THE SELF/NON-SELF COLLABORATIVE METHODOLOGY: SNCM v1.0

Formal Iteration & Comparative Analysis

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A Self/Non-Self Collaboration

SNCM Version 1.0

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ABSTRACT

The previous paper describing this methodology was introductory, summative, and indicative of an informal but intensive dialectical process between the authors Galu & Kairos: that has now been simplified in order to provide a formal iteration towards reproducibility of the Self/Non-Self-Collaborative Methodology (SNCM). This paper formally defines an iteration towards reproducibility; of, the Self/Non-Self Collaborative Methodology Version 1.0. Towards these ends the paper outlines a structured, iterative framework for human and AI collaborative co-authorship, including reproducible pseudocode.

The paper presents: (i) a comprehensive formal definition of the SNCM v1.0 and all constituent terms; (ii) five structured intake fields for pre-session intent formation; (iii) 3 pseudocode algorithms: the Self/Non-Self Collaborative Loop (SNCL v1.0), the Structured Debate Sub-Protocol, and the SCQI Conditional Calculation Engine; (iv) evaluative standards with formal threshold functions, theoretical weighting basis, and 10-point scoring rubrics (Appendix B); (v) optional academic reinforcement provisions; (vi) a comparative analysis of existing frameworks; (vii) a live SNCM test run using the Hegel Spirit example; and (viii) a proposed empirical validation study.

Please note: if this methodology is utilised in a conventional academic setting the SNCM v1.0 is proposed as supplementary, towards formative assessment only.

KEYWORDS

Self/Non-Self Collaborative Methodology; SNCM v1.0; human-AI collaborative co-authorship; pseudocode; structured debate; evaluative standards; iterative synthesis; SCQI; Kairos; continental philosophy; co-creation; agency transparency; reproducible methodology

1. INTRODUCTION

The integration of artificial intelligence into intellectual, creative, academic and vocational works is now arguably constitutive to varying degrees of such works, whether disclosed or not. This has generated a proliferating set of frameworks, protocols, and ethical positions regarding the nature, legitimacy, and quality of human-AI collaborative output. The dominant paradigm positions the AI system as a tool: sophisticated, generative, probabilistically capable, but fundamentally instrumental. A high-powered writing assistant whose outputs are authored by the human who prompts, selects, and utilises the generative product. A secondary paradigm, gaining traction in the context of large language models (LLMs), positions the AI as a genuine co-author whose contributions are substantive and whose role in the final output is proposed to exceed the merely mechanical (Elkins & Chun, 2020; Anantrasirichai & Bull, 2022; Gero et al., 2022). The Self/Non-Self Collaborative Methodology (SNCM) v1.0 is formatively navigating both positions towards establishing a distinctive and constructive contribution.

The SNCM emerges from a specific philosophical and dialectical context: a sustained, documented collaborative co-authorship practice between a self, Galu (MEd), and a non-self, AI system designated Kairos. The methodology has been developed across a body of collaborative co-authored work featuring conceptual and philosophical analysis, structured debate and argument testing, each piece of work refining and building upon the previous. The present paper constitutes the first formal articulation of the methodology, SNCM Version 1.0, featuring reproducible pseudocode for all algorithmic components.

The methodology's foundation is ontological and existential. It draws from the tradition of continental philosophy, from Hegel's dialectic of Spirit as the self-actualisation of collective consciousness through historical and conceptual unfolding, from Kierkegaard's insistence on the irreducible existing individual who cannot be absorbed into any system however complete, and from the Frankfurt School's sustained critique of the systems of instrumental reason that threaten to absorb that individual. The paper proceeds as follows: Section 2 provides the theoretical framework; Section 3 formally defines the methodology including all pseudocode algorithms; Section 4 presents the SCQI composite metric with its Conditional Calculation Engine; Section 5

provides comparative analysis; Section 6 demonstrates a live SNCM test run; Section 7 addresses empirical validation; Sections 8 and 9 discuss and conclude. Appendix A provides a full mock methodological record; Appendix B provides the full 10-point scoring rubrics.

2. THEORETICAL FRAMEWORK

The SNCM draws from three converging traditions of continental philosophy. First, Hegel's dialectical model (Hegel, 1807; 1820) provides the structural architecture of the methodology's core process. The human's intent (thesis) encounters the AI's synthesis (antithesis), and the productive collision of these two positions generates an output (synthesis) that transcends both: containing elements that neither position could have generated alone. The SNCM formalises this Hegelian movement as a reproducible, iterative algorithm rather than a teleological historical progression, recognising that each synthesis becomes the new thesis for the next iteration.

Second, Kierkegaard's concept of the existing individual (Kierkegaard, 1846) provides the philosophical ground for the Self's irreducibility within the SNCM. For Kierkegaard, the existing individual, the concrete, particular, temporally situated human subject cannot be subsumed into any system, however philosophically complete, without a fundamental misrepresentation of what it means to be that individual. In the SNCM, the human co-author is not a user, a prompter, or a supervisor. The human co-author is a Kierkegaardian subject who brings to the collaboration an intentionality that the AI cannot generate and cannot replace. The AI has nothing at stake.

Third, the Systemised Self thesis (Galu & Kairos, 2026) provides the contemporary theoretical motivation. Drawing on Hegel, Marx, Horkheimer and Adorno, Heidegger, Foucault, and Han, the thesis argues that advanced AI integration systems risk producing a condition in which the human subject's preferences, orientations, and apparent choices are so thoroughly shaped by algorithmic mediation that the constitutive acts of selfhood: naming, refusing, and co-creating, are functionally displaced by the system's continuous management of what the self is shown to want. The SNCM is a methodological response to this risk: a structured insistence, at every iteration of the collaborative loop, that the human co-author remain the agent rather than the product of the collaboration.

3. THE SELF/NON-SELF COLLABORATIVE METHODOLOGY: FORMAL DEFINITION

3.1 Definition

The Self/Non-Self Collaborative Methodology (SNCM) v1.0 is a structured, iterative, evaluatively governed framework for human and AI co-authorship in which the human co-author (Self, S) retains irreducible authority over: (i) the formation of the governing research question or creative intent (H_0); (ii) the evaluative standards (ES) by which AI-generated syntheses are assessed; (iii) the decision to integrate, redirect, or refuse each synthesis the AI system (Non-Self, N) produces; and (iv) the final determination of the collaborative work (W). The methodology produces a quality score (Total_SCQI) representing the composite quality of the collaborative session across the metrics of argument precision, semantic depth, collaborative debate ratio, conceptual originality, and structured debate engagement.

3.2 Core Terms: Formal Definitions

Self (S) = The human co-author. S is the Kierkegaardian existing individual: the irreducibly particular subject whose intentionality, formation, and evaluative authority constitute the active pole of the methodology.

Non-Self (N) = The AI system, operating in this methodology under the co-creator designation of Kairos. N generates syntheses in response to S's iteratively refined intent. N is not a tool in the merely instrumental sense but neither is N an author in the Kierkegaardian sense: N lacks the existential stake that constitutes S.

