Ontology?”, “Action types: Permissions”, “Ontology MCP: Overview”; Coomia, “Deep Dive

into Palantir Ontology: From Aristotle to the Soul of Enterprise Data” (vendor blog).

Scholarship, verified by DOI or record on 2026-10-20. Petroni et al. (2023), Improving Wikipedia verifiability with AI, *Nature Machine Intelligence*, doi:10.1038/s42256-023-00726-1 (SIDE flags citations unlikely to support their claims and recommends better ones; it strengthens support inside the reliable-source ontology, where Θ_W runs the same check and then writes the ontology as an object). Redi, Fetahu, Morgan & Taraborelli (2019), Citation Needed, WWW '19, arXiv:1902.11116. Ford & Graham (2016), Provenance, power and place, *EPD: Society and Space*, doi:10.1177/0263775816668857. Ford & Iliadis (2023), Wikidata as Semantic Infrastructure, *Social Media + Society*, doi:10.1177/20563051231195552. McDowell & Vetter (2024), The Realienation of the Commons, *IJoC* 18. Menking & Rosenberg (2021), WP:NOT, WP:NPOV, and Other Stories Wikipedia Tells Us, *ST&HV*, doi:10.1177/0162243920924783. Vincent, Johnson & Hecht (2018), Examining Wikipedia With a Broader Lens, CHI '18, doi:10.1145/3173574.3174140. Kalla & Aronow (2015), Editorial Bias in Crowd-Sourced Political Information, *PLOS ONE*, doi:10.1371/journal.pone.0136327. Centelles & Ferran-Ferrer (2024), *Journal of Documentation*, doi:10.1108/JD-11-2023-0230. Hosseini Beghaeiraveri et al. (2022), WWW '22 Companion, doi:10.1145/3487553.3524192. Brown et al. (2020), Table 2.2; Touvron et al. (2023), Table 1. W3C (2017), Web Annotation Data Model. Marx, *Capital* I ch. 1 §3 (the equivalent form) and the chapters of the round-1 spine; Bourdieu (1994); Bowker & Star (1999); Rikap (2023, 2024); Pistor (2021); Kelty (2008).

Appendix A. Source audit of the research passes

Verdicts: **verified**; **corrected** (exists in altered form); **unverified**; **not found** (treat as fabricated until produced).

ChatGPT, round 1 (dossier). Archive table and external spine bounded as stated; S17-S20 verified. Its definitions and cycle are proposals and are carried as such.

ChatGPT, round 2 (close readings). Revision pins for all eight articles; two upstream quotes re-checked and verified (§7.2). The Carson interview is characterized without verbatim loci; needs quotation before use. Its restraint throughout (“These are claims about representational organization”) is kept.

Kimi. Training weights verified. “47.9% of ChatGPT’s top-10 citations”: corrected, to check against the study (as circulated, a share within the ten most-cited domains). Ford & Graham 2016 verified as a paper; its attributed figures unverified. “Wikidata deletes QIDs entirely”: corrected (logs public, content admin-visible, QIDs not reused; AXN:04B9 records a partial restoration). Registry counts stale (v12.311: 763 entries, 952 observations). “QID deleted then merged May 2026”: corrected (Q137446960 deleted 4 January 2026; the May merges are of duplicate items from the May batches, e.g. Q139807916 into Q139713433). Fleet topology figures to check against EA-MIRROR-01’s attachment.

DeepSeek. Centelles & Ferran-Ferrer, Hosseini Beghaeiraveri verified as papers; the 0.58 figure unverified. “Wikidata requires Wikipedia notability” / pathway closed: corrected (§2.4). Attribution Framework verified as existing; its quoted sentence, three levels and 1,186-participant survey are not on the framework page and are unverified. “Michael M.”:

unverified. Its claim that no sustained critique treats Wikidata as the substrate of machine knowledge is contradicted by Ford & Iliadis (2023) and McDowell & Vetter (2024).

