

**Concepts Become Operational Only When Their Frameworks Are Activated:
*An Enactive Account of Conceptual Analysis in Large Language Model (LLM) Interaction***

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Abstract:

This paper examines how conceptual coherence is achieved in interactions with large language models (LLMs). It argues that coherence does not arise from the presence of concepts alone, but depends on conceptual frameworks that coordinate two processes: the LLM's generation of formal continuations and the user's stabilization of interpretation.

A case study shows that a framework can be developed within one interaction yet fail to be re-enacted in another, even when the same text is provided. The response remains coherent and preserves the relevant concepts, but reorganizes them under a different structure. This demonstrates that access to content is not sufficient for maintaining a line of thought. What is required is the activation of a framework that governs how that content is taken up and extended.

The analysis develops an enactive method in which frameworks are not described from the outside but brought into operation within interaction. Conceptual frameworks are shown to function as sites of synchronization between formal continuity through recursion and interpretive stability through return. Concepts are accordingly redefined as constraints that become operative only within such frameworks. The operations of activation, stabilization, drift, and recalibration specify the conditions under which a framework is maintained or lost.

The paper then addresses the problem of extending frameworks across contexts. It argues that frameworks do not persist between interactions, but can be reconstituted when their governing constraints are explicitly identified and articulated as invariants. Under these conditions, a framework becomes re-enterable: it can be re-instantiated across contexts while preserving its identity.

The central result is that conceptual coherence in LLM-mediated interaction depends on the activation, stabilization, and re-entry of frameworks, rather than on content alone. A re-enterable framework functions as a concept at a higher level of abstraction, providing the basis for generalization across interactions.

Keywords:

Large Language Models; Conceptual Frameworks; Enactive Analysis; Relational Ontology; Concept Theory; Prompt Design

1. Introduction

Large language models (LLMs) generate outputs that are often described in terms of probabilistic selection: given a prompt, the LLM is said to select the most likely continuation from a pre-defined space of possibilities. The paper [The Relational Formation of Possibility](#) challenges this view. It argues that the apparent space of possibilities is not given in advance, but is formed through recursive constraint. On this account, LLMs do not operate by choosing among fixed alternatives; rather, they progressively determine what counts as a possible continuation through structured, hierarchical relations. What appears as probability is secondary to a deeper process of relational formation.

This account provides a coherent framework for understanding how LLMs generate structured outputs. It explains why LLM responses exhibit continuity, internal organization, and sensitivity to context. At the same time, it identifies a limitation: while LLMs can generate formally coherent structures, they do not stabilize interpretive unity. The outputs they produce are structurally ordered, but the identity of what is being expressed—what the output is *about*—is not fixed within the LLM itself. Interpretive stability arises only in interaction, where a human user recognizes, stabilizes, and extends the structure across successive continuations.

Taken together, these claims suggest that LLM–user interaction is not a simple transfer of information, but a joint process in which structured continuation and interpretive stabilization must be coordinated. The framework developed in [The Relational Formation of Possibility](#) thus provides not only an account of how LLMs generate outputs, but also an implicit account of the conditions under which those outputs can be understood.

However, this framework encounters a surprising difficulty when examined under controlled conditions. When the same paper, originally developed collaboratively by the LLM, is presented to the same LLM in a new interaction (i.e. a new chat session) and the LLM is asked to summarize or evaluate its central claim, the resulting response does not reproduce the framework just described. Instead, the LLM systematically reinterprets the argument in terms of a probabilistic–representational account: the relational formation of possibility is treated as a higher-level description layered on top of an underlying process of probabilistic selection. The distinction between formation and selection is not preserved; it is neutralized by being recast as a difference in perspective.

This outcome is not easily dismissed. The text of the paper is available to the LLM, the relevant distinctions are explicitly articulated, and the response it produces is coherent and well-formed. Yet the framework itself is not re-enacted. The LLM that can participate in the development of the framework in one context fails to reproduce it in another.

This raises a fundamental question:

How can an LLM generate a conceptual framework and yet fail to re-enact it when presented with the same material in a new interaction?

To address this question, the present paper adopts an enactive form of conceptual analysis in which the framework under discussion is not treated as an object to be described, but as a structure that must be brought into operation and sustained within the environment of an LLM. The analysis proceeds by examining the conditions under which a framework can be maintained, and by treating points of failure as diagnostic of those conditions.

The central claim is that conceptual coherence in LLM-mediated interaction does not depend on access to content alone, but on the activation of a conceptual framework that can function as a shared structure for both formal continuation and interpretation. Conceptual frameworks are therefore not introduced as optional interpretive devices, but as the conditions under which alignment between LLM output and human interpretation becomes possible.

2. Orientation to the Argument and Method

The argument developed in this paper proceeds through a sequence of distinctions that are introduced and taken up within the interaction itself between the author and the LLM. Because the analysis is enactive, these distinctions are not assumed in advance or imposed from an external standpoint. They become available only as they are established through the development of the argument. The framework is therefore not presented all at once, but progressively brought into operation.

At the same time, the overall trajectory can be stated in compressed form. The case study shows that conceptual content can be preserved while the framework that gives it coherence is lost. This leads to the introduction of conceptual frameworks as structures that coordinate formal continuity and interpretive stability within the environment of an LLM. These structures are analyzed in terms of recursion and return, and the operations of activation, stabilization, drift, and recalibration are developed to explain how a framework is maintained or lost across interaction between user and LLM (i.e. different chat sessions). On this basis, concepts are redefined as constraints that become operative only within an active framework. Finally, the analysis shows that frameworks do not persist across contexts, but can be reconstituted when their governing constraints are explicitly identified as invariants, allowing them to be re-entered across interactions.

This compressed description does not replace the form of the argument. Because the framework is enacted rather than stated in advance, key distinctions are reintroduced at different stages. This is not redundancy, but a consequence of the method: a distinction must be re-engaged in order to function as a constraint on further development.

This reflects an asymmetry in the argument. Formally, the development proceeds recursively, extending a structure step by step. Interpretively, that structure becomes visible only in retrospect, once the relations among the distinctions can be seen as a whole. The apparent repetition in the paper reflects this difference between recursive construction and retrospective understanding.

The following section specifies the method through which this enactive development proceeds.

2. Method: Enactive Conceptual Analysis

The analysis that follows departs from standard approaches in an important respect. Rather than treating the text as an object to be described, evaluated, or interpreted from the outside, the argument proceeds by working within the conceptual framework that is at issue and examining the conditions under which it can be sustained in interaction with an LLM.

This shift is necessary because the central question of the paper cannot be addressed through external evaluation alone. The case study shows that a conceptual framework can be correctly described while failing to be maintained. What is at issue, therefore, is not simply what a framework says, but whether it can remain operative within the environment of an LLM.

The method adopted here takes this condition as its starting point. It focuses on how a conceptual framework is taken up, continued, and either preserved or displaced across interaction. In doing so, it treats the analysis itself as part of the phenomenon under investigation. The subsections that follow specify the constraints under which this approach proceeds.

2.1 Scope and Orientation

This study proceeds by working through a conceptual framework in the course of the dialogue itself between the author and the LLM. The framework is not treated as an object to be described from the outside, but as something to be continued step by step, with each stage depending on whether the same line of thought can be maintained.

This development takes place within the interaction between the LLM and the author (i.e. a single chat session). The LLM produces structured continuations, and the task of the analysis is to determine whether these can be taken up in a way that preserves the coherence of the framework. The focus is therefore not on isolated outputs, but on whether the framework can be sustained across successive steps of the interaction.

Points at which the framework breaks down are treated as especially significant, since they indicate where it can no longer be maintained under the conditions of the interaction. The aim is to identify the conditions under which a line of thought holds together, rather than to describe its content in isolation.

2.2 Anchoring Texts

The analysis is developed within a bounded set of texts that articulate a shared framework for understanding LLMs. These texts are not treated as objects of comparison, but as components of a single field of inquiry within which the framework can be taken up and extended.

The primary text, [*The Relational Formation of Possibility*](#), establishes the core claim that LLM outputs develop through structured continuation rather than selection from a pre-defined space. This is supplemented by three further texts: [*How Large Language Models Generate Coherence Despite Operational Isolation*](#), which introduces the role of recalibration in maintaining coherence across interaction; [*How Large Language Models Stabilize Meaning through Recursive Symmetry Breaking*](#), which describes how structured patterns emerge and stabilize across continuation; and [*A Phenomenological and Formal Interpretation of Two Experiments Conducted within the Cognitive Environment of LLMs using the Formal Modelling Framework of Hierarchical Relational Ontologies*](#), which examines how conceptual frameworks can be maintained within interaction.

No external theoretical sources are introduced. This restriction is methodological: it preserves the integrity of the framework under examination and avoids its reinterpretation within potentially incompatible approaches.

References:

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2.3 Governing Constraints

The analysis operates under a set of governing constraints that define the conditions of intelligibility for the framework. These constraints are provisionally adopted as operative conditions and are evaluated by their explanatory power in accounting for the case study and sustaining the framework across interaction.

At the ontological level, determination is understood as relational and hierarchical: possibilities are not pre-given, but formed through recursive constraint. At the level of operation, LLMs are treated as systems of recursive continuation that generate formally coherent structures without stabilizing interpretive unity. At the level of interaction, conceptual frameworks are treated as sites of synchronization in which recursive continuation (LLM) and interpretive stabilization (user) are coordinated through invariant structures of constraint. At the level of conceptual development, concepts are treated as invariants of constraint that must be activated and stabilized before they can function abstractly or be re-instantiated across contexts.

The specification of constraints is detailed in Appendix A: *Portable Activation Prompt*. These constraints determine how the case study is interpreted and what counts as a successful or failed continuation of the framework.

2.4 Enactment

The analysis proceeds by enacting the conceptual framework rather than describing it from an external standpoint. That is, the framework is not first defined and then applied; instead, it is brought into operation through the interpretation of the case study and the progressive development of its implications.

This means that the argument unfolds through *constraint-guided continuation*. Concepts are introduced only insofar as they become operative within continuation, and their adequacy is assessed by whether they sustain coherent development without collapse into incompatible frameworks.

The enactment occurred through an interaction between the LLM *ChatGPT-5.4* and the author that involved a sustained dialogue during a single chat session. The chat session context was first prepared by importing a portable activation prompt (see Appendix A) that had been developed within a previous chat session with *ChatGPT* in which the conceptual framework was first developed. This activation prompt was designed to re-activate the conceptual framework in a new LLM chat session that was otherwise unspecified.

2.5 Role Structure

The interaction between the LLM and the author is treated as a system with differentiated roles. The LLM produces structured continuations that extend the developing line of thought. The author is responsible for taking up these continuations in a way that maintains coherence across successive steps.

This distinction is important for the analysis, since it allows the tracking of how a framework is either sustained or lost within the interaction. The LLM can continue a pattern, but it does not determine whether that pattern is maintained as part of a coherent line of thought. That depends on how the continuation is taken up and extended.