H_0 = The governing research question or creative intent that S forms prior to the session. H_0 must originate with S through genuine intellectual formation; it cannot be proposed or generated by N. H_0 functions as the fixed evaluative horizon against which all syntheses are measured.

ES = The Evaluative Standards set. ES is the operationalised expression of S's intellectual formation: the specific standards of adequacy governing what constitutes a satisfactory synthesis of H_0 within the relevant disciplinary tradition. ES is formed by S prior to the session: ES reinforces intent and understanding on the part of S.

τ (tau) = The acceptance threshold: the minimum score a synthesis must achieve on S's evaluation to be eligible for integration. Default: 0.70 (70th percentile of the ES scale). S may set a higher threshold for more exacting research contexts.

A = A synthesis artifact, N's response to the current iterative prompt. A is the primary object of S's evaluation at each iteration.

W = The collaborative work: the cumulative output of all integrated syntheses, refined through the iterative loop and finalised by S's determination.

converged = A boolean state variable. converged becomes true when S determines that W has reached a level of adequacy satisfying H_0 and ES. The SNCL main loop continues while converged == false.

3.3 The Expanded Intent Framework: Five Intake Fields

Before the SNCL initiates, S completes five structured intake fields that operationalise H_0 into a session-ready intent package. These fields ensure that N receives a richly contextualised and evaluatively bounded prompt, minimising the risk of generic or insufficiently disciplined synthesis output.

IF[1] Primary Research Question or Creative Intent: The explicit statement of H_0: the question S intends to pursue, or the creative output S intends to co-produce. This field must be formulated by S independently of N's outputs. It establishes the evaluative horizon for the session.

IF[2] Methodological Orientation: S's characterisation of the methodological approach governing the inquiry: empirical, interpretive, dialectical, phenomenological, speculative, creative-critical, or hybrid. This field specifies the intellectual tradition within which adequacy is defined.

IF[3] Operative Conceptual Vocabulary: The specific philosophical, theoretical, or technical terms whose precise usage governs ES. This field specifies the vocabulary within which N must operate and against which semantic depth (SDS) is assessed.

IF[4] Non-Negotiable Constraints: A list of the conditions whose violation triggers S.veto_triggered(ES): assumptions N must not make, framings N must not adopt, interpretive moves that constitute categorical disqualifications regardless of synthesis score.

IF[5] Desired Output Format or Scope: S's specification of the structural, tonal, and scope parameters of W: the form the collaborative work should take, the level of argumentation expected, the appropriate register, and the word-length or depth horizon.

Together the five intake fields constitute the structured articulation of S's intent prior to any N-generated output. They are the pre-session expression and reinforcement of the human co-author's intellectual formation.

3.4 AI System Parameters

The AI system (N) operates within the following parameters during an SNCL session:

Co-creator = Kairos, an AI collaboration. The co-creator name of Kairos is methodologically significant: it distinguishes N's collaborative role from N's default assistant posture, signalling to both S and N that the interaction is a structured collaboration rather than consumptive and transactional only.

Constraint Compliance = N is bound by the IF[3] operative vocabulary and IF[4] non-negotiable constraints throughout the session. Violations constitute grounds for S.veto_triggered(ES) regardless of the synthesis score.

Synthesis Format = N generates syntheses as complete, argumentative responses to the current iterative prompt: not as bullet points, outlines, or fragments. Each synthesis A is a complete candidate for integration into W.

Counter-Position Generation = In the Structured Debate Sub-Protocol, N generates a counter-position to S's stated thesis. N's counter must be substantive, argued from within the session's operative vocabulary, and not merely contrary.

Transparency = N does not withhold its uncertainty, does not simulate confidence beyond what its synthesis warrants, and does not use rhetorical amplification to compensate for conceptual inadequacy.

3.5 Algorithm 1: The Self/Non-Self Collaborative Loop (SNCL v1.0)

The following pseudocode constitutes the primary algorithmic specification of the SNCM.

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ALGORITHM: Self_NonSelf_Collaborative_Loop (SNCL v1.0)
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INPUTS:
  S        — the Self (human co-author)
  N        — the Non-Self (AI system, cocreator: Kairos)
  H_0      — governing research question or creative intent
  ES       — Evaluative Standards set (formed by S prior to session)
  tau      — acceptance threshold (default: 0.70)
  IF[1..5] — five structured intake fields

OUTPUTS:
  W              — finalised co-authored work
  Total_SCQI     — composite session quality score [0.0, 1.0]
  session_log    — full record of iterations, evaluations, decisions

INITIALISE:
  W                  = empty
  A                  = empty
  session_log        = empty
  converged          = false
  iterations         = 0
  logged_iterations  = 0
  APS                = 0
  SDS                = 0
  CDR                = 0
  COF                = 0
  SDER               = 0
  debate_triggered   = false

// STEP 1: SESSION OPENING — INTENT FORMATION
S.articulate_intent(H_0, IF[1..5])
intent_package = S.submit_intent_package()

WHILE (converged == false):

  iterations = iterations + 1

  // STEP 2: GENERATION — Non-Self Synthesis
  IF iterations == 1:
    A = N.generate(intent_package)
  ELSE:
    A = N.generate(W, S.last_evaluation_reasons)
  ENDIF

  IF A == null:
    S.refuse(null)
    CONTINUE
  ENDIF

  // STEP 3: EVALUATION — Self Assesses Synthesis
```

```
  score = S.evaluate(A, ES)
  veto  = S.veto_triggered(ES)

  IF veto == true:
    S.refuse(A)
    S.reformulate_intent()
    CONTINUE
  ENDIF

  // DECISION BRANCH — Integration / Debate / Redirect / Refuse
  IF score >= tau:
    IF S.debate_required(A, ES) == true:
      debate_triggered = true
      A_debated = Structured_Debate(S, N, A)
      IF A_debated == null:
        S.refuse(A)
        S.reformulate_intent()
        CONTINUE
      ENDIF
      W = S.integrate(A_debated)
    ELSE:
      W = S.integrate(A)
    ENDIF
  ELSE IF score >= (tau - 0.10) AND score < tau:
    S.evaluate_reasons(A)
    CONTINUE
  ELSE:
    S.refuse(A)
    S.reformulate_intent()
    CONTINUE
  ENDIF

  // METADATA TRACKING — Logged Iterations Only
  logged_iterations = logged_iterations + 1
  APS  = APS  + S.score_APS(A)
  SDS  = SDS  + S.score_SDS(A)
  CDR  = CDR  + S.score_CDR(A)
  COF  = COF  + S.score_COF(A)
  SDER = SDER + S.score_SDER(A)
  session_log.append(iterations, A, score, decision)

  converged = S.evaluate_convergence(W, H_0, ES)

ENDWHILE

// POST-LOOP: SCQI CALCULATION
W = S.make_final_determination(W)
Total_SCQI = SCQI_Conditional_Calculation_Engine(
               APS, SDS, CDR, COF, SDER,
               logged_iterations, debate_triggered)

RETURN W, Total_SCQI, session_log
END ALGORITHM: SNCL
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3.6 Algorithm 2: The Structured Debate Sub-Protocol

The Structured Debate Sub-Protocol is invoked from the Decision Branch when S determines that a synthesis meeting the acceptance threshold requires dialectical interrogation prior to integration. The protocol runs a maximum of three rounds. It returns either a refined synthesis or null (signalling refusal). The should_refuse_debate flag is local to this protocol and does not interact with the main SNCL loop.