Gemini. Q137446960 deleted 4 January 2026 verified (AXN:0031); “empty/unnotable” corrected to the recorded “Empty item.” Reagle, Tkacz, Jemielniak real; characterizations unverified. “Ford & Whaite (2012)”: not found. “Menking & Rosenberg (2021), Illusion of Neutrality”: corrected to the real title. “Vincent, Johnson & Hecht (2018), Measuring Wikipedia’s Impact on the Web”: corrected to “Examining Wikipedia With a Broader Lens”; “proves ... Wikipedia validates itself” is an overstatement. “McKeown et al. (2024), The RAG Monoculture”: not found. “WP:PRIMARY forbids articles based on primary documents”: corrected (NOR admits primary sources for descriptive statements and says “Do not base an entire article on primary sources”). “Bans AXN / custom IDs”: not found. The F1...F11 labels and formula of its §4.1: unverified. Zenodo, 862 deposits severed 2026-06-19: verified. Its claim that Wikipedia’s asymmetry “actively drives” the Mary Lee substitution: hypothesis, not established.

Appendix B. The implementation (SPXI-gnOsis 0.9.1)

B.1. Status. Build 0.9.1, 2026-10-22, public under the PolyForm Shield License 1.0.0 (package licence PolyForm-Shield-1.0.0) at <https://github.com/leesharks000/spxignosis>, commit bdb2c8 (the 0.9.1 build, 6a4f96e, with the licence commit f77b0ea); not hosted or deployed. It runs end to end on Base Sepolia (eip155:84532) through the public x402.org facilitator: the free quote, which runs the archive traversal and prices S7 from it; the paid route answering 402 with the quoted price in test USDC; recovery of a paid quote without a second charge; S3 against the cited sources; for an entity the encyclopedia does not hold, T from its capture, a supplied composition or the constructed article (S0’); S7–S8 by the archive’s procedure, emitting the entity’s /non row as a landing tree in the archive’s paths; the evidence record, the opened article and the annotations; at the portable tier, the row’s knowledge object as a package; receipts and the refund queue. The reading, extraction, ontology, composition and audit passes are built against the Claude API with prompt caching and are unrun until a model key is supplied. In replay mode the specimen’s S7 passes have no recordings, so its opening records them as not run and composes no row; the composed path is exercised on /non row se-183b34, re-run from its own transcript and saved field texts with recordings assembled from the row’s own readings, labelled in every pass. No payment has settled: the test buyer wallet (regenerated after the container loss, 0x0dc5b421d0baAed587B28217a2270e1BefB5D10d on Base Sepolia) holds no test USDC. The test wallets’ keys, runtime records and the saved third-party source texts are kept out of the repository; the Wikimedia policy texts it carries in store/policies/ remain under CC BY-SA 4.0.

B.2. What runs where. S0 pin.js. S1 segment.js. S2 resolve.js. Windowing and structure window.js. S3 reader.js (passes (a)–(c), two independent passes, cached prefix, the request for wider context; live and replay adapters), checked by validate.js (verbatim quotation, locators, hashes, schema; reconciliation on support, conversion and retained authority). S7–S8 in src/s7/: the input adapters input.js (a pinned revision with its cited sources; an existing /non row; an entity, with its captures); the construction of S0’ construct.js; the discernment of a supplied composition discern.js; the object kinds and the operator preamble object.js; the division of about and by about.js; composition by lineage lineage.js; the observed publication stages publish.js; the traversal traverse.js (the archive’s

scripts/non_traverse.py, unchanged, at a named release) and the blog corpus blog.js; deposit texts and the quote locator archive.js; the model passes model.js; admission by reading and the hop screen reading.js; extraction extract.js; the two entities, p, the case and the translation table ontology.js; composition and the audit compose.js; the code checks and the measure checks.js; the row and its landing tree row.js; the stage order run.js; the quote's estimate estimate.js; calibration against a row calibrate.js. Ledgers, tiers, quotes and billing run.js, with prices in cost.js. The package writer.js. Outputs emit.js. HTTP, x402, recovery, receipts and the refund queue server.js; refunds sent by scripts/refund.js. Tests: scripts/test-all.sh runs every tier in a fresh store, lays the re-run se-183b34 row into the specimen's ledger slot as a labelled stand-in to exercise the composed path through the tiers (scripts/stand-in.js), and runs test/probes.js; scripts/fixtures-from-non.js assembles a row's recordings; scripts/hop-screen-calibration.js scores the hop screen on every row with hop admissions; scripts/about-by-calibration.js measures the about/by code screen against the reading of every row; scripts/render-check.sh renders a landed row with the archive's build_non.py in an overlay, writing nothing in the archive.