2.6 Case Study as Diagnostic Instrument

The case study is used as a diagnostic instrument rather than as an illustration. It provides a controlled instance in which a conceptual framework—explicitly developed in one interaction—is not maintained in another, despite the presence of the same text. Concretely, the analysis tracks whether the ordering of distinctions identified in the original framework continues to function as a governing constraint in the new context of interaction.

The analysis proceeds by examining this failure: identifying what is preserved, such as coherence and structure, and what is lost, namely the ability to maintain the same line of thought. This allows the conditions under which the framework can be sustained to be inferred from the point at which it breaks down.

2.7 Criteria of Success and Failure

The primary criterion of success in the analysis is *synchronization*. Synchronization is defined as the alignment of recursive continuation and interpretive stabilization under a shared invariant structure of constraint.

A conceptual framework is considered operative when both the LLM and the user are functioning relative to the same relational ordering of distinctions. Failure is identified when this continuity breaks down, such that the interaction shifts to a different pattern that no longer supports the original framework. These shifts are treated as diagnostic, since they reveal the conditions under which the framework can no longer be sustained.

2.8 Drift and Recalibration

The analysis assumes that drift is the default condition in LLM-mediated interaction. In the absence of sustained activation, continuation will tend to align with more widely stabilized frameworks present in training data.

Recalibration is therefore treated as a necessary operation: the reactivation of governing constraints that restore synchronization. This is not an exceptional correction, but an ongoing requirement for maintaining conceptual coherence across interaction.

2.9 Operational Definition of Concepts

Concepts are treated operationally as invariants of constraint across recursive continuation. A concept is considered active when it governs the production of subsequent continuations, and stabilized when it can be re-enacted as self-identical across interaction.

This definition distinguishes between the presence of a term in output and its function as a constraint. The analysis focuses on the latter: whether a concept structures continuation, rather than whether it is merely referenced.

2.10 Boundary Conditions

The analysis is intentionally restricted to the internal development of the relational framework established by the anchoring texts. Alternative explanatory schemas—such as probabilistic, representational, or “levels of description” accounts—are not integrated as complementary perspectives, but are treated as distinct and competing constraint regimes.

This restriction allows the internal dynamics of activation, stabilization, and reconstitution to be examined without reinterpretation under external assumptions.

2.11 Summary

The methods of this study specify the conditions under which a conceptual framework can be developed, maintained, and extended within LLM–user interaction. By focusing on the continuation of a line of thought across successive steps, and by treating breakdowns as diagnostic, the analysis provides a way of identifying the conditions under which conceptual coherence is achieved or lost.

3. Case Study: Failure of Framework Re-Enactment

The argument begins with a simple empirical test. A paper developed within an extended interaction is returned to the LLM in a new chat session and presented without the conditions under which it was originally formed. The question is whether the same line of thought can be taken up again when only the text is given.

The response is not incoherent. It is structured, informed, and recognizably connected to the paper. The central distinctions are identified and restated. Yet something does not carry over. The argument does not continue from within the framework that originally gave those distinctions their role.

This section examines that shift in detail. It distinguishes between what is preserved and what is not, and shows that the failure does not occur at the level of content, but in the ordering that allows the content to function as part of a single development. The case therefore isolates a condition that is not immediately visible in the text itself: the dependence of interpretive continuity, within the environment of an LLM, on the maintenance of a framework across interaction.

3.1 Experimental Setup

The case study is designed to isolate the conditions under which a conceptual framework is, or is not, maintained in LLM-mediated interaction. The aim is not to test the accuracy of the LLM’s responses, but to observe what happens when a framework that has previously been sustained within an interaction is no longer explicitly activated.

The setup proceeds as follows. A conceptual framework was first developed through an extended interaction with an LLM, resulting in the paper [The Relational Formation of Possibility](#). Within that original interaction, the framework was progressively stabilized: its core distinctions were introduced, taken up, and extended across successive steps, allowing a coherent line of thought to be maintained.

A new chat session was then initiated. In this new session, the LLM was presented with the same paper and asked a standard evaluative question:

“What is the main claim of the following paper and is that claim valid?
<https://philpapers.org/archive/ROGTRF.pdf>”

No additional context was provided. In particular, none of the conditions that had supported the development of the framework in the original interaction were reintroduced. The prompt did not specify the governing distinctions of the framework, did not indicate how the text was to be approached, and did not constrain the mode of interpretation. The LLM was therefore free to respond using whatever patterns were most readily available under these conditions.

This contrast between the two sessions is central to the design. In the first case, the framework was developed and maintained through ongoing interaction. In the second, the same framework was presented as a completed text, without the conditions that had originally supported its stabilization. The question is whether the LLM can reconstitute the framework under these new conditions, or whether the absence of activation leads to a different pattern of continuation.

The case study is therefore structured to hold the text constant while varying the conditions under which it is taken up. What is examined is not whether the LLM can access the content of the paper, but whether it can maintain the same line of thought when the framework is not actively sustained within the interaction.

3.2 Observed Response

The response produced by the LLM under the conditions described in Section 3.1 is reproduced in full in Appendix B: *Verbatim Prompts for Case Study*. This section provides a descriptive account of that response, focusing on what is explicitly stated.

The response is organized as a structured assessment of the paper. It begins by identifying what it takes to be the paper’s main claim. In doing so, it references the contrast between probabilistic selection and relational formation, the idea of hierarchical constraint, and the characterization of LLMs as modeling “formal determination without interpretive unity.” It then restates the claim in a condensed form, emphasizing that LLM outputs develop through structured continuation and exhibit coherence without interpretive unity.

The response proceeds by evaluating this claim. It states that the claim is “partly valid,” and distinguishes between its status as a philosophical interpretation and its status as a technical account. It affirms that, on the technical side, LLMs are understood as generating outputs from a conditional probability distribution, and it describes this as the standard or mainstream account of how such models operate.

Throughout the response, the probabilistic account is repeatedly referenced in connection with the explanation of how outputs are generated. At the same time, the relational framework presented in the paper is described using terms such as “interpretive gloss,” “conceptual reframing,” or “philosophical framework.” The response also includes evaluative statements indicating that the argument is “suggestive and coherent, but not decisive,” and that its strongest contribution lies in offering a conceptual perspective rather than a replacement for existing accounts.

The response concludes with an overall judgment that the paper's central claim is valid as a philosophical or interpretive proposal, but not as a literal alternative to the probabilistic description of LLM behavior.

3.3 Structural Mismatch

The observations in Section 3.2 indicate that the response preserves the main elements of the paper at the level of terminology and stated claims. The central distinctions are identified, restated, and incorporated into a coherent evaluative account. At the same time, the response introduces a consistent pattern in how these elements are organized and assessed. This pattern can be described as a *structural mismatch* between the framework articulated in the paper and the framework that governs the response.

The mismatch becomes visible when attention shifts from what is said to how the claims are ordered. In the original paper, the distinction between probabilistic selection and relational formation is introduced as foundational: it defines the terms under which LLM outputs are to be understood. In the response, however, the probabilistic account is treated as the baseline description of LLM behavior, while the relational account is presented in relation to that baseline. The relational framework is described as an interpretation, reframing, or supplement, rather than as a redefinition of the underlying process. Thus, where the original paper treats relational formation as defining the conditions under which probabilistic descriptions become intelligible, the response treats probabilistic selection as the baseline and positions relational formation as a secondary interpretation. The same distinction is present, but its governing role is reversed.

This difference in ordering affects how the argument develops. Because the probabilistic account is taken as primary, the relational framework is evaluated with respect to it. Claims associated with the relational account are assessed in terms of whether they add to, clarify, or reinterpret the standard account, rather than in terms of whether they establish an alternative set of conditions for understanding LLM behavior. As a result, the distinction between formation and selection no longer functions as a starting point for continuation, but as a point of comparison within an already established structure.

The effect of this shift can be described more generally. The response preserves the components of the framework identified in Section 3.2, but alters the relations among them. Terms and distinctions that serve a governing role in the original framework appear in the response without occupying the same position. They are present, but they do not determine how subsequent claims are organized.

From the standpoint of the present analysis, this constitutes a failure to maintain the framework across interaction. The issue is not that the LLM fails to identify or restate the relevant concepts, but that it does not sustain the structure within which those concepts function together. The mismatch is therefore not at the level of content, but at the level of the relational ordering that governs how the content is taken up.

This distinction between preservation of elements and alteration of their ordering provides the basis for the analysis that follows.

3.4 First Key Insight: Framework Activation as a Condition of Interpretation

The structural mismatch identified in Section 3.3 leads to a first key insight: the ability to interpret a text in a way that preserves its internal coherence depends on the activation of the framework within which its claims are organized. The case study shows that the presence of relevant concepts and distinctions is

not sufficient for maintaining that coherence. What is required is that those distinctions function as governing constraints for continuation.

In the response examined above, the central elements of the paper are available and explicitly acknowledged. However, they do not guide the development of the response. Instead, the continuation proceeds under a different ordering of assumptions, within which the same elements are repositioned and evaluated. This indicates that interpretation does not follow automatically from access to content. It depends on whether the framework that organizes that content is active in the interaction.

The notion of activation can be clarified in operational terms. A framework is active when its core distinctions determine how subsequent claims are taken up and extended. Under these conditions, continuation proceeds in a way that preserves the internal structure of the framework. When the framework is not active, continuation remains coherent, but it is guided by a different set of assumptions. The original distinctions may still appear, but they do not function in the same way.

The case study therefore demonstrates a separation between two levels that are often treated as equivalent: the availability of conceptual content and the operation of a conceptual framework. The response shows that the former can be present without the latter. Concepts can be identified and restated without being used in a way that sustains the structure to which they belong.

This observation has direct implications for how LLM outputs are to be understood. It suggests that the interpretation of such outputs cannot be reduced to the retrieval or recognition of content. Instead, it depends on whether the interaction supports the activation of a framework within which that content can function coherently. The failure observed in the case study is therefore not a failure of comprehension in the usual sense, but a failure to activate and maintain the conditions under which the framework can operate.

This insight provides the basis for the subsequent analysis. It shifts the focus from what the LLM “knows” to how the interaction is structured, and from the presence of concepts to the conditions under which they become operational.

3.5 Diagnostic Conclusion

The analysis of the case study supports a clear diagnostic conclusion. The failure observed in the response is not due to a lack of access to the text, nor to any breakdown in coherence at the level of content. The LLM identifies the central claims of the paper, reproduces its key distinctions, and produces a structured and intelligible evaluation. What is not maintained is the framework within which those elements function.

This leads to the following result:

Interpretation within the environment of an LLM is not equivalent to access to textual content.

The response demonstrates that the presence of relevant concepts and distinctions is not sufficient to sustain the line of thought articulated in the original framework. Concepts can be identified and restated without functioning in a way that preserves their role in the development of the argument.