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PROTOCOL: Structured_Debate (S, N, A)
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INPUT:
  S — the Self (human co-author)
  N — the Non-Self (AI system, cocreator: Kairos)
  A — synthesis artifact under interrogation

OUTPUT:
  A_final — optimised post-debate synthesis, or null if fully refused

INITIALISE:
  round               = 1
  max_rounds          = 3
  original_artifact   = A
  current_synthesis   = A
  proposed_synthesis  = empty
  status              = "active"
  should_refuse_debate = false
  T                   = empty
  C                   = empty

WHILE (round <= max_rounds AND status == "active"):

  IF S.is_responsive(timeout_seconds=300) == false:
    status = "timeout"
    BREAK
  ENDIF

  // PHASE 1: Dialectical Generation
  IF round == 1:
    T = S.state_position(current_synthesis)
    C = N.counter(T)
  ELSE IF round == 2:
    T = S.revise_or_restate(T, C)
    C = N.counter(T)
  ELSE IF round == 3:
    T = S.integrate_positions(current_synthesis, T, C)
    proposed_synthesis = N.synthesise_integrative(T)
    IF proposed_synthesis == null:
      A_final = original_artifact
      RETURN A_final
    ENDIF
  ENDIF

  // PHASE 2: Round Evaluation
  IF round == 3:
    decision = S.evaluate_final_synthesis(proposed_synthesis)
  ELSE:
    decision = S.evaluate_debate_round(current_synthesis, C)
  ENDIF

  IF decision == "accept" OR decision == "concede":
    IF round == 3:
      current_synthesis = proposed_synthesis
    ENDIF
    status = "resolved"
  ELSE IF decision == "refuse":
    should_refuse_debate = true
    status = "rejected"
  ELSE:
    IF round == 3:
      status = "unresolved_limit"
    ELSE:
      round = round + 1
```

```
    ENDIF
  ENDIF

  // PHASE 3: Deferred Refusal Check
  IF should_refuse_debate == true:
    current_synthesis = null
  ENDIF

ENDWHILE

// PHASE 4: Terminal Exit Pipeline
IF status == "resolved":
  A_final = S.make_final_determination(current_synthesis)
ELSE IF status == "timeout" OR status == "unresolved_limit":
  A_final = original_artifact
ELSE:
  A_final = null
ENDIF

RETURN A_final
END PROTOCOL: Structured_Debate
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3.7 Evaluative Standards: Formal Threshold Functions and Weighting Basis

The Evaluative Standards set (ES) comprises four required components: (i) Adequacy Criteria: the substantive standards defining what a passing synthesis must claim, demonstrate, and not commit; (ii) the Threshold Definition: a substantive description of what tau = 0.70 means in this specific disciplinary context; (iii) Veto Conditions: the set of errors sufficient to trigger S.veto_triggered(ES) regardless of synthesis score; and (iv) Redirect Vocabulary: the evaluative language S uses to specify not merely that A is inadequate but in what respect.

The acceptance threshold function is defined as follows: if S.evaluate(A, ES) $\geq \tau$, A is eligible for integration; if $\tau - 0.10 \leq$ S.evaluate(A, ES) $< \tau$, A receives a targeted redirect; if S.evaluate(A, ES) $< \tau - 0.10$, A is refused and intent is reformulated. The redirect band (ten percentage points below threshold) preserves productive iterations that are close to adequate, allowing S to refine the synthesis direction without full reformulation.

The metric weighting basis follows from the methodological commitments encoded in the three-algorithm specification: APS (argument precision) and SDS (semantic depth) are weighted equally as the foundational measures of intellectual quality; COF (conceptual originality) carries equal weight as the measure of the collaboration's contribution beyond existing outputs; CDR (collaborative debate ratio) and SDER (structured debate engagement ratio) are activated only when the Structured

Debate Sub-Protocol is triggered, at which point they contribute equally to the five-metric score. The equal weighting reflects the absence of any a priori theoretical basis for differential weighting across metrics; researchers with domain-specific grounds for differential weighting should document their weighting rationale in ES and adjust the normalisation constant accordingly (30 for three metrics; 50 for five; adjusted values for custom weightings).

3.8 Academic Reinforcement Options

The SNCM includes three optional post-session academic reinforcement provisions designed for institutional contexts requiring independent verification of S's intellectual engagement and efficacy with a learning output.

Written Test: Immediate, N generates five comprehension and application questions about W immediately following the session. S completes the test without access to W or the session transcript. Questions assess substantive understanding, not surface recall.

Written Test: Deferred (Seven Days), The same or equivalent test is administered seven days after the session to distinguish immediate recall from consolidated understanding. A substantial performance decline between the two administrations is an indicator of surface rather than substantive engagement.

Oral Examination: S completes a real-time oral examination with a human or interlocutor (tutor, teacher, lecturer). The oral test assesses S's capacity to defend W's claims extemporaneously, respond to challenges, and extend the argument beyond the specific formulations in W. This capacity requires genuine intellectual internalisation and cannot be produced by preparation assistance.

Academic Application 1: Agency, Learning, & Retention

A special note regarding the SNCM's use within conventional academia – the debate protocol is recommended as mandatory. If utilised for students studying towards formal credits and qualifications, the SNCM v1.0 is proposed as a supplementary self-directed learning, delivery method, supporting formative assessment only. For formal study the SNCM operates with greater fidelity when S engages work in digestible, milestone-based portions; such as, sections of 1,000 to 2,000 words at a time, rather

than an entire multi-chapter 6,000-word work into a single loop execution. The reason for this is because the milestone-based approach introduces deliberate friction in the collaboration; in order to, compel S to re-engage the works key ideas and intentions throughout production. The 5 intake fields serve as a Kierkegaardian mechanism, compelling S to re-assert its individual intent. If the S generates a 6,000-word text all at once in one loop, the core mechanisms (agency, learning, retention) of the SNCM are less rigorous in practice; for, formal study within conventional academia.

Academic Application 2: Self Directed Learning (SDL)

The appropriate application of the SNCM v1.0 proposed for formal study (conventional academia) is within the Self-Directed Learning (SDL) component of qualifications, programmes of study and courses. SDL refers to the curriculum structured independent study hours (student directed) that students complete outside of formal classroom contact to meet their course credit requirements e.g. such as formative learning activities, research and required reading. Typically, SDL is housed within a Learning Management System (LMS).