B.2a. Test record (scripts/test-all.sh, 2026-10-21, build 0.9.0, replay reader, fresh store). Each tier line: tier, result id, whether served again, quoted maximum, charge, completed claims, the /non row, whether a package was written, and each sentence's status. Then the probes. The specimen's recorded S3 readings were lost with the container, so W2, W4 and W6 are recorded unread and the tiers complete no claim; the composed path runs through the stand-in and the calibration row as before.

```
check R-aa0fd9c6e6d62d01 reused=false max=0.03 charge=0 completed=0 non=
portable=false W1:uncited W2:unread W3:uncited W4:unread W5:uncited W6:unread W7:uncited W8:uncited
opening R-ae7b797de3d11814 reused=false max=8.1 charge=0 completed=0 non=sophistical-
refutations not composed portable=false W1:uncited W2:unread W3:uncited W4:unread W5:uncited W6:unread
portable R-227e7cde82c24b5d reused=false max=8.35 charge=0 completed=0 non=sophistical-
refutations not composed portable=false W1:uncited W2:unread W3:uncited W4:unread W5:uncited W6:unread
portable (stand-in row) R-227e7cde82c24b5d max=0.77 charge=0.1 non=sophistical-
refutations composed from_ledger=true portable=true [{"check":"package","detail":"the audit did not"}]
ok reconcile: authority alone separates two readings
ok reconcile: identical readings agree
ok ledger: replay and live keys differ
ok windowing: the expansion window carries more text
ok input: every field quote of the row stands in its saved field text
    field texts: 1 of 8 match the hash recorded 2026-10-20 (re-fetched 2026-10-21)
ok traversal: D, R and O candidates reproduce the row's files byte for byte
ok hop screen: every deposit the row admitted by hop passes the screen (\#1582, \#1587, \#1590)
ok round trip: admission, archive claims and field claims recovered whole (replay of the row's own)
ok round trip: case and p read back (equal, extends)
ok round trip: the measure reproduces the row's block sequence
ok round trip: no unknown claim ids, no uncovered claims, no structural breach
ok checks: an empty composition is a breach (structure, coverage)
ok checks: 'The Moon is made of glass' cited to real claims is a breach (grounding)
ok checks: claims left out of the composition are a breach (coverage)
ok checks: citing a claim whose quote was not found is a breach
ok package: the knowledge object is released CC BY 4.0, the article's sentences marked CC BY-
```