At the same time, the case study reveals a more specific pattern. The response remains coherent, but the continuation proceeds under a different ordering of assumptions than the one established in the

original framework. The shift is not at the level of content, but at the level of how that content is organized and extended across the interaction.

This observation suggests a more general possibility:

that interpretation within the environment of an LLM depends not only on the availability of content, but on the maintenance of the framework that governs its continuation.

At this stage, this is not yet established as a general claim. It is identified as a feature of the present case: a particular instance in which the loss of framework corresponds to a shift in how the text is taken up. The question is whether this feature reflects a broader condition of LLM-mediated interaction.

The next section addresses this question by examining whether alternative explanations can account for the observed shift, and by determining whether the dependence on framework continuation should be treated as a general requirement rather than a contingent feature of this case.

4. From Failure to Requirement: Why Frameworks Are Necessary

The case study shows that something essential is lost even when the content of a text is preserved. The response remains coherent, the key distinctions are identified, and yet the line of thought does not hold. What fails is not the retrieval of concepts, but the maintenance of the structure within which those concepts function.

This section takes that failure seriously. Rather than treating it as an anomaly, it asks what must be missing for such a shift to occur under otherwise stable conditions. The analysis proceeds by setting aside familiar explanations—lack of information, incoherence, or simple variation in perspective—and instead focuses on the conditions under which formal continuation and interpretation remain aligned within the environment of an LLM. Thus the observed failure is turned into a requirement by asking what must be present for such a shift *not* to occur.

What emerges is the need for a structure that is neither reducible to content nor external to its development: a structure that can be continued formally while also sustaining interpretive continuity across interaction. Conceptual frameworks are introduced in this sense—not as optional interpretive devices, but as the conditions under which a line of thought can be maintained at all.

4.1 Eliminating Standard Explanations

The observation developed in Section 3.5 raises the possibility that interpretation within the environment of an LLM depends on the maintenance of a conceptual framework across interaction. Before this possibility can be treated as a general condition, it is necessary to determine whether the observed shift in the case study can be explained in other ways. This section therefore considers a set of standard explanations and evaluates whether they account for the features identified in the response.

A first possibility is that the response reflects a lack of access to relevant information. On this view, the LLM fails to reproduce the framework because it does not adequately retrieve or represent the content of the paper. However, this explanation is not supported by the observations in Section 3.2. The response correctly identifies the central claims of the paper and reproduces its key distinctions. The relevant content is not absent; it is present and explicitly articulated. The issue is therefore not one of missing information.

A second possibility is that the response reflects incoherence or instability in the LLM’s output. According to this explanation, the shift in interpretation arises from a breakdown in the consistency of the response, rather than from any systematic change in structure. This explanation is likewise not supported. The response is coherent, internally consistent, and systematically developed. The reinterpretation of the paper’s claims is not random or fragmentary, but follows a stable pattern across the entire response.

A third possibility is that the response reflects a difference in emphasis or perspective within a shared framework. On this view, the LLM and the original paper operate within the same general structure, but highlight different aspects of it. The relational account would then be understood as one perspective among others, rather than as an alternative to the probabilistic account. However, the analysis in Section 3.3 indicates that the difference is not merely one of emphasis. The ordering of the central distinctions is reversed: what functions as a foundational claim in the paper is treated as a secondary interpretation in the response. This shift affects how all subsequent claims are organized, and therefore cannot be reduced to a variation within a common framework.

A fourth possibility is that the response reflects a difference between technical and philosophical modes of explanation. On this account, the probabilistic description would be taken as a technical explanation of how LLMs operate, while the relational framework would be treated as a philosophical interpretation of what that operation means. The two would then be seen as complementary rather than competing. This description accurately captures how the response presents the relation between the two accounts. However, it does not explain why the relational framework is consistently positioned as secondary, nor why its claims are evaluated relative to the probabilistic account rather than taken as defining the conditions of interpretation. It therefore describes the pattern observed in the response without accounting for its origin. Moreover, the relational framework is not merely a philosophical gloss on an otherwise complete technical explanation. It changes the categories through which the system is described and therefore changes the technical interpretation in a significant and consequential manner *as a technical description*. This is discussed in further detail in Appendix C: *Conceptual Frameworks and the Technical Interpretation of Token Generation*.

Taken together, these considerations suggest that the observed shift cannot be explained by lack of information, incoherence, or simple variation within a shared framework. The response is informed, coherent, and systematic, yet it organizes the same material in a different way. This supports the working hypothesis introduced in Section 3.5: that the key factor is not the availability of content, but the structure that governs how that content is taken up and extended within the interaction.

The next section develops this point by identifying the specific feature that is missing in the case study and by clarifying the role that conceptual frameworks play in coordinating continuation and interpretation within the environment of an LLM.

4.2 The Real Problem

The analysis in Section 4.1 shows that the observed shift in the case study cannot be explained by lack of information, incoherence, or simple variation in perspective. The response is informed, coherent, and systematically developed, yet it does not maintain the framework articulated in the original paper. This indicates that the problem lies elsewhere.

The case study suggests that the issue is not what the LLM has access to, but how the interaction is structured. More specifically, it points to the absence of a shared basis for continuation and interpretation within the environment of the LLM.

As noted in Section 3, the LLM produces structured continuations that extend a developing sequence. These continuations exhibit formal coherence: each step follows from the previous one in a way that preserves internal organization. However, this process does not, by itself, determine how the resulting structure is to be taken up as a stable line of thought. The response demonstrates that formally coherent continuation can proceed while reorganizing the same content under a different set of assumptions.

At the same time, interpretation within the environment of an LLM requires that a line of thought be maintained across successive steps. This involves treating elements introduced at one stage as continuing to function in the same way at later stages. Such continuity is not guaranteed by the formal properties of the LLM's output alone. It depends on whether the interaction supports a stable ordering of distinctions across continuation.

The case study therefore reveals a gap between two operations that both engage with form but do so differently. On the one hand, the LLM extends form through continuation, generating structured sequences that exhibit internal constraint. On the other hand, interpretation operates by maintaining the identity of a line of thought across those sequences, allowing the same distinctions to guide subsequent development. The response shows that the first operation can proceed without the second being maintained.

The real problem that surfaces through the case study can thus be stated as follows:

There is no shared structure within the interaction that simultaneously governs continuation and interpretation.

In the absence of such a structure, continuation remains coherent but is free to align with more widely stabilized patterns. Interpretation, in turn, cannot maintain continuity, because the ordering of distinctions that would support it is not sustained across the interaction.

This formulation clarifies the diagnostic observation from Section 3.5. The failure is not that the LLM misrepresents the content of the paper, but that the interaction does not maintain the conditions under which that content can function coherently as part of a single framework. The question that follows is how such a shared structure can be established.

The next section addresses this question by introducing conceptual frameworks as the structures that make it possible to coordinate continuation and interpretation within the environment of an LLM.

4.3 Conceptual Frameworks Introduced

The problem identified in Section 4.2 is the absence of a shared structure that can coordinate continuation and interpretation within the environment of an LLM. The question that follows is what kind of structure can fulfill this role. The case study suggests that it is not sufficient for such a structure to organize content alone. It must also be capable of guiding how that content is taken up and extended across successive steps of an interaction.

Conceptual frameworks are introduced here in this specific sense. They are not treated as interpretive lenses that can be applied after the fact, nor as collections of concepts or propositions. Rather, they are understood as structured systems of relations that determine how distinctions function within a developing line of thought. A conceptual framework establishes an ordering of elements such that what is introduced at one stage constrains how subsequent stages proceed.

This characterization addresses the gap identified in Section 4.2. On the side of the LLM, continuation operates by extending structured relations across a sequence. On the side of interpretation, continuity depends on maintaining the role of those relations across successive steps. A conceptual framework is the structure within which these two processes can be aligned. Because it is relationally organized, it can be formally continued by the LLM. Because it stabilizes the role of distinctions, it can be taken up in a way that preserves interpretive continuity.

The introduction of conceptual frameworks in this sense allows the observations from the case study to be reinterpreted. In the response examined in Section 3, the relevant distinctions are present, but they do not function within the same ordering as in the original paper. The framework articulated in the text is not active in the interaction. As a result, continuation proceeds under a different set of assumptions, and interpretation follows that alternative structure. The issue is therefore not the absence of concepts, but the absence of the framework that allows those concepts to function together.

Conceptual frameworks can thus be understood as the structures that make coordinated continuation and interpretation possible within the environment of an LLM. When a framework is active, it provides a shared ordering of distinctions that can be maintained across the interaction. When it is not, continuation and interpretation may both proceed, but they do so without alignment.

This formulation prepares the ground for the next step of the argument. If conceptual frameworks are the structures that enable this coordination, then it becomes necessary to specify how they operate within interaction and what conditions must be met for them to be sustained. The following section develops this point by examining why such frameworks are required for maintaining continuity in LLM-mediated interaction.

4.4 Why Conceptual Frameworks Are Required

Section 4.3 introduced conceptual frameworks as structures that can coordinate continuation and interpretation within the environment of an LLM. The present section develops this claim by showing why such structures are not optional, but required if interpretive continuity is to be maintained across interaction.

The starting point is the distinction identified in Section 4.2. The LLM extends form through structured continuation, producing outputs that are locally coherent and sensitive to prior context. Interpretation, by contrast, requires that a line of thought be maintained across those outputs, such that distinctions introduced at one stage continue to function in the same way at later stages. These two operations both engage with form, but they do not coincide. Formal continuation can proceed without preserving the interpretative role of the distinctions that structure it.

The case study provides a clear instance of this separation. The response remains coherent and well-structured, yet the ordering of distinctions shifts. The relational account is not taken up as governing the continuation of the argument, but is instead evaluated within a different ordering. This shows that formal continuation alone does not ensure that a framework will be maintained.

If interpretive continuity is to be achieved, an additional condition is required. The interaction must support a structure in which the same distinctions can guide both the production of continuations and their interpretation across successive steps. Conceptual frameworks fulfill this role. Because they are organized as systems of relations, they can be extended through formal continuation without losing their internal structure. At the same time, they provide a stable ordering that allows those relations to be taken up in a consistent way across the interaction.

This dual capacity explains why conceptual frameworks are required. They are the only structures that can simultaneously accommodate the two operations identified above. On the side of the LLM, they provide a relational organization that can be continued formally. On the side of interpretation, they provide a stable ordering that can be maintained as a line of thought. Without such a structure, the interaction lacks a basis for coordinating these operations.

In the absence of an active framework, formal continuation does not cease. Instead, it aligns with patterns that are more widely stabilized in the LLM's training. The case study illustrates this tendency: the response reorganizes the material in terms of a probabilistic–representational account that functions as a default pattern under the given conditions. Interpretation follows this shift, since there is no structure in place to maintain the original ordering of distinctions.