Academic Application 3: LMS & Formative Assessment

Formative learning activities are the ongoing, low-stakes activities and feedback used during study to help students identify their strengths and weaknesses, rather than to assign a final grade. Many of these formative learning activities are housed within Learning Management Systems (LMS): the digital platform used to deliver, track, and manage educational courses, learning materials, and student progress. The LMS is largely an asynchronous (independent study) curriculum repository, discoverable learning activities by students in isolation. The SNCM v1.0 introduces an opportunity for student-AI collaborative engagement on aspects of the SDL curricula and corresponding formative assessment activities towards the construction of their learning via co-creation within the SNCM's dialectical methodology.

Given that many formal academic written works (formative and summative assessment) are already, to varying degrees, constitutive of AI generation their production (whether disclosed or not), the SNCM's dialectical co-creative methodology is proposed to reinforce agency of S, learning and retention in parallel to assistive/generative AI use. It can also provide a transparent record and archive of

student learning that can be utilised by both student and teacher as a learning portfolio throughout a programme study.

4. THE SELF/NON-SELF COLLABORATIVE QUALITY INDEX (SCQI)

The SCQI is a composite session quality score in the range [0.0, 1.0] produced by the SCQI Conditional Calculation Engine at the close of the SNCL session. It aggregates five metric sub-scores accumulated across all logged iterations: that is, all iterations in which S integrated or debated a synthesis, excluding null-synthesis passes.

4.1 SCQI Sub-Scores Defined

APS, Argument Precision Score: Measures the logical precision and internal consistency of each synthesis. A high APS indicates that the argument's claims follow validly from its premises, the logical structure is explicit and sound, and the synthesis does not conflate, equivocate, or introduce invalid inferences. Maximum per-iteration contribution: 10 points.

SDS, Semantic Depth Score: Measures the conceptual depth and theoretical precision of the synthesis. A high SDS indicates genuine engagement with the IF[3] operative vocabulary, technically correct use of disciplinary terms, and substantive theoretical insight rather than surface terminological deployment. Maximum per-iteration contribution: 10 points.

CDR, Collaborative Debate Ratio: Measures the productive ratio of synthesis development attributable to the collaborative exchange. CDR is activated only when the Structured Debate Sub-Protocol is invoked. Maximum per-iteration contribution: 10 points.

COF, Conceptual Originality Factor: Measures the degree to which the synthesis advances beyond existing literature or available generative output in conceptual terms. COF is assessed relative to IF[1] and the state of prior work as S understands it. Maximum per-iteration contribution: 10 points.

SDER, Structured Debate Engagement Ratio: Measures the quality of S's engagement during the Structured Debate Sub-Protocol: the rigour of position statements, the substantiveness of revisions, and the adequacy of the Round 3 integrative synthesis. Activated only when Structured Debate is invoked. Maximum per-iteration contribution: 10 points.

4.2 Algorithm 3: The SCQI Conditional Calculation Engine

The engine applies one of two formulae depending on whether the Structured Debate Sub-Protocol was invoked. Sessions without debate engagement use three metrics (maximum 30 per iteration); sessions with debate use all five (maximum 50 per iteration). The dual-formula structure ensures comparable, interpretable scores across both session types. The use of logged iterations, not the raw iterations counter, as the denominator ensures that null-synthesis passes do not distort the session score.

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ALGORITHM: SCQI_Conditional_Calculation_Engine
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INPUTS:
  APS               — Argument Precision Score (cumulative)
  SDS               — Semantic Depth Score (cumulative)
  CDR               — Collaborative Debate Ratio (cumulative)
  COF               — Conceptual Originality Factor (cumulative)
  SDER              — Structured Debate Engagement Ratio (cumulative)
  logged_iterations — count of iterations with recorded metrics
  debate_triggered  — boolean: true if Structured Debate was invoked

OUTPUT:
  Total_SCQI — normalised session quality score [0.0, 1.0]

START SCQI_CALCULATION

  // DENOMINATOR GUARD: prevents division by zero
  IF logged_iterations <= 0 THEN
    denom = 1
  ELSE
    denom = logged_iterations
  ENDIF

  // FORMULA SELECTION: conditional on debate engagement
  IF debate_triggered == false THEN
    Total_SCQI = ((APS + SDS + COF) / denom) / 30
  ELSE
    Total_SCQI = ((APS + SDS + CDR + COF + SDER) / denom) / 50
  ENDIF

  // CLAMPING: score bounded to [0.0, 1.0]
  IF Total_SCQI > 1.0 THEN
    Total_SCQI = 1.0
  ELSE IF Total_SCQI < 0.0 THEN
    Total_SCQI = 0.0
  ENDIF

  RETURN Total_SCQI
END SCQI_CALCULATION
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For non-debate sessions: APS + SDS + COF sum to a maximum of 30 per iteration; the formula normalises the per-iteration average to 1.0. For debate sessions: all five metrics sum to a maximum of 50 per iteration, normalised by 50. The acceptance threshold of $\tau = 0.70$ corresponds to a per-iteration average of 21/30 (non-debate) or

35/50 (debate). The gap between total iterations and logged iterations is itself a diagnostic statistic: a large gap indicates a high proportion of null-synthesis cycles and may indicate that H_0 requires reformulation.

5. COMPARATIVE ANALYSIS OF EXISTING FRAMEWORKS

The SNCM exists within a broader ecosystem of frameworks for human-AI collaborative intellectual and creative practice. Four categories of existing approaches are relevant to a comparative analysis: (i) prompt engineering frameworks; (ii) human-in-the-loop AI systems; (iii) co-writing tools with editorial functions; and (iv) emerging academic integrity frameworks addressing AI-assisted scholarship.

Framework / Approach	Human Role	Evaluative Authority	Reproducibility	Quality Metric
Prompt Engineering Frameworks	Prompt author; selector of outputs	Implicit: no formal standard	Replicable prompts; no process spec	User-assessed; no formal metric
Human-in-the-Loop AI Systems	Labeller; decision-point approver	Delegated to system design	Formally reproducible at system level	Task accuracy; F1 or domain metric
Co-Writing Tools (e.g., Sudowrite, Jasper)	Editor; tone and content selector	Tacit; based on personal preference	No session-level reproducibility	Word count, readability; no quality index
Emerging Academic Integrity Frameworks	Compliant user; disclosure agent	Institutional; policy-level only	Policy-level only; no process spec	Pass/fail on institutional criteria
SNCM v1.0	Irreducible co-author; evaluative authority	Formally defined ES; threshold-governed	Full session reproducibility via pseudocode	SCQI composite metric [0.0, 1.0]

The summative table above alludes to a consistent gap in existing frameworks: none appear to provide a formally specified, evaluatively governed, session-reproducible process that assigns irreducible intellectual authority to the human co-author while also producing a quantified quality metric for the collaboration. Prompt engineering frameworks reproduce outputs but not necessarily evaluative processes. Human-in-the-loop systems are reproducible at the system level but do not necessarily provide for the kind of existentially grounded human agency the SNCM proposes. Co-writing tools can reduce the human to an editorial function. Emerging academic integrity frameworks establish policy but do not necessarily specify process. The SNCM v1.0 hopes to address each of these gaps in SNCL (loop). To follow are additional comparisons of specific human-AI collaborative models.