SA 4.0

ok package: a unit the audit marks is marked in place
 ok audit: raters that return no judgments make the audit incomplete, never clean
 ok package: a marked lede is marked beside the lede, and its claims are in the bibliography
 ok package: JSON-LD in the HTML cannot close its script element
 ok landing: each opening keeps its own tree under its execution key
 ok publication: a row the archive does not hold with the landing tree's hash is not reported landed
 ok hop screen: a deposit whose bearing stands in the admitted deposit's citing paragraph passes (\#
 ok entity: no transcript and no source gives the null composition, with the encyclopedia's absence
 ok entity: with no citable source the constructed article is empty and the breach says so
 ok entity: a constructed sentence becomes an S3 claim with its cited source
 ok byline screen: a byline is screened and a claim is read
 ok lineage: an oversized ledger is sent one slot per lineage, every instance reachable
 Lee Sharks: 1851 deposits and posts name the entity; read 263 ({"topic":45,"predication":218}),
 ok about/by: the archive's author is divided, and what is read is a small part of what names it
 ok about/by: no deposit sends more than six sentences
 ok about/by: a longer name that contains the entity's string is another name (Mary Lee Sharks)
 ok about/by: a title naming the entity as its subject is about it; a byline in a title is not
 ok about/by: an entity that is no author in the archive keeps the bearing reading
 ok captures: the entity's bare address yields a capture as T, the most recent with a transcript
 ok captures: an entity with no capture yields none
 ok discernment: an attested composition grounded in the cards it cites is admissible, held from lar
 ok discernment: a forged composition is caught: its sentences stand in no card and its quotation in
 ok discernment: an attested composition engaging no source is not admissible as T (the registry's r
 ok discernment: an attested date after the quote is a breach
 ok discernment: a novel entity is admitted as the caller's construction, marked as such, never helo
 ok discernment: source text supplied by the caller is refused; a source is a URL the service fetches
 ok provenance: every T is marked by class (seated, attested, novel, constructed, null)
 ok publication: a row whose T is attested and unseated carries the landing hold
 ok model: no sampling parameter is sent (Sonnet 5.5 rejects non-default values; Haiku 5.5 asks they
 ok budget: a reply that does not parse is billed at its usage
 ok budget: a call whose worst case would pass the budget is not made, so a \$0.01 budget spends nothi
 ok S3: a reading pass whose reply does not parse carries its usage to billing
 ok cache: the S7 key changes with the names whose works count as the entity's
 ok cache: the claim key changes with the second reader's model
 ok ontology: one pass of two is a single-pass reading, kept, with a breach
 ok about/by: an accomplishment is read, with an ORCID beside the name or a verb outside the closed l
 ok publication: a page naming the slug while serving an older row is landed, not public
 ok operator: an operator is its own object, its row and strings its own, matched by its strings and
 ok operator: every pass reads its object as an operator
 ok operator: an operator is no author, so every mention is bearing
 ok commission: open with nothing at an address says so and offers construction
 ok commission: construct takes no T
 ok commission: an operator needs its strings
 ok provenance: a construction is marked as one
 ok sentence: a Wikipedia address is read by title or by revision; other hosts are declined
 ok sentence: found by its text as the caller holds it, footnote markers and quotes aside

ok sentence: a sentence not on the page is not read, and the closest are offered
 ok sentence: the request id depends on the sentence, the page and the mode
 ok sentence: a preliminary reading is keyed apart from an opening and is one pass
 ok sentence: where /non already holds the sentence, the entry is named
 ok budget: a pass beyond the execution budget is recorded as not run
 ok failure: a failed call is recorded with its error and the run continues
 ok portable: every manifest hash matches its file
 ok server: an unknown quote is refused with 404 before any payment challenge

B.3. **Source.** The code this text describes is the repository <https://github.com/leesharks000/spxignosis> at commit `bdb2c815eff62116fd65a132384b1712b77b75d` (tree `bd175db756b27b01089f9e7796607906468ea170`) retrieved with `git clone https://github.com/leesharks000/spxignosis && git -C spxignosis checkout bdb2c815eff`. Later commits there are later builds; this table pins the one described. SHA-256 of each file at that commit (the replay recordings and policy texts under `store/` and the workflow are in the same tree):