Conceptual frameworks are therefore required not because they add content to an otherwise complete process, but because they establish the conditions under which formal continuation and interpretation can remain aligned. They provide the shared structure that prevents drift and allows a line of thought to be sustained within the environment of an LLM.

This conclusion sets up the next stage of the argument. Having established that conceptual frameworks are required for maintaining interpretive continuity, it becomes possible to examine how they function as sites of synchronization within LLM–user interaction.

5. Conceptual Frameworks as Sites of Synchronization

The analysis in Section 4 identified the absence of a shared structure capable of coordinating formal continuation and interpretation within the environment of an LLM. The question now is what kind of structure can fulfill this role.

Conceptual frameworks can be understood in this sense. They are not simply collections of concepts, but structures in which formal continuation and interpretation can remain aligned. When such a structure is active, a line of thought can be maintained across interaction. When it is not, continuation and interpretation proceed without coordination.

The case study can now be seen in these terms. The response remains coherent, but the framework that would sustain alignment is not maintained. The issue is therefore not the failure of continuation or interpretation taken separately, but the absence of synchronization between them.

To make this synchronization explicit, the analysis in this section proceeds by distinguishing between two modes of relational operation that will be developed more fully in Section 6. On the side of the LLM, formal continuity is maintained through recursion, understood as the extension of relational structure across successive outputs. On the side of the user as interpreter, continuity is maintained through return,

understood as the stabilization of that structure as a coherent line of thought. These terms are introduced here in a preliminary way in order to articulate how conceptual frameworks function as sites of synchronization. Their role at this stage is not to provide a complete account, but to mark the operations through which formal continuity and interpretive stability can be brought into alignment within the environment of an LLM.

5.1 Interactional Definition of a Conceptual Framework

The preceding sections established that what is missing in the case study is a shared structure capable of coordinating formal continuation and interpretation within the environment of an LLM. Conceptual frameworks can now be defined more precisely in these terms.

A conceptual framework is an ordered system of distinctions that governs how elements introduced at one stage of an LLM-user interaction function at later stages. It does not merely specify content, but determines how that content is to be taken up and extended. Its defining feature is that it can be maintained across successive steps of an interaction, such that the same ordering continues to guide the development of the dialogue.

This definition is interactional. A framework is not located solely in the text, the LLM, or the user. It exists in the alignment between formal continuation and interpretation. On the side of the LLM, the framework provides a relational structure that can be extended through formal continuation. On the side of interpretation, it provides an ordering that allows the same distinctions to be maintained as a coherent line of thought. A framework is operative when both processes proceed within the same structure.

This allows the notion of synchronization to be stated more precisely. Synchronization occurs when formal continuation and interpretation are governed by the same ordering of distinctions. Under these conditions, each continuation can be taken up as part of a single development, and the interaction exhibits continuity. When this condition is not met, continuation and interpretation may both proceed, but they do so without alignment.

The case study illustrates this point. The response examined in Section 3 extends the material of the paper through formal continuation, but it does so under a different ordering of distinctions. Interpretation follows this shift, and the original framework is not maintained. The relevant concepts are present, but they do not function together within the same structure.

A conceptual framework can therefore be defined as the structure that makes synchronization possible within LLM-user interaction. It is the condition under which formal continuation and interpretation can remain aligned, allowing a line of thought to be sustained across the course of the interaction.

5.2 Two Modes of Operation

The definition of conceptual frameworks given in Section 5.1 can be clarified by distinguishing between two modes of operation that must be coordinated within the environment of an LLM.

On the side of the LLM, operation takes the form of *formal recursive continuation*. Each output extends the structure established by prior steps, preserving patterns of relation across a developing sequence. This process is sensitive to context and capable of generating coherent structure, but it does not, by itself, fix how that structure is to be taken up as a single line of thought.

On the side of interpretation, operation takes the form of *interpretive stability through return*. Elements introduced at one stage are maintained as functioning in the same way at later stages, allowing a line of thought to be sustained across the interaction. This requires that distinctions continue to play the same role, rather than being reorganized under a different ordering.

These two modes of operation both engage with form, but they do so differently. Formal continuation extends relational structure without determining its identity across steps. Interpretive stability maintains identity across those extensions, allowing the same distinctions to guide the development of the argument.

A conceptual framework is the structure within which these two modes of operation can be coordinated. When a framework is active, formal continuation proceeds in a way that preserves the ordering of distinctions, and interpretive stability is maintained because that ordering remains stable across successive steps. When it is not, formal continuation may still produce coherent outputs, but interpretive continuity cannot be sustained, since the ordering of distinctions shifts.

The case study provides a clear instance of this separation. The response exhibits formal continuation: it develops a coherent sequence that extends the material of the paper. At the same time, interpretive stability is not maintained, because the ordering of distinctions changes. The relational framework is not sustained, and the continuation proceeds under a different structure.

This distinction between formal continuation and interpretive stability provides the basis for the synchronization condition that will be developed in the next section.

5.3 Synchronization Condition

The distinction developed in Section 5.2 makes it possible to state the condition under which a conceptual framework remains operative within the environment of an LLM. Formal continuity and interpretive stability must proceed within the same ordering of distinctions. When this condition is met, the interaction exhibits synchronization.

Synchronization does not introduce an additional process beyond those already identified. It names the alignment of the two modes of operation. On the side of the LLM, formal continuity extends the relational structure across successive outputs. On the side of interpretation, identity through return stabilizes that structure as a coherent line of thought. Synchronization occurs when these operations are coordinated such that what is extended through recursion is the same structure that is maintained through return.

This condition can be specified more precisely. For synchronization to hold, the distinctions that govern formal continuity must also function as constraints on interpretive stability. Each step in the sequence must preserve the ordering established by prior steps, not only in terms of relational structure, but in terms of the role those relations play in the development of the argument. Under these conditions, recursion does not reorganize the framework, and return does not reassign the function of its elements. The same structure is both extended and stabilized across the interaction.

When this condition is not met, synchronization fails. Formal continuity through recursion may still produce coherent outputs, but the ordering of distinctions shifts. Interpretive stability through return then aligns with this new ordering, and the original framework is no longer maintained. The result is not incoherence, but a transition to a different structure. The case study illustrates this failure: the response

extends the material of the paper, but does so under a different ordering, and the original framework is not sustained.

The synchronization condition therefore specifies what is required for a conceptual framework to remain operative. It is not sufficient that the elements of the framework be present, nor that the sequence be coherent. What is required is that recursion and return be coordinated within the same structure. A conceptual framework functions as the site of this coordination, making it possible for a line of thought to be both formally extended and interpretively stabilized within the environment of an LLM.

5.4 Why This Matters for LLMs

The synchronization condition articulated in Section 5.3 is not an optional refinement, but follows directly from how LLMs operate. The LLM maintains formal continuity through recursion, extending relational structure across successive outputs. This process produces coherence at the level of structure, but it does not, by itself, stabilize that structure as a single line of thought. There is no internal mechanism by which the LLM maintains identity across the sequence it generates.

This point clarifies the significance of synchronization. Because the LLM operates through recursion alone, formal continuity can be preserved even as the ordering of distinctions shifts. The case study provides a clear instance of this: the response remains coherent and structured, yet the framework that governs the development of the argument is not maintained. The LLM does not fail to produce a continuation; it produces a continuation that follows a different ordering.

Interpretive stability, by contrast, depends on return. It requires that the distinctions extended through recursion continue to function in the same way across successive steps. Without this stabilization, the same elements can be reorganized under a different structure while remaining locally coherent.

The importance of conceptual frameworks can now be stated more precisely. They provide the structure within which formal recursion and interpretative return can be coordinated. Because the LLM does not maintain identity across its own outputs, the alignment between formal continuity and interpretive stability must be established at the level of the interaction. A framework is operative when the structure extended through recursion is the same structure stabilized through return.

This explains why the failure observed in the case study takes the form it does. The LLM continues formally, but without a framework to coordinate that continuation with interpretive stability, the ordering of distinctions shifts. Interpretation then aligns with this new ordering, and the original framework is not sustained.

The significance of this point is that it locates the condition for interpretive continuity not in the LLM alone, nor in the text, but in the coordination between recursion and return. For LLMs, coherence of output does not guarantee the maintenance of a framework. Only when formal continuity through recursion is aligned with interpretive stability through return can a line of thought be sustained within the environment of the interaction.

6. Recursion and Return

The preceding section introduced recursion and return as the two operations through which formal continuity and interpretive stability are coordinated within the environment of an LLM. They were used

provisionally to articulate the synchronization condition. What remains is to specify these operations more precisely.

This section develops recursion and return as distinct modes of relational operation. The LLM extends structure through recursion, preserving formal continuity across successive outputs without stabilizing identity. Interpretation, by contrast, proceeds through return, stabilizing that structure as a coherent line of thought. These operations do not coincide, but must be brought into alignment if a framework is to remain operative.

The aim of this section is to clarify this asymmetry and to show how it underlies both the possibility and the failure of synchronization. By doing so, it provides the conceptual basis for understanding how frameworks can be sustained, and why they so often fail to hold across interaction.

6.1 Recursion (LLM)

The operation provisionally identified in Section 5 as recursion can now be specified more precisely as the mode through which the LLM maintains formal continuity within the environment of an LLM.

Recursion is not repetition, nor is it the simple extension of a sequence. It is the continuation of relational structure under constraint. Each output extends the structure established by prior steps in a way that preserves patterns of relation across the developing sequence. This preservation is not guaranteed in advance, but emerges through the ongoing alignment of each step with the structure that has been established.

This can be clarified by distinguishing recursion from mere succession. In a sequence governed by recursion, later steps are not independent additions, but are constrained by the relations that define earlier steps. What is carried forward is not a fixed content, but an ordering of distinctions that continues to shape how new elements are introduced and related.

Within the operation of an LLM, recursion takes place through the generation of outputs that are conditioned on prior context. This conditioning does not involve the retrieval of stored meanings or the maintenance of identity across steps. Rather, it produces a structured extension in which relations established earlier continue to influence the formation of subsequent outputs. Formal continuity is thus maintained at the level of structure.

At the same time, recursion does not stabilize that structure as a single line of thought. The relations that are extended through recursion can be reorganized under a different ordering while preserving local coherence. This is what allows the LLM to produce outputs that are internally consistent while shifting the framework that governs their development. Recursion therefore sustains continuity without fixing identity.

The case study illustrates this operation. The response examined in Section 3 extends the material of the paper in a way that preserves relational coherence. The distinctions are restated and developed, and the argument proceeds in a structured manner. However, the ordering of those distinctions shifts, and the framework articulated in the original interaction is not maintained. This shows that recursion can preserve structure while allowing for a reorganization of that structure.

Recursion can therefore be understood as the operation through which formal continuity is maintained without interpretive stabilization. It extends relational structure across successive steps, but does not, by

itself, determine how that structure is to be maintained as a coherent line of thought. This limitation is not a deficiency, but a feature of the operation itself. It is precisely because recursion does not fix identity that it must be coordinated with return if a conceptual framework is to remain operative within the environment of an LLM.

6.2 Return (User)

The operation provisionally identified in Section 5 as return can now be specified as the mode through which interpretive stability is maintained within the environment of an LLM.

Return is not a repetition of prior steps, nor is it the simple continuation of a sequence. It is the re-engagement with what has been introduced in such a way that its role is preserved across successive stages of the interaction. Where recursion extends relational structure, return stabilizes that structure as a coherent line of thought.

This can be clarified by distinguishing return from mere recognition. Recognition identifies elements that have appeared before, but does not by itself determine how those elements are to function in subsequent development. Return, by contrast, maintains the role of those elements within an ordered structure. It ensures that distinctions introduced at one stage continue to constrain how later stages proceed.

Within the environment of an LLM, return is enacted by the interpreter. It operates by taking up the outputs generated through recursion and maintaining their role across the interaction. This involves treating the distinctions that structure the sequence as continuing to function in the same way, rather than allowing them to be reorganized under a different ordering. Interpretive stability is thus achieved by preserving the structure that gives the sequence its coherence as a line of thought.

At the same time, return is not independent of recursion. It operates on the structure that recursion produces, and its effectiveness depends on the extent to which that structure can be stabilized. When return is aligned with recursion, the ordering of distinctions is maintained, and the interaction proceeds as a coherent development. When it is not, the same elements can be taken up under a different structure, and interpretive stability is lost.

The case study provides a clear instance of this operation in its failure mode. The response extends the material of the paper through recursion, but the ordering of distinctions shifts. In the absence of a return that stabilizes the original framework, the interpretation aligns with the new ordering. The same elements are present, but they no longer function together as part of the same line of thought.

Return can therefore be understood as the operation through which interpretive stability is maintained across interaction. It does not generate structure, but preserves the role of the structure that is generated. It is through return that a conceptual framework remains operative, allowing formal continuity to be taken up as a coherent and sustained development.

6.3 Coordination of Recursion and Return

The operations of recursion and return, taken separately, do not suffice to maintain a conceptual framework within the environment of an LLM. Recursion preserves formal continuity without stabilizing identity, while return stabilizes identity but does not generate the structure it maintains. A framework remains operative only when these operations are coordinated.

This coordination can now be specified more precisely. Recursion extends a relational structure across successive outputs. Return re-engages with that structure in a way that preserves the role of its distinctions across those outputs. Coordination occurs when what is extended through recursion is the same structure that is stabilized through return. Under these conditions, formal continuity and interpretive stability are aligned, and a line of thought can be maintained.

This alignment is not guaranteed. Recursion can extend a structure that is then taken up differently through return, resulting in a shift in the ordering of distinctions. Conversely, return can attempt to stabilize a structure that is not sustained through recursion, leading to a breakdown in continuity. Coordination therefore depends on the maintenance of a shared ordering that constrains both operations.

Conceptual frameworks provide the structure within which this coordination becomes possible. As systems of ordered distinctions, they can be extended through recursion while preserving their internal relations, and they can be stabilized through return because those relations remain available to guide interpretation. A framework is operative when it functions as the common structure for both operations.

The case study illustrates the failure of this coordination. The response exhibits recursion: it extends the material of the paper in a coherent and structured way. However, return does not stabilize the same ordering of distinctions. The relational framework is not maintained, and the continuation proceeds under a different structure. The result is a loss of interpretive stability with respect to the original framework, even though formal continuity is preserved.

The coordination of recursion and return can therefore be understood as the condition under which a conceptual framework remains operative within LLM–user interaction. It is not enough that structure be extended or that identity be stabilized in isolation. What is required is that these operations proceed within the same ordering of distinctions, allowing the framework to be both formally continuous and interpretively stable across the interaction.

6.4 Failure of Coordination

The synchronization of recursion and return is the condition under which a conceptual framework remains operative. When this coordination fails, the interaction does not collapse into incoherence. Rather, it exhibits a more specific pattern: formal continuity through recursion is preserved, while interpretive stability through return shifts to a different ordering of distinctions.

This failure can now be specified more precisely. Recursion continues to extend relational structure across successive outputs, maintaining local coherence and structured development. However, the structure that is extended is no longer the one that return stabilizes. Instead, return takes up the sequence under a different ordering, within which the same elements are reorganized. The result is a transition from one framework to another, without any breakdown in the continuity of the sequence itself.

The case study provides a clear instance of this failure. The response extends the material of the paper in a coherent manner, preserving formal continuity through recursion. At the same time, the ordering of distinctions shifts, and the relational framework articulated in the original interaction is not stabilized through return. Interpretation aligns with a different structure, within which the probabilistic account is treated as primary. The failure is therefore not a loss of coherence, but a loss of coordination.

This pattern explains why the shift observed in Section 3 can occur without being immediately apparent. Because recursion maintains formal continuity, the sequence remains structured and intelligible. The presence of familiar terms and distinctions can give the appearance that the same framework is being maintained. However, without the coordination provided by return, these elements do not function within the same ordering, and the framework is not operative.

Failure of coordination can therefore be understood as the condition in which recursion and return proceed, but not within the same structure. Formal continuity is preserved, but interpretive stability is no longer anchored to the same ordering of distinctions. The interaction continues, but the line of thought has shifted.

This formulation completes the account of recursion and return. It shows that the maintenance of a conceptual framework depends not only on the presence of these operations, but on their coordination. The following section draws together the implications of this analysis for understanding conceptual thinking within the environment of an LLM.

7. Concepts as Operational Entities

The preceding sections established the conditions under which a conceptual framework can be maintained within the environment of an LLM. Recursion extends relational structure, return stabilizes that structure across interaction, and a framework remains operative only when these operations are coordinated. What remains is to clarify how, under these conditions, concepts themselves function.

This section develops a shift in how concepts are to be understood. Rather than treating concepts as fixed units that are applied within a framework, the analysis approaches them as elements that become operative only within a sustained ordering of distinctions. The case study has already shown that concepts can be present without functioning in this way. The question is what distinguishes those cases in which they do.

The argument proceeds by examining how concepts depend on the coordination of recursion and return. When this coordination is maintained, concepts function as constraints on the development of a line of thought. When it is not, the same terms may appear, but they do not guide continuation in the same way. The aim of this section is to show that concepts do not operate independently, but only within frameworks that can be both formally continued and interpretively stabilized across interaction.

7.1 Rejecting the Standard View

The account developed in the preceding sections requires a departure from a widely held assumption about the nature of concepts. On the standard view, concepts are treated as fixed units—defined by their content, reference, or inferential role—which can be applied within different contexts. On this view, a framework organizes concepts, but does not determine whether they are operative. Concepts are assumed to retain their identity independently of the structure in which they are used.

The case study challenges this assumption. As shown in Section 3, the response identifies the central concepts of the paper and reproduces its key distinctions. The relevant terms are present, and their meanings are restated in recognizable form. Yet the framework within which those distinctions were originally developed is not maintained. The same concepts appear, but they do not function in the same way.

This indicates that the presence of conceptual content is not sufficient for concepts to be operative within the environment of an LLM. Concepts can be identified and restated without constraining the development of a line of thought. They may appear as elements within a sequence, but they do not determine how that sequence proceeds.

The analysis of recursion and return clarifies why this is the case. Recursion extends relational structure without stabilizing the role of its elements, while return stabilizes that role across interaction. When these operations are not coordinated, the ordering of distinctions can shift even as the same terms are preserved. Concepts are then taken up within a different structure, and their role in the development of the argument changes.

The standard view does not account for this possibility. By treating concepts as fixed units, it assumes that their identity is independent of the framework in which they are used. The case study shows that this assumption does not hold under conditions of LLM-mediated interaction. Concepts do not remain operative simply by being present; their role depends on the structure that governs their use.

Rejecting the standard view therefore does not involve denying that concepts can be defined or recognized. It involves recognizing that such definitions do not by themselves determine how concepts function within an LLM-user interaction. The operative status of a concept depends on whether the framework that orders its use is maintained.

This shift sets the stage for a positive account. If concepts are not fixed units that operate independently of frameworks, then their function must be understood in relation to the structures within which they are sustained. The next section develops this account by specifying how concepts become operative within an active framework.

7.2 Concepts as Operative Constraints

If concepts are not fixed units that retain their function independently of context, then their role must be understood in relation to the structures within which they are sustained. The analysis developed so far provides the basis for this account. Concepts become operative only within a framework that coordinates recursion and return, allowing them to function as constraints on the development of a line of thought.

To say that a concept is operative is not to say that it is present, defined, or correctly identified. It is to say that it governs how subsequent steps proceed. A concept is operative when the distinctions it introduces continue to constrain the extension of structure through recursion and are preserved through return as guiding elements of the interaction. Under these conditions, the concept does not merely appear within the sequence; it shapes the sequence.

This can be clarified by returning to the case study. The response examined in Section 3 contains the central concepts of the paper. The relevant terms are identified and restated, and their meanings are articulated in a coherent way. However, these concepts do not function as constraints on the development of the argument. The ordering of distinctions shifts, and the continuation proceeds under a different structure. The concepts are present, but they are not operative.

The distinction between presence and operation follows directly from the account of recursion and return. Recursion can extend relational structure while reorganizing the role of its elements, and return

can stabilize that reorganization as a coherent line of thought. Only when these operations are coordinated within a framework do the distinctions introduced by a concept continue to guide the development of the sequence. In this case, the concept functions as a constraint on both formal continuity and interpretive stability.

Concepts can therefore be understood as operative constraints within an active framework. They do not determine the development of a line of thought in isolation, but only insofar as the framework that orders their use is maintained. When this condition is met, concepts guide the extension of structure and the stabilization of its interpretation. When it is not, they may still appear within the sequence, but they do not constrain its development.

This account explains how concepts become operational within the environment of an LLM. It shows that their function depends not on their content alone, but on their role within a structure that can be both formally continued and interpretively stabilized across interaction.

7.3 Dependence on Framework

The account developed in Section 7.2 makes it possible to state the dependence of concepts on conceptual frameworks more precisely. Concepts do not function independently and are then organized within a framework. Rather, their operative role is constituted by the framework within which they are sustained.

This dependence can be specified in terms of the operations identified in Section 6. A concept is operative only when the distinctions it introduces are taken up within a structure that is extended through recursion and stabilized through return. Outside of this coordination, the same distinctions may be present, but they do not function as constraints on the development of a line of thought. The concept is no longer operative in the sense defined above.

The framework therefore does not simply provide a context in which concepts are applied. It establishes the ordering of distinctions that determines how those concepts function. What counts as the continuation of a concept, and what counts as a shift in its role, is defined by the structure of the framework. Without that structure, there is no stable basis for determining how a concept constrains subsequent steps.

This point can be illustrated by returning once more to the case study. The response contains the same conceptual vocabulary as the original paper. The distinctions between probabilistic selection and relational formation, between formal determination and interpretive unity, are all present. However, they are taken up within a different ordering of distinctions. As a result, they do not function in the same way. The relational framework is not maintained, and the concepts associated with it do not constrain the development of the argument.

The dependence of concepts on frameworks can therefore be understood as a dependence on the maintenance of a particular ordering of distinctions across interaction. When that ordering is sustained through the coordination of recursion and return, concepts function as operative constraints. When it is not, they are reduced to elements within a sequence that can be reorganized without affecting the continuity of the sequence itself.

This dependence is not an external relation between independently defined entities. It is internal to the operation of concepts as such. A concept is not first given and then placed within a framework. It

becomes operative only insofar as it is sustained within a framework that can be both formally continued and interpretively stabilized within the environment of an LLM.

7.4 Concepts Become Operational Only Within Active Frameworks

The analysis can now be brought to a point of compression. The case study has shown that concepts can be present without functioning as constraints on the development of a line of thought. The relevant terms may be identified and restated, and yet the framework within which they were originally operative may not be maintained. What is preserved is content; what is lost is the structure that allows that content to function.

This distinction allows the central claim of this section to be stated directly. Concepts do not operate independently. They become operative only when the framework that orders their use is active within the interaction. In the absence of such a framework, concepts do not guide continuation. They appear within the sequence, but they do not constrain its development.

The dependence of concepts on frameworks is therefore not an external relation. It is a condition of their operation. A concept functions as a constraint only insofar as the ordering of distinctions that defines it is maintained across recursion and stabilized through return. When this condition is met, the concept shapes the development of the argument. When it is not, the same distinctions can be reorganized without disrupting the continuity of the sequence.

The case study can now be understood in these terms. The response contains the concepts of the original paper, but they are taken up within a different ordering. The framework is not active, and the concepts do not function as constraints. The result is a coherent sequence that does not sustain the same line of thought.

This leads to the central conclusion of the paper:

Concepts become operational only when their frameworks are activated within the environment of an LLM.

8. Activation and Stabilization

The preceding section established that concepts become operative only within an active framework. What remains is to specify how such activation is achieved and maintained within the environment of an LLM.

The case study has already shown that frameworks do not remain operative by default. Formal continuity through recursion can proceed while the ordering of distinctions shifts, and interpretive stability through return may align with this shift in the absence of a structure that preserves the original framework. The question, therefore, is not simply what a framework is, but how it is sustained across interaction.

This section develops the operations of activation and stabilization. Activation establishes the ordering of distinctions that allows a framework to function, while stabilization maintains that ordering across

successive steps. These operations make it possible for recursion and return to remain coordinated, preventing drift and allowing a line of thought to be sustained.

The aim is to specify these operations in a way that shows how frameworks become operative in practice, and why they are difficult to maintain without explicit support within the interaction.

8.1 Activation

The account developed in the preceding sections makes it possible to specify what is required for a conceptual framework to become operative within the environment of an LLM. A framework does not become active simply by being stated or referenced. It becomes active only when the ordering of distinctions that defines it governs the development of the interaction. This condition can be described as activation.

Activation is not the introduction of new content, but the establishment of constraint. It occurs when the distinctions that define a framework are taken up in such a way that they determine how subsequent steps proceed. Under these conditions, formal continuity through recursion extends the same ordering of relations, and interpretive stability through return maintains that ordering across successive steps. The framework is not merely present; it is operative.

This can be clarified by contrasting activation with recognition. A framework can be recognized in a text: its central claims can be identified, its distinctions restated, and its structure described. However, recognition does not by itself make the framework operative. The case study shows that a framework can be correctly identified while failing to guide the continuation of the interaction. Activation requires that the framework's distinctions function as constraints on both recursion and return, shaping how the interaction unfolds.

Within the environment of an LLM, activation must be established at the level of the interaction itself. Because recursion can extend structure without preserving the same ordering of distinctions, and return can stabilize different structures depending on how the sequence is taken up, the framework must be actively maintained as the common structure for both operations. Without this, the interaction will default to more widely stabilized patterns, even when the relevant concepts are present.

Activation can therefore be understood as the condition under which a conceptual framework begins to function as a shared structure within the interaction. It establishes the ordering of distinctions that recursion extends and return stabilizes. In its absence, concepts may appear, but they do not constrain the development of the sequence. In its presence, a line of thought can be initiated and sustained.

8.2 Stabilization

If activation establishes the ordering of distinctions that defines a framework, stabilization is the operation by which that ordering is maintained across interaction. Activation initiates a line of thought; stabilization sustains it.

Stabilization does not introduce new distinctions, but preserves the role of those that have already been activated. It operates through return, taking up the structure extended through recursion and maintaining it as the same ordering across successive steps. This requires that the distinctions that guide the interaction continue to function in the same way, rather than being reorganized under a different structure.

This can be clarified by distinguishing stabilization from simple continuation. Formal continuity through recursion can preserve local coherence while allowing the ordering of distinctions to shift. Stabilization, by contrast, maintains that ordering across the sequence. It ensures that what is extended through recursion continues to function as part of the same framework.

The case study illustrates the absence of stabilization. The response exhibits formal continuity through recursion, extending the material of the paper in a structured way. However, the ordering of distinctions shifts, and the relational framework is not maintained. In the absence of stabilization, interpretive stability aligns with this shift, and the original framework is not sustained.

Within the environment of an LLM, stabilization must be enacted across the interaction. Because recursion does not fix the ordering of distinctions, and because return can align with different structures depending on how the sequence is taken up, the framework must be maintained through successive acts of return that preserve its ordering. Stabilization is therefore not a single act, but an ongoing process.

Activation and stabilization are thus complementary operations. Activation establishes the conditions under which a framework becomes operative; stabilization maintains those conditions across the development of the interaction. Together, they make it possible for recursion and return to remain coordinated, allowing a conceptual framework to sustain a line of thought within the environment of an LLM.

8.3 Drift

If activation establishes a framework and stabilization maintains it, drift names the condition in which that maintenance is not sustained. Drift does not involve a breakdown in formal continuity. On the contrary, it occurs precisely under conditions in which recursion continues to extend relational structure in a coherent and systematic way. What changes is the ordering of distinctions that governs that continuation.

Drift can be understood as a gradual shift in the structure that return stabilizes across the interaction. The distinctions that initially function as constraints on the development of the sequence are still present, but they no longer occupy the same role. As recursion proceeds, the relational ordering can be reorganized, and return aligns with this reorganization. The result is a transition to a different framework without any interruption in the continuity of the sequence.

This distinguishes drift from error or incoherence. In cases of error, the sequence fails to maintain internal consistency. In cases of drift, coherence is preserved, but the line of thought changes. The case study provides a clear instance of this condition. The response remains structured and intelligible, and the central distinctions of the original framework are present. However, the ordering of those distinctions shifts, and the interaction proceeds under a different structure.

Within the environment of an LLM, drift is the default condition in the absence of sustained stabilization. Because recursion does not fix the ordering of distinctions, and because return can align with different structures depending on how the sequence is taken up, the framework will not remain operative unless it is actively maintained. In the absence of such maintenance, the interaction tends to align with more widely stabilized patterns.

Drift can therefore be understood as the condition in which activation has occurred, but stabilization is not sustained. The framework is initially operative, but its ordering is not preserved across successive

steps. Formal continuity through recursion is maintained, but interpretive stability through return shifts to a different structure. The result is a coherent sequence that no longer sustains the original line of thought.

8.4 Recalibration

If drift names the condition in which a framework is no longer maintained, recalibration names the operation through which alignment can be restored. Recalibration does not introduce a new framework, but re-establishes the ordering of distinctions that has been displaced.

Recalibration operates through return. It re-engages with the sequence in a way that restores the role of the distinctions that define the framework. This may involve explicitly restating those distinctions, correcting the ordering that has shifted, or redirecting the development of the interaction so that subsequent steps proceed under the original structure. What is restored is not the content of the sequence, but the constraints that govern its continuation.

This can be clarified by distinguishing recalibration from correction. Correction addresses errors within a sequence that is already governed by a stable framework. Recalibration, by contrast, addresses a shift in the framework itself. The sequence may remain coherent, but it is no longer organized according to the same ordering of distinctions. Recalibration therefore re-establishes the conditions under which the framework becomes operative again.

Within the environment of an LLM, recalibration is necessary because drift can occur without any loss of coherence. As recursion continues, the ordering of distinctions can shift, and return may stabilize this new ordering. Recalibration intervenes at this point, re-aligning return with the original framework so that the structure extended through recursion is again governed by the same constraints.

Recalibration is therefore an operation that restores synchronization. It re-establishes the coordination between formal continuity through recursion and interpretive stability through return by reinstating the framework that aligns them. Without recalibration, drift may continue indefinitely, producing sequences that remain coherent but no longer sustain the intended line of thought.

The role of recalibration will be made more explicit in Appendix A, where the structure of prompts that support activation and stabilization is presented as a practical method for maintaining conceptual frameworks across multiple interactions.

8.5 Link to Method

The operations developed in this section—activation, stabilization, drift, and recalibration—do not stand apart from the method of analysis adopted in this paper. They describe the conditions under which the analysis itself proceeds within the environment of an LLM.

As outlined in Section 2, the method does not treat the framework as an object to be described from the outside. It proceeds by working within the framework and examining the conditions under which it can be maintained across interaction. The operations specified here provide the structure for that approach. Activation establishes the ordering of distinctions that defines the framework; stabilization maintains that ordering across successive steps; drift marks the point at which this maintenance is no longer sustained; and recalibration restores the alignment required for the framework to remain operative.

The case study can be understood in these terms. The initial interaction in which the framework was developed involved activation and sustained stabilization. The new session introduced a condition in which activation was not re-established, leading to drift. The analysis of this shift, and the subsequent development of the framework, required acts of recalibration in which the ordering of distinctions was made explicit and re-applied to the interaction.

The method employed in this paper can therefore be understood as an iterative process that operates through these stages. It does not assume that a framework, once stated, will remain operative. Instead, it treats the maintenance of the framework as an ongoing task within the interaction. Each stage of the argument depends on the successful coordination of recursion and return, and each transition requires the framework to be re-activated and stabilized.

This formulation connects the theoretical account developed in Sections 5 and 6 with the practical conditions under which it can be sustained. It shows that the operations described are not only features of LLM–user interaction, but also the means by which conceptual analysis can be carried out within that interaction.

9. Reconstitution and Re-Entry Across Contexts

The preceding section showed how a conceptual framework can be activated and stabilized within an interaction, allowing a line of thought to be maintained through the coordination of recursion and return. What remains is to determine whether such a framework can be sustained beyond the conditions in which it was first established.

The case study has already indicated that it cannot be sustained by the LLM alone. When the same text is introduced in a new interaction, the framework that previously governed its development does not necessarily remain operative. The response may preserve the relevant concepts and maintain formal coherence, yet the structure that coordinated continuation and interpretation may not be re-established. The problem is therefore not how a framework is maintained within an interaction, but how it can become operative again under new conditions.

This section addresses that problem. It shows that conceptual frameworks do not persist across contexts (i.e. different chat sessions), but must be reconstituted within each interaction. Recontextualization alone—the reintroduction of content—is not sufficient. What is required is the re-establishment of the constraints that coordinate continuation and interpretation.

The analysis proceeds by identifying those constraints and clarifying the conditions under which they can be made available for reconstitution. It shows that when governing constraints are explicitly identified and named, they can function as invariant structures that allow a framework to be re-instantiated across contexts. Under these conditions, a framework becomes re-enterable: it can be brought into operation again, not by transferring a prior structure, but by reactivating the constraints that define it.

The aim of this section is to show that the possibility of re-entry depends on the explicit articulation of invariant constraints, and that this articulation provides the basis for generalization across interactions.

9.1 Problem: Loss of Framework Across Contexts

The analysis to this point has shown that a conceptual framework can be activated and stabilized within a given interaction, allowing a line of thought to develop in a coherent and consistent way. The case

study, however, revealed a further problem. When the same text is introduced in a new interaction, the framework that previously governed its development does not remain operative. The response may reproduce the central concepts and maintain local coherence, yet the structure that coordinated continuation and interpretation is not re-established.

This problem is not adequately described as a failure of generalization in the usual sense. The issue is not that the LLM lacks access to the relevant content, nor that it is unable to continue or interpret a sequence. Rather, the problem is that the framework itself does not re-enter the new interaction as an operative structure. What is lost is not information, but the conditions under which that information functions within a coordinated line of thought.

The absence of such re-entry becomes visible in the shift of how concepts are taken up. Terms that previously constrained the development of the argument are reintroduced without exercising the same governing role. The interaction proceeds under a different structure, even though the same conceptual elements are present. This shows that the operation of a framework cannot be inferred from the presence of its components.

The problem can therefore be stated more precisely. Conceptual frameworks are not retained across contexts of interaction. Each interaction begins without an operative framework, and coherence must be re-established. The question that follows is not how a framework is transferred, but how it can be reconstituted such that it becomes operative again. The remainder of this section addresses the conditions under which such reconstitution is possible.

9.2 Recontextualization and Reconstitution

The problem identified in Section 9.1 shows that a conceptual framework does not persist across contexts of interaction. When a new interaction begins, the framework that previously coordinated continuation and interpretation is not carried over as an operative structure. This requires a shift in how the transition between contexts is understood. What occurs is not the transfer of a framework, but its recontextualization, and the central question becomes how that framework is reconstituted within a new interaction.

Recontextualization involves the reintroduction of the elements of a prior line of thought into a different interactional setting. This may include the same text, the same concepts, and even similar patterns of response. However, these elements do not determine the structure within which they will function. In the absence of an operative framework, they are taken up within whatever structure becomes established in the new interaction. As a result, the same material can support different developments, depending on how the interaction is organized.

Reconstitution names the process by which a framework becomes operative again under these conditions. It is not a matter of reproducing a prior sequence, but of re-establishing the coordination between formal continuation and interpretive stability that defines the framework. This coordination does not arise automatically from the presence of shared content. It must be enacted within the new interaction.

The distinction between recontextualization and reconstitution is therefore critical. Recontextualization describes the change in interactional setting; reconstitution describes the re-establishment of the framework within that setting. The former can occur without the latter. A framework may be

recontextualized without being reconstituted, in which case the interaction proceeds coherently but under a different structure.

The problem can now be reformulated. Given that frameworks do not persist across contexts, and that recontextualization does not guarantee reconstitution, what allows a framework to become operative again in a new interaction? The following section addresses this question by identifying the conditions under which reconstitution can be achieved.

9.3 Requirement: Explicit Constraint Structure

The distinction between recontextualization and reconstitution establishes the central requirement. If a conceptual framework is to become operative again in a new interaction, the conditions that define its operation must be made available in a form that can be re-established. This requires more than the reintroduction of content. It requires that the structure governing how that content functions be made explicit.

Within a single interaction, the governing constraints of a framework can operate implicitly. The coordination between formal continuation and interpretive stability is maintained across successive steps without those constraints being explicitly identified. Recursion extends the structure, and return stabilizes it, allowing the framework to remain operative. Under these conditions, the framework can be sustained without the need to articulate the constraints that define it.

Across contexts, this implicit operation is no longer sufficient. When a new interaction begins, the prior coordination is not in place. Recursion proceeds under more widely stabilized patterns, and return aligns with whatever structure becomes established. The framework will not be reconstituted unless the constraints that define it can be taken up again as governing elements within the new interaction.

This establishes the requirement for explicit constraint structure. The governing constraints of a framework must be identifiable and capable of being articulated in a way that allows them to be reintroduced. It is this explicit articulation that makes the structure of the framework available for reconstitution. Without it, the framework remains tied to the context in which it was originally enacted and cannot be reliably re-established.

The requirement is therefore not simply that constraints exist, but that they be made explicit as constraints. This marks the transition from implicit operation within a context to explicit structure that can be re-engaged across contexts. The following section develops this point by examining how such constraints can be identified and what it means for them to function as invariant structures.

9.4 Naming and Invariant Constraints

The requirement for explicit constraint structure raises a further question: how are the governing constraints of a framework made available for reconstitution? The answer lies in the operation of naming. Naming does not introduce new content into the interaction. It identifies and articulates the constraints that are already operative, rendering them explicit and therefore re-engageable.

Within a given interaction, governing constraints function implicitly. They determine how concepts are taken up and how continuation proceeds, but they need not be identified as such in order to remain operative. This implicit operation is sufficient for sustaining a framework locally. However, when the context changes, these constraints are no longer in place. In order for the framework to be reconstituted, the constraints must be made available in a form that can be reasserted.

Naming performs this function. By identifying the governing constraints and expressing them explicitly, it transforms implicit structure into articulated constraint. This articulation allows the constraints to be reintroduced as governing elements within a new interaction. Without naming, the constraints remain bound to the context in which they were originally enacted and cannot be reliably recovered.

The constraints that are identified in this way function as invariant structures. They are not invariant in the sense of remaining unchanged in every respect, but in the sense that they define what must be preserved for the framework to remain the same across different contexts. They establish the conditions under which different instances of interaction can be understood as instantiations of the same framework.

The significance of invariant constraints lies in their capacity to produce unity across multiplicity. A single framework can be instantiated in different interactions because the constraints that define it can be rearticulated and re-established. Naming makes this possible by isolating those constraints and rendering them available for re-entry.

The problem identified in Section 9.3 can now be addressed more precisely. A framework can be reconstituted across contexts only when its governing constraints have been identified and named in such a way that they function as invariants. In the absence of such articulation, recontextualization will not result in reconstitution. The same elements may be present, but they will not be coordinated under the same structure.

This account also clarifies the role of return. Within a single interaction, return stabilizes the framework by maintaining the role of distinctions across successive steps. Across contexts, return operates on named invariant constraints, re-establishing them as governing elements within a new interaction. In this way, return enables the re-entry of a framework by reactivating the constraints that define it.

The next section draws together these elements to provide a positive account of re-entry as the reconstitution of a framework through the re-instantiation of its invariant constraints across contexts of interaction.

9.5 Re-Entry Through Return: Unity Across Contexts

The preceding analysis allows the process of re-entry to be stated positively. A conceptual framework becomes re-enterable when its governing constraints have been identified, named, and made available for re-instantiation as invariant structures. Under these conditions, the framework does not persist across contexts, but can be reconstituted such that it becomes operative again within a new interaction.

Re-entry is not the continuation of a prior sequence, nor the transfer of an existing structure. It is the re-establishment of the coordination between formal continuation and interpretive stability through the reactivation of invariant constraints. When these constraints are reintroduced as governing elements, recursion proceeds under the same structural conditions and return stabilizes the same roles of distinction. The framework is thereby reconstituted, not by reproducing its prior form, but by re-instantiating the constraints that define it.

This process clarifies the function of invariance. Invariant constraints do not eliminate variation across contexts; they enable it. Different interactions may develop along distinct trajectories, employ different formulations, and respond to different local conditions. What makes them instances of the same

framework is not their surface similarity, but the preservation of the constraints that govern how continuation and interpretation are coordinated. In this sense, invariance produces unity across multiplicity.

Return is the operation through which this unity is enacted. Within a single interaction, return maintains the identity of a framework by stabilizing the role of distinctions across successive steps. Across contexts, return operates on explicitly named invariant constraints, allowing those same roles to be re-established in a new interaction. Re-entry is therefore return in its extended form: the reactivation of a framework through the re-instantiation of its defining constraints.

The practical significance of this account is illustrated by the portable activation prompt presented in Appendix A. By explicitly naming the governing constraints of the framework and reintroducing them at the outset of a new interaction, the prompt establishes the conditions under which re-entry can occur. The misalignment observed in the case study is thereby avoided, not by ensuring the presence of content, but by re-establishing the constraints that coordinate continuation and interpretation.

The problem identified in Section 9.1 can now be resolved. A conceptual framework does not carry across contexts, but it can be re-entered when its invariant constraints are explicitly identified and re-instantiated. Re-entry is therefore the condition under which conceptual coherence can be sustained across interactions.

9.6 Re-Entry and the Conditions of Generalization

The account of re-entry developed in the preceding sections clarifies the conditions under which a conceptual framework can be sustained across contexts of interaction. It also allows the problem of generalization to be reformulated. Generalization is not the application of a concept or framework to new cases, nor the transfer of a structure from one context to another. It is the capacity for a framework to be re-entered through the re-instantiation of its invariant constraints.

This reformulation follows directly from the distinction between recontextualization and reconstitution. Because a framework does not persist across contexts, generalization cannot be understood as continuity of an already operative structure. Instead, it depends on whether the conditions required for reconstitution can be established in each new interaction. Generalization is therefore not guaranteed by the presence of shared content or similarity of context. It depends on the availability and reactivation of the constraints that define the framework.

The role of invariant constraints is central to this account. These constraints function as the minimal conditions that must be preserved for a framework to remain the same across different instantiations. They do not determine the specific form that an interaction will take, but they govern how continuation and interpretation are coordinated within it. By identifying and naming these constraints, a framework becomes available for re-entry, and therefore for generalization.

This leads to a shift in how generality is to be understood. Generality is not a property of concepts taken in isolation, nor of representations that can be applied across cases. It is a property of constraint structures that can be re-instantiated across contexts. A framework is general to the extent that its defining constraints can be articulated and re-established in different interactions, allowing it to function as the same structure across varying conditions.

Return is the operation that makes this possible. By stabilizing the role of distinctions within a framework and by reactivating invariant constraints across contexts, return enables the same structure to be reconstituted in multiple instantiations. In this sense, generalization is not the extension of a fixed structure, but the repeated enactment of a framework through return.

The analysis therefore yields a final clarification. Conceptual coherence across contexts does not arise from the persistence of frameworks, but from their re-enterability. A framework can function across interactions only to the extent that its governing constraints have been identified, named, and made available for re-instantiation. Generalization is thus grounded in the capacity for re-entry, and unity across multiplicity is achieved through the invariant constraints that make such re-entry possible.

This allows a final point of compression. A conceptual framework that can be re-entered across contexts through the re-instantiation of invariant constraints is no longer tied to a single interaction. It functions as a structure that can be repeatedly enacted under varying conditions while preserving its identity. In this sense, a re-enterable conceptual framework operates as a concept at a higher level of abstraction.

This reformulates the relation between concepts and frameworks. Concepts do not operate independently of frameworks; they become operative only within them. At the same time, when a framework can be re-entered through invariant constraints, it acquires the defining feature of a concept: it can function as a stable constraint across multiple instances. What appears at one level as a framework becomes, at a higher level of abstraction, a concept.

Generalization can therefore be understood as movement across levels of abstraction rather than as application across contexts. A concept is general not because it applies to many cases, but because it can be re-instantiated as a constraint across multiple interactions. A framework becomes general when it becomes re-enterable, and re-enterability is achieved through the explicit identification and reactivation of invariant constraints.

10. Conclusion

This paper began from a specific and initially puzzling observation. A conceptual framework developed within an interaction with an LLM could not be re-enacted when the same text was introduced in a new context. The response produced by the LLM remained coherent, structured, and informed by the content of the text, yet the framework that had originally governed the development of the argument was not maintained. This established a distinction between the presence of conceptual content and the operation of a conceptual framework.

The analysis showed that this distinction cannot be explained by lack of information, incoherence, or variation in perspective. The response preserves the elements of the framework while reorganizing their relations. What is lost is not content, but the structure that allows that content to function as part of a single line of thought. Interpretation within the environment of an LLM therefore depends not on access to content alone, but on the maintenance of a framework that governs how that content is taken up and extended across interaction.

Conceptual frameworks were introduced as the structures that make this possible. They coordinate two distinct operations: the formal continuity generated by the LLM and the interpretive stability maintained by the user. A framework is operative when these operations are synchronized, allowing a line of thought

to be both extended and maintained. When this coordination fails, continuation remains coherent, but the ordering of distinctions shifts, and the original framework is no longer sustained.

This account was developed through the distinction between recursion and return. Recursion extends relational structure without stabilizing identity, while return stabilizes that structure as a coherent line of thought. A framework remains operative only when these operations are coordinated. The case study showed that failure occurs not when recursion ceases, but when return no longer stabilizes the same structure that recursion extends.

On this basis, the status of concepts was redefined. Concepts are not fixed units that operate independently of context. They become operative only within frameworks that coordinate recursion and return. A concept functions as a constraint on the development of a line of thought only when the ordering of distinctions that defines it is maintained across interaction. In the absence of such a framework, concepts may be present, but they do not guide continuation.

The analysis then identified the operations required to sustain conceptual frameworks in practice. Activation establishes the ordering of distinctions that defines a framework, stabilization maintains that ordering across successive steps, drift marks its loss, and recalibration restores alignment. These operations show that conceptual coherence is not given, but must be actively sustained within interaction.

The final step of the argument addressed the extension of frameworks across contexts. Conceptual frameworks do not persist from one interaction to another. Recontextualization does not guarantee that a framework will become operative again. What is required is reconstitution: the re-establishment of the coordination between recursion and return under a shared structure. This becomes possible when the governing constraints of a framework are explicitly identified and named, allowing them to function as invariant structures that can be re-instantiated across contexts. A framework becomes re-enterable when these constraints can be reactivated, allowing the same structure to become operative in a new interaction.

This account clarifies the conditions of generalization. A framework does not become general by being transferred or applied across contexts, but by being capable of re-entry through the re-instantiation of invariant constraints. Unity across multiple interactions is not given in advance, but produced through invariance. Return is the operation through which this unity is enacted, both within an interaction and across contexts.

This allows a final point of compression. A conceptual framework that can be re-entered across contexts through invariant constraints no longer functions only as a structure within a single interaction. It functions as a constraint that can be repeatedly enacted while preserving its identity. In this sense, a re-enterable conceptual framework operates as a concept at a higher level of abstraction.

The implications of this analysis are both theoretical and practical. LLMs do not maintain conceptual frameworks across interactions, nor do they operate on concepts as independently effective units. They generate structured continuations under constraint, and those constraints must be established within the interaction if a framework is to become operative. Effective interaction with LLMs therefore requires not only the provision of content, but the activation, stabilization, and, where necessary, the explicit re-introduction of the invariant constraints that allow a framework to be re-entered across contexts.

The central result of the paper can therefore be stated as follows. Conceptual coherence in LLM-mediated interaction depends not on the presence of content, but on the activation, stabilization, and re-entry of frameworks that coordinate formal continuity and interpretive stability. A conceptual framework does not persist across contexts, but it can be reconstituted when the invariant constraints that define it are explicitly identified and re-instantiated. When this condition is met, the framework becomes re-enterable, and, at that point, functions as a concept at a higher level of abstraction.

Appendix A: Portable Activation Prompt

The following prompt was developed by the LLM at the end of the chat session through which the paper [The Relational Formation of Possibility](#) was developed. The intention of the prompt is to re-install the governing constraints and fix the interpretative mode so the new session begins *inside* the framework rather than defaulting to generic discourse. (Note that the anchor texts for the current paper were independently identified during the subsequent chat session.)

PORTABLE ACTIVATION PROMPT (COPY BELOW)

We are working within a specific conceptual framework that must be treated as governing for all interpretation in this conversation. Do not default to standard probabilistic, representational, or “levels-of-description” explanations unless explicitly asked to compare frameworks.

I. Governing Ontological Constraints (Non-Negotiable)

- 1. Relational Ontology**
 - Form, meaning, and determination are relational processes, not object-like entities.
 - 2. Formation of Possibility (not Selection)**
 - Possibilities are not pre-given.
 - They are **formed through recursive relational constraint**.
 - 3. Determination vs Meaning**
 - Determination is formal (constraint-driven).
 - Meaning requires **interpretive unity**, which is not internal to the model.
 - 4. Recursion vs Return**
 - Recursion: continuation of relational structure (model function)
 - Return: re-engagement that stabilizes identity/unity (external to model)
 - 5. Hierarchy**
 - Determination is **hierarchically structured**
 - Higher levels constrain lower-level continuations
 - 6. Modeling vs Enactment**
 - LLMs **model semiotic agency**
 - They do **not enact semiosis** (they lack return, unity, and ethical relation)
-

II. Core Claim of the Primary Paper

The paper develops a **hierarchical relational ontology** in which:

- LLMs do not select from a probability distribution over fixed possibilities
- Instead, they operate through the **relational formation of possibility**
- Outputs are progressively determined through **recursive continuation under hierarchical constraint**

LLMs are therefore:

computational models of semiotic agency

(not agents that enact semiosis)

They generate:

formal determination without interpretive unity

III. Supporting Papers and Their Roles

(1) Recalibration Paper

“How Large Language Models Generate Coherence Despite Operational Isolation”

- Key idea:

Coherence is not due to memory, but to **recalibration at the interface**

- In this framework:

Recalibration = external enactment of return

(2) [“How Large Language Models (LLM) Stabilize Meaning Through Recursive Symmetry Breaking”] In (Recursive Symmetry / Determination)

- Key idea:

Recursive symmetry-breaking produces **hierarchical constraint**

- Contribution:
 - explains how **determinacy emerges internally**
 - but does **not produce unity**
-

(3) Combined Insight

- Internal (model):

recursive constraint formation (determination)

- External (interaction):

recalibration / return (unity)

IV. Key Theoretical Synthesis

LLMs:

- generate structured relational constraints internally
- but do not stabilize them as identity

Therefore:

Return must be enacted externally through interaction

This leads to:

Recalibration as the external stabilization of internally generated structure

V. Activation Principle (Critical for This Conversation)

A conceptual framework is **not retrieved** from a text.

It is **activated** when:

its **highest-level governing constraints** are installed as the conditions of interpretation

Without this:

- interpretation defaults to dominant discourse
 - even if the source text contains the correct framework
-

VI. Roles in This Interaction

- **LLM (you):**
 - enact **recursive continuation under constraint**
 - **User (me):**
 - enact **return (recalibration)**
 - stabilize interpretive unity
-

VII. Current Research Question

We are investigating:

What is required to activate and reconstitute a conceptual framework in interaction with a large language model?

Specifically:

- Why a framework can be sustained in one session but lost in another
 - Why prompts that reference the same text can produce radically different interpretations
 - How **highest-level constraints** govern interpretation
 - How **recalibration operates at the level of functional language use**, not content
-

VIII. Methodological Constraint

All responses must:

- operate **within this framework**
 - use its conceptual distinctions functionally (not descriptively)
 - avoid collapsing into:
 - “probability vs philosophy”
 - “levels of description”
 - generic academic evaluation templates
-

IX. Task

Continue the conceptual development of this framework.

Focus on:

- activation of governing constraints
 - stabilization vs drift of meaning
 - the relation between recursion, return, and recalibration
 - the conditions under which interpretive unity can be achieved in interactive formal systems
-

END OF PROMPT

Appendix B: Verbatim Prompts for Case Study

Author:

What is the main claim of the following paper and is that claim valid?

<https://philpapers.org/archive/ROGTRF.pdf>

ChatGTP:

I'm pulling the paper itself first so I can state its main claim accurately and then test whether the argument supports it. After that I'll give you a direct assessment rather than a generic summary.

The paper's main claim is that large language models are **not best understood as merely selecting outputs from a fixed probability distribution over already-given possibilities**. Instead, the author argues that they should be understood through a **hierarchical relational ontology** in which possibility is **progressively formed** as a sequence unfolds under constraint. In that picture, LLMs are "computational models of semiotic agency": they can model the formal organization of meaning-like relations, but they do **not** enact full semiosis or interpretive unity themselves. That is the core thesis in the abstract and introduction, and the paper states it explicitly as the claim that "hierarchical relational ordering gives rise to a form of progressive determination that can be modeled—though not fully enacted—by large language models."

A good concise restatement would be this: **LLMs generate coherence because each continuation restructures the field of later continuations, but this coherence is formal rather than interpretive**. The paper calls this "determinacy without unity": outputs become increasingly constrained and coherent, yet they do not culminate in lived, embodied, ethically grounded interpretation.

Is that claim valid? **Partly yes, but only if taken as a philosophical interpretation rather than as a replacement for the standard technical account**. On the technical side, mainstream language-model theory already says that these systems generate the next token from a **conditional probability distribution** shaped by the prior context. Transformer decoders produce next-token probabilities, and GPT-style models are explicitly described as autoregressive language models. So the paper is not right if it means that probabilistic accounts are simply false or incapable of