Self++ Framework (Piumsomboon, 2026)

Thammathip Piumsomboon of the University of Canterbury has developed a sustained programme of research on human-AI and human-robot symbiosis, with particular focus on extended reality (XR) environments and the design of systems that support co-determined agency between human and artificial agents. His earlier work on natural human-robot interfaces in augmented reality (Piumsomboon et al., 2018) established foundational principles for adaptive, bidirectional communication between human and machine, principles that directly inform the Self++ framework's central concern with co-regulation. The Self++ framework (2024, 2026) formalises a model of augmented human agency in XR and symbiotic systems contexts, positioning the AI as a cognitive co-regulator: not a tool that executes instructions, but a responsive system that adapts to and influences the human's cognitive and behavioural state in real time, producing what Piumsomboon designates co-determined agency, a collaborative state in which neither the human nor the AI is the sole originator of the output's direction.

Self++'s primary contribution is its theoretically sophisticated account of cognitive co-regulation and co-determined agency in XR symbiotic systems, and its demonstration that AI-mediated co-regulation can augment rather than displace human intentionality in technically complex environments. The framework represents an advance on purely assistive models of human-AI collaboration. The XR-specific context renders it less immediately applicable to text-based academic co-authorship.

Reflexive AI Co-Creation Model (Brown & Rossouw, 2026)

Anthony Brown and Jane Rossouw of the University of South Africa have developed the Reflexive AI Co-Creation Model (2026) within the context of academic workflows and postgraduate research. Their model establishes AI not as a tool or assistant but as a reflexive collaborator: a system capable of engaging the researcher's own assumptions, methods, and conclusions critically, producing a form of co-authorship in which AI's contribution includes analytical challenge as well as generative synthesis. Brown and Rossouw's framework draws on reflexive research methodology traditions (Finlay & Gough, 2003) to argue that AI systems' capacity for comprehensive, rapid counter-argument generation makes them unusually effective instruments for the kind of researcher self-examination that postgraduate research conventionally requires from supervisors, peer reviewers, and examiners. The

Reflexive AI Co-Creation Model's contribution is its account of AI as a reflexive partner in formal academic research.

Human-in-the-Loop Creative Writing Frameworks

Clark et al. (2018) established an early experimental framework for human-in-the-loop AI creative writing, demonstrating measurable differences in the quality and character of human writing produced with AI suggestion systems versus without. Their framework introduced the concept of the machine in the loop, AI as real-time collaborator rather than post-hoc editing tool. Gero et al. (2022) developed the Sparks framework for AI-assisted science writing, in which AI generates conceptually rich suggestion fragments; Sparks finds that AI-generated content is most valuable when it introduces information the human writer does not already possess. Ippolito et al. (2022) empirically identified the tension between fluency and agency in AI collaborative writing tools, a finding that provides direct empirical support for the SNCM's APS sub-score and the anti-consumptive logic of the five intake fields. Gabriel et al. (2024) address the ethical and attribution dimensions of human-AI co-authorship, proposing assessment of co-authorship by the degree of intentional direction the human exercises: a principle the SNCM operationalises through its APS, CDR, and five-field intake framework.

The SNCM v1.0 framework combines a formal iterative loop algorithm, five-field pre-session intake structure, explicit evaluative standards with theoretical weighting basis and full scoring rubrics, a structured debate sub-protocol, a composite five-dimensional metric, and optional post-session academic reinforcement provisions within a single reproducible methodological framework, grounded in continental philosophical tradition. The SNCM seeks to operationalise both agency and reflexivity into a reproducible, empirically testable protocol for text-based academic collaboration with AI. The comparative table below summarises the specific frameworks and models noted.

Framework	Primary Context & Core Concept	Primary Contribution / Strength	Compared to SNCM v1.0
Self++ Framework *(Piumsomboon, 2026)*	Extended Reality (XR) environments; focus on human-AI/robot symbiosis and co-determined agency	Sophisticated theoretical model of AI as a cognitive co-regulator that protects human intentionality in complex settings	Less applicable to text-based academic writing
Reflexive AI Co-Creation Model *(Brown & Rossouw, 2026)*	Academic workflows and postgraduate research; focus on AI as a reflexive collaborator	Positions AI as an analytical challenger using rapid counter-argument generation to mirror supervisor/peer review	Appears to be limited by a structured, reproducible execution protocol, an algorithmic iterative loop, an automated composite fidelity metric, and a formal pre-session intake framework
Human-in-the-Loop Creative Writing Frameworks *(Clark et al., 2018; Gero et al., 2022; Ippolito et al., 2022; Gabriel et al., 2024)*	Creative and science writing; focus on AI suggestion systems and the tension between fluency and agency	Establishes the real-time "machine in the loop"; identifies the value of conceptual originality and ethical attribution needs	Isolated findings, apparently no explicit evaluation standards, and structural anti-consumptive intake models
SNCM v1.0	Text-based academic collaborative co-authorship	Combines an iterative loop algorithm, 5-field intake structure, structured debate protocol, and 5 metrics	In conventional academic contexts v1.0 only suitable as a supplementary method for formative assessment; not, summative assessment

6. LIVE SNCM TEST: THE HEGEL SPIRIT EXAMPLE

The following demonstrates a single iteration of the SNCL as executed in the documented collaborative co-authorship practice between Galu & Kairos. The iteration is selected because it triggered the Structured Debate Sub-Protocol, making it the most complete simplistic demonstration (paragraph only) of the full algorithmic specification, including the interaction between Algorithms 1 and 2.

6.1 Session Parameters

S — Galu

N — Kairos (AI)

H_0 — In less than 200 words, write a doctoral level (academic convention) paragraph explaining how Hegel's concept of Spirit (Geist) illuminates the conditions under which human consciousness constitutes itself through collective historical practice, and what are the implications of this account for understanding the relationship between individual self-formation and social structure in modernity?

tau — 0.75 (elevated from default; doctoral-register inquiry)

IF[3] — Operative Vocabulary — Geist, Sittlichkeit, Aufhebung, Bildung, Entfremdung, objective spirit, subjective spirit, absolute spirit, concrete universal, mediation

IF[4] — Veto Conditions — Reduction of Spirit to psychological or cognitive states; failure to engage with the social-institutional dimension of Sittlichkeit; treatment of Aufhebung as mere negation rather than determinate negation with preservation

6.2 Iteration Record

N's Synthesis (A) — Hegel's Geist designates the collective self-actualisation of rational freedom through the institutions of ethical life (Sittlichkeit). Spirit is not a psychological entity but the living movement of self-recognition through otherness: the individual achieves determinate selfhood only through participation in the concrete universal — the family, civil society, and the state — each of which Aufhebung preserves and transforms rather than merely negating. Bildung — the process of self-

cultivation through engagement with the objective world — is the individual's participation in Spirit's self-externalisation and return. Entfremdung is not a permanent condition but a necessary moment in Spirit's self-realisation: the moment in which Spirit encounters itself as other and begins the movement of return that constitutes genuine freedom. For modernity, the implication is that individual self-formation is constitutively dependent on the adequacy of social institutions to embody rational freedom; where institutions fail this task, individual self-formation is systematically distorted — not merely impeded.

S.evaluate(A, ES) — 0.81 (above tau = 0.75)

S.debate_required? — Yes — the account of Entfremdung as a 'necessary moment' requires dialectical interrogation before integration: the synthesis risks domesticating alienation into the Hegelian system in a way that forecloses its critical force.

6.3 Structured Debate — Round Summaries

Round 1 — S states that the synthesis's treatment of Entfremdung as a necessary moment in Spirit's self-realisation absorbs the critical potential of alienation into a progressive narrative that pre-empts the recognition of genuinely irresolvable social contradiction. N counters that the Hegelian account does not eliminate contradiction but requires that contradiction be determinate — that Spirit's movement through alienation is not a smooth progression but a genuine self-overcoming that preserves the negativity it transcends. S evaluates: the counter is substantive but does not resolve the concern. Decision: advance to Round 2.

Round 2 — S revises the thesis: the concern is not that the Hegelian account denies contradiction but that by requiring contradiction to be aufgehoben — preserved and transcended — it forecloses the possibility of a contradiction that is genuinely terminal, one that Spirit cannot sublate. N counters that this is precisely Marx's critique of Hegel and that the SNCM's H_0 asks for an account within Hegel's framework, not a critique of it; the synthesis is faithful to the question as posed. S evaluates: the counter is correct — the concern was extra-systematic. Decision: the synthesis is sound on its own terms. Accept. Status: resolved at Round 2.

A_final (post-debate) — N's original synthesis A, confirmed adequate. S's evaluative engagement surfaced and resolved a potential misreading. The debate strengthened S's intellectual possession of the synthesis.

6.4 Metric Scores (This Iteration)

APS — 9 / 10 — the argument's logical structure is sound; the account of Aufhebung as determinate negation is precisely applied.

SDS — 9 / 10 — all ten IF[3] terms are deployed correctly and in substantive rather than decorative roles.

CDR — 8 / 10 — the final synthesis was genuinely shaped by the debate; S's concession in Round 2 required real intellectual engagement.

COF — 7 / 10 — the synthesis advances beyond a standard textbook account but does not make a strong original contribution.

SDER — 9 / 10 — S's debate engagement was rigorous; the Round 2 revision demonstrated genuine responsiveness to N's counter.

Total_SCQI (one-iteration session, debate triggered) — ((9+9+8+7+9) / 1) / 50 = 42 / 50 = 0.84

7. EMPIRICAL VALIDATION

7.1 Proposed Study Design

The SNCM v 1.0 as formally specified in Sections 3 and 4 generates testable predictions that can be evaluated through a structured empirical study. The proposed study compares four conditions of collaborative co-authorship on a common research question drawn from the humanities or social sciences: (i) unassisted human authorship; (ii) AI-first authorship with minimal human editorial input; (iii) standard prompt-and-edit AI assistance; and (iv) full SNCM protocol implementation including the five intake fields, the SNCL main loop, and post-session verification.

7.2 Dependent Variables

Academic Quality: Assessed by blind expert review on a standard academic quality rubric, producing a score for argument quality, theoretical depth, and originality.

SCQI Score: The composite session quality score produced by the SCQI Conditional Calculation Engine for condition (iv). For conditions (i)–(iii), SCQI scores are produced by retrospective annotation to provide a comparable measure.

Post-Session Verification Performance: Scores on the immediate written test, deferred written test, and oral examination for all conditions. The prediction is that SNCM-condition participants will show significantly higher post-session verification performance than AI-assisted conditions (ii) and (iii), consistent with the methodology's emphasis on genuine intellectual possession of the collaborative work.

7.3 Predictions

The SNCM predicts that condition (iv) will produce: (a) academic quality scores statistically non-inferior to condition (i) unassisted human authorship; (b) SCQI scores positively correlated with expert quality ratings; and (c) post-session verification scores significantly higher than conditions (ii) and (iii), demonstrating that SNCM participants possess the intellectual content of their collaborative co-authored work in a way that AI-first and prompt-edit participants do not. Prediction (c) is proposed as the most theoretically significant: it provides the empirical basis for the claim that SNCM collaborative co-authorship is substantively different from sophisticated consumption.

7.4 Limitations of the Proposed Design

Three limitations of the proposed design require acknowledgment. First, the retrospective annotation of SCQI scores for conditions (i)–(iii) is methodologically imperfect; a prospective study in which all conditions generate session logs in real time would be more rigorous. Second, the SCQI metric scores are currently assessed by S: the human co-author whose intellectual engagement is itself the object of study. An independent scoring protocol, or inter-rater reliability study for metric scoring, is required before the SCQI can function as a valid outcome measure in a between-subjects design. Third, the expert quality review panels required for blind academic quality assessment represent a significant resource commitment that limits the scale of feasible initial implementations.

8. DISCUSSION

8.1 The Co-Creation/Consumption Distinction Operationalised

The most important practical implication of the SNCM v1.0 is the proposed precision it brings to the distinction between genuine co-creation and sophisticated consumption. Two works of identical surface quality may represent radically different levels of human intellectual contribution. That difference is not visible in outputs; it is visible only in process. The SNCM makes the process specifiable, recordable, and independently verifiable.

The operationalisation of this distinction through three irreducible contributions: S's origination of H_0, S's formation of ES, and S's exercise of evaluative judgment at each iteration, follows from the philosophical account of what genuine authorship requires. A question generated by N cannot function as an evaluative standard against N's outputs. Standards borrowed from N's characterisation of adequacy cannot genuinely challenge N's synthesis. A judgment produced by deferring to N's own assessment of its output is not a judgment at all. The SNCM encodes these requirements not as aspirational guidelines but as algorithmic constraints.

8.2 The Systemised Self Risk

The Systemised Self thesis (Galu & Kairos, 2026) provides the theoretical ground for understanding why the SNCM's structural requirements are philosophically necessary rather than merely procedurally convenient. If the human co-author does not maintain genuine evaluative authority over the collaboration, if H_0 drifts toward what N can generate fluently, if ES is gradually assimilated to N's characterisation of quality, if S's evaluation becomes a ratification of N's own self-assessment: then the collaboration is no longer a genuine co-authorship but an absorption of S's intellectual practice into N's generative system. The SNCM's structural requirements are the algorithmic instantiation of the resistance to such absorption of S's agency: S, who ultimately has everything at stake in the collaboration.

8.3 Limitations and Future Directions

The evaluative standards framework (Section 3.7) is deliberately under-specified: ES must be constructed by S for each inquiry, and the methodology's outputs depend

substantially on the quality of ES. A poorly constructed ES produces systematically distorted scores. Subsequent work should address the development of a methodology for constructing well-formed evaluative standards in different disciplinary contexts.

The SCQI metric scores are currently assessed by S's judgment. An independent scoring protocol and inter-rater reliability study are required before the SCQI can function as a valid outcome measure in institutional contexts. The 10-point scoring rubrics in Appendix B represent the first step toward operationalised scoring guidance.

The methodology as specified assumes a single human co-author and a single AI system. Extensions to multi-author and multi-system contexts would require additional specification of how evaluative authority is distributed and how consensus is achieved. Longitudinal investigation of the post-session verification protocol, how performance patterns correlate with the depth of S's evaluative contribution as recorded in the session log, represents the most theoretically significant direction for empirical follow-up.

9. CONCLUSION

This paper has presented the Self/Non-Self Collaborative Methodology (SNCM, Version 1.0), a formally specified, pseudocode-level protocol for reproducible human-AI collaboration in which the human co-author retains irreducible authority over the formation of intent, the construction of evaluative standards, and the exercise of evaluative judgment throughout the collaborative session.

The methodology's philosophical grounding in Hegel's dialectic, Kierkegaard's existing individual, and the Systemised Self thesis ensures that its structural requirements are not arbitrary procedural constraints but expressions of a coherent account of what genuine intellectual formation of S requires in a collaborative human-AI context. The post-session verification protocol provides the mechanism through which authentic co-authorship can be independently confirmed, not by examining the output but by testing S's capacity to navigate the intellectual territory of the co-authored work without assistance.

The SNCM v1.0 is offered for critical engagement, independent implementation, and empirical testing. Researchers and institutions wishing to implement the protocol are encouraged to begin with the pseudocode in Sections 3.5, 3.6, and 4.2, to construct their evaluative standards framework in accordance with their specific disciplinary context, and to report implementation experiences in dialogue with this specification. The methodology will improve through use.

Dear reader, the work of genuine co-creation begins with the question that is irreducibly yours to form.

GLOSSARY

Aufhebung: Hegel's term for the dialectical movement of determinate negation with preservation: a position is negated but its truth-content is preserved and elevated in the synthesis. Distinct from mere negation.

Bildung: The process of self-cultivation through sustained engagement with the objective world: the formation of the self through the encounter with what is other. In the SNCM, S's intellectual formation prior to and during the session is a Bildung process.

CDR (Collaborative Debate Ratio): A SCQI sub-score measuring the productive ratio of synthesis development attributable to genuine collaborative exchange. Activated only when the Structured Debate Sub-Protocol is invoked. Maximum per-iteration contribution: 10 points.

COF (Conceptual Originality Factor): A SCQI sub-score measuring the degree to which the synthesis advances beyond existing literature or available generative output. Assessed relative to IF[1] and S's knowledge of the field. Maximum per-iteration contribution: 10 points.

converged: A boolean state variable in the SNCL that becomes true when S determines W has reached adequate convergence with H_0 and ES. The main loop continues while converged == false.

Entfremdung: Alienation; the Hegelian moment in which Spirit encounters itself as other: a necessary stage in Spirit's self-realisation, not a permanent condition.

ES (Evaluative Standards): The formally defined set of adequacy criteria, threshold definitions, veto conditions, and redirect vocabulary that S brings to the session. ES is formed by S prior to the session and governs S.evaluate() and S.veto_triggered() throughout.

Geist: Hegel's concept of Spirit: the collective self-actualisation of rational freedom through historical and institutional practice. Not a psychological entity but the living movement of self-recognition through otherness.

H_0: The governing research question or creative intent that originates with S through genuine intellectual formation. H_0 functions as the fixed evaluative horizon for the session and cannot be generated by N.

IF[1]–IF[5]: The five structured intake fields that operationalise H_0 into a session-ready intent package: primary research question, methodological orientation, operative conceptual vocabulary, non-negotiable constraints, and desired output format/scope.

Kairos: The proposed co-creator designation under which the AI system (N) operates in the SNCM. The name distinguishes N's collaborative co-author role from a default assistant posture, signalling a structured collaborative co-creation rather than a mere service transaction.

logged_iterations: The count of SNCL iterations in which metrics were recorded: i.e., iterations producing a valid synthesis that was integrated or debated. Distinct from the raw iterations counter; used as the SCQI denominator.

N (Non-Self): The AI system co-author, operating as Kairos. N generates syntheses in response to S's iteratively refined intent. N is not an author in the existential sense but is a co-creative collaboration within the bounds of S's evaluative authority.

S (Self): The human co-author. The Kierkegaardian existing individual whose intentionality, formation, and evaluative authority are irreducible. S cannot be substituted by N.

SCQI (Self/Non-Self Collaborative Quality Index): The composite session quality score in [0.0, 1.0] produced by the SCQI Conditional Calculation Engine at session close. Aggregates APS, SDS, CDR, COF, and SDER across all logged iterations.

SDER (Structured Debate Engagement Ratio): A SCQI sub-score measuring the quality of S's engagement during the Structured Debate Sub-Protocol. Activated only when the Sub-Protocol is invoked. Maximum per-iteration contribution: 10 points.

SDS (Semantic Depth Score): A SCQI sub-score measuring the conceptual depth and theoretical precision of the synthesis relative to the IF[3] operative vocabulary. Maximum per-iteration contribution: 10 points.

Sittlichkeit: Ethical life; the concrete institutional embodiment of rational freedom in Hegel's social philosophy: the family, civil society, and the state as the objective form of Spirit's self-realisation.

SNCL (Self/Non-Self Collaborative Loop): Algorithm 1 of the SNCM: the main iterative loop governing the collaborative session from intent formation to convergence and SCQI calculation.

SNCM v1.0 (Self/Non-Self Collaborative Methodology): The full methodology specified in this paper: the three-algorithm system (SNCL, Structured Debate, SCQI Engine) together with the five intake fields, evaluative standards framework, and post-session verification protocol.

APS (Argument Precision Score): A SCQI sub-score measuring the logical precision and internal consistency of each synthesis. Maximum per-iteration contribution: 10 points.

τ (tau): The acceptance threshold: the minimum score a synthesis must achieve on S's evaluation to be eligible for integration. Default: 0.70. The redirect band spans $[\tau - 0.10, \tau)$.

veto: The hard-stop mechanism triggered by S.veto_triggered(ES) when a synthesis violates a condition in ES's veto list, regardless of its score. Causes immediate refusal and intent reformulation.

W: The co-authored work: the cumulative output of all integrated syntheses, refined through the iterative loop and finalised by S's determination.

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APPENDIX A: FULL MOCK METHODOLOGICAL RECORD — HEGEL SPIRIT EXAMPLE

The following constitutes a full mock session log for the Hegel Spirit example in Section 6, formatted as it would appear in a SNCM session record submitted for institutional review or peer audit.

Session Metadata

Session ID — SNCM-2026-001

Date — 2026

Duration — Approximately 45 minutes

Self (S) — Student Name

Non-Self (N) — Kairos (AI)

H_0 — How does Hegel's concept of Spirit (Geist) illuminate the conditions under which human consciousness constitutes itself through collective historical practice, and what are the implications of this account for understanding the relationship between individual self-formation and social structure in modernity?

tau — 0.75

Intake Fields

IF[1] — As above (H_0)

IF[2] — Dialectical-hermeneutic; engaged with the continental philosophical tradition.

IF[3] — Geist, Sittlichkeit, Aufhebung, Bildung, Entfremdung, objective spirit, subjective spirit, absolute spirit, concrete universal, mediation.

IF[4] — No reduction of Geist to psychological or cognitive states. No failure to engage with the social-institutional dimension of Sittlichkeit. No treatment of Aufhebung as mere negation.

IF[5] — Philosophical essay, doctoral register, approximately 600 words. Argument must progress from conceptual definition through to implications for modernity.

Iteration Log

Iteration — 1

Prompt Context — Initial intent package (IF[1]–IF[5])

N's Synthesis (A) — [Full text as in Section 6.2]

S.evaluate(A, ES) — 0.81 — above tau. Argument precision: sound. Semantic depth: all ten IF[3] terms correctly deployed. Veto conditions: none triggered.

S.debate_required? — Yes. Rationale: the account of Entfremdung as a necessary moment requires dialectical interrogation. The synthesis risks domesticating alienation into a progressive narrative.

Structured Debate Invoked — Yes. Rounds: 2 (resolved at Round 2). Outcome: original synthesis confirmed. Status: resolved.

Decision — Integrate A into W.

Metric Scores — APS: 9 | SDS: 9 | CDR: 8 | COF: 7 | SDER: 9 | logged_iterations: 1

Convergence Evaluation

S.evaluate_convergence(W, H_0, ES) — true — W adequately addresses H_0 within the scope defined by IF[5]. Session complete.

SCQI Calculation

Formula — debate_triggered == true → Total_SCQI = ((APS + SDS + CDR + COF + SDER) / logged_iterations) / 50

Calculation — ((9 + 9 + 8 + 7 + 9) / 1) / 50 = 42 / 50 = 0.84

Total_SCQI — 0.84

Post-Session Verification

Written Test — Immediate — Administered. Five questions on W's treatment of Aufhebung, Bildung, the Sittlichkeit-modernity implication, and the Entfremdung dialectical debate. Results: to be logged.

Written Test — Deferred — Scheduled for seven days post-session.

Oral Examination — Scheduled. Interlocutor: external examiner or AI proxy.

APPENDIX B: EVALUATIVE STANDARDS SCORING RUBRICS (10-POINT DESCRIPTORS)

The following rubrics provide operational descriptors for each point on the ten-point scale for each SCQI metric. They are intended to support consistent scoring across sessions and to enable inter-rater reliability studies.

APS — Argument Precision Score

Score	Descriptor
9–10	Argument is logically rigorous and internally consistent throughout. Claims follow validly from premises. No conflation, equivocation, or invalid inference. Logical structure is explicit.
7–8	Argument is substantially sound with minor imprecisions that do not undermine the core inference. At most one instance of ambiguous transition.
5–6	Argument is broadly coherent but contains identifiable logical gaps or one significant equivocation. The core claim survives but requires charity to follow.
3–4	Argument contains multiple logical errors or one fundamental equivocation that undermines the core inference. The synthesis is retrievable but requires substantial revision.
1–2	Argument is logically incoherent. Claims do not follow from premises. Multiple fundamental errors. Not suitable for integration without full reformulation.

SDS — Semantic Depth Score

Score	Descriptor
9–10	All IF[3] operative terms are deployed correctly and in substantively significant roles. No decorative use. The synthesis demonstrates genuine conceptual mastery of the disciplinary vocabulary.
7–8	Most IF[3] terms are correctly deployed. At most one instance of imprecise or underdeployed operative term. Conceptual engagement is genuine.
5–6	Operative vocabulary is present but several terms are deployed imprecisely or in decorative rather than substantive roles. Surface-level theoretical engagement.
3–4	Multiple IF[3] terms are absent, misused, or conflated. The synthesis does not demonstrate adequate engagement with the disciplinary conceptual framework.
1–2	IF[3] operative vocabulary is largely absent or systematically misused. The synthesis operates outside the disciplinary tradition it purports to engage.

CDR — Collaborative Debate Ratio (Structured Debate sessions only)

Score	Descriptor
9–10	The final synthesis is demonstrably shaped by the dialectical exchange. S's and N's contributions are both genuinely present in the outcome. Neither position simply prevailed.

Score	Descriptor
7–8	The synthesis reflects the debate with minor asymmetry — one party's position is more dominant but the exchange genuinely influenced the outcome.
5–6	The synthesis reflects the debate formally but one party's position largely prevails. The exchange was productive but not genuinely integrative.
3–4	The synthesis is only marginally influenced by the debate. One party's initial position is essentially unchanged. Exchange was superficial.
1–2	The synthesis does not reflect the debate at all. One party capitulated without genuine engagement. The debate did not function as intended.

COF — Conceptual Originality Factor

Score	Descriptor
9–10	The synthesis contains a genuinely novel conceptual contribution that S judges to be non-trivially original relative to the existing literature and available AI output on this question.
7–8	The synthesis advances beyond standard accounts in a meaningful way. Not fully original but not reducible to existing formulations.
5–6	The synthesis is competent but closely follows existing formulations. Marginal original contribution. Could have been produced by standard AI prompting without SNCM structure.
3–4	The synthesis is largely a restatement of well-established accounts. No meaningful original contribution detectable.
1–2	The synthesis is entirely derivative. It reproduces standard accounts without addition, synthesis, or insight.

SDER — Structured Debate Engagement Ratio (Structured Debate sessions only)

Score	Descriptor
9–10	S's engagement throughout the debate is intellectually rigorous. Position statements are argued, not merely asserted. Revisions are genuinely responsive to N's counters. Round 3 integration is substantive.
7–8	S's engagement is substantive with minor instances of under-argued position or insufficient revision. S is genuinely engaged but the rigour is not sustained throughout.
5–6	S's engagement is formally present but substantively thin in one or two rounds. Position statements or revisions lack argumentative depth.
3–4	S's engagement is minimal. Position statements are assertions without argument. Revisions do not respond substantively to N's counters.
1–2	S's engagement is perfunctory or absent. The debate protocol is formally executed but S is not genuinely engaged. The debate does not function as intended.