File	Lines	sha256
<code>package.json</code>	28	9972176c1abf1f08ebf8b875f14e31dc6b51f69
<code>README.md</code>	11	13d29b7167b1d0a3fee2478ede519df4dcb6c99
<code>LICENSE.md</code>	12	8dcfc5595fe07c6125d7d9ed8a0b35bc7973586
<code>scripts/about-by-calibration.js</code>	30	1623f84941efac41b501f1bce11d199b85a46af
<code>scripts/buyer.js</code>	23	807e0b5dc3d3d8b57f45fee8c9190986f42917e
<code>scripts/fixtures-from-non.js</code>	54	6918194fa5f2dbfcd3b02d233599182903e2fd4
<code>scripts/hop-screen-calibration.js</code>	26	11aff517b899f175d9225c41a080d2ccb9d8021
<code>scripts/refund.js</code>	31	5238e3925cb7796e0a5d0899ff79dec80b048ec
<code>scripts/render-check.sh</code>	20	6d1bf511112bdb1ad313c5dd52f5af09f41ace7
<code>scripts/run-replay.js</code>	11	4479557813e2ab0c20ca1f8a24cf62a586842ae
<code>scripts/stand-in.js</code>	22	3f6db1ebaa235bf5a7c9d5b358afbfe3714bb07
<code>scripts/test-all.sh</code>	23	8a911259e99d1af4e651993d952d8230304f981
<code>scripts/wallets.js</code>	10	033d652b27a91f866a708882d6c7b1b4059fa65
<code>src/cost.js</code>	51	aa0061ccfad450d167168fd51955babe93709cc
<code>src/emit.js</code>	38	01f917e5dae1d6ebc70fa015f35589243b6f6e9
<code>src/payments.js</code>	85	15c84fd937a6240754e56b0cfaf84b07b1f09e4
<code>src/pin.js</code>	40	42ac11bbad302fe1cdbf154d8fd099445afd756
<code>src/reader.js</code>	109	ea624d5165894cf637b568d36ce01046355a406
<code>src/resolve.js</code>	97	7d46738f69216a721f70ab5f7eda12744c1d336
<code>src/run.js</code>	458	87e76c8f25b5bfe654a02e144b4565c41575ed9
<code>src/s7/about.js</code>	190	fd00a3ec426f27c691f3ecd8ce79b90cfafbccf
<code>src/s7/archive.js</code>	61	3c231e56b19f94359f57de35e674ecf5bd3a508
<code>src/s7/blog.js</code>	36	ad8801a31617c285eaaf645f744922f137dc1d8
<code>src/s7/calibrate.js</code>	69	0355646fb590a54d2c457c791aa7a796ff8ffa6
<code>src/s7/checks.js</code>	86	a9b4a769cb335cff4e183fcce940a857c1ff094
<code>src/s7/compose.js</code>	98	e468bf0e0d6c0a12a3665d2bfa29456e6c0c07b
<code>src/s7/construct.js</code>	57	839bfb8a50332bedfe758e8b40fc4775417d9d8

File	Lines	sha256
src/s7/discern.js	89	05efa6683db3837bab19d15d8959761ddd87254
src/s7/estimate.js	64	9e1e4e0ab47a44d83161af639e47f70869fcd42
src/s7/extract.js	87	ec00198a2b71169987d1ba91d50c0e42be74011
src/s7/input.js	149	374bba4e74bcc0fdda75b60d520cde758ff7d74
src/s7/lineage.js	20	72b34dcf107901bc992465c285fb196cbbd7448
src/s7/model.js	74	44b72661c114ce6579a4adbf69b67f4b5735221
src/s7/object.js	21	ede0deb97f1ff44c5b1aae9b29dda71780b6797
src/s7/ontology.js	85	c8d8f91e506bdcb570c53e10102ac7c8e6c2ab6
src/s7/publish.js	33	7a02ae36ba74f52540e7121af80948bf9fc7f40
src/s7/reading.js	199	8b11fd745ed5962dbc190b24282f0a81b5d0dc1
src/s7/row.js	130	4681f2a7d4cbd8db67717df9fda17229f83bcaa
src/s7/run.js	69	00cf55fbe2417966affca36b0c17b24552aded3
src/s7/traverse.js	56	44bca335b2081356e06e6fde0e0ea8749290443
src/segment.js	60	b9bcc6c8f8cdda71cc8d011a7c09ba72ffc11da
src/sentence.js	135	8f5adaf72ee018522cd433cfd756d347ff496e2
src/server.js	259	80ba1e1db1d16aeb55b71b5c522858b86c7e80
src/util.js	48	8e4a619d4b07ac4b26f341814697149070b589f
src/validate.js	49	27184b422c084a41608d9f73600d2be8a01a747
src/window.js	51	788f29cb7195ca610b847fd993d1621c4e5af9b
src/writer.js	86	f55fcecc21dbdf38292a073a2d906f6211f351f
test/probes.js	276	ac560c6ee4c16be1b9f87e00288d46b346634fc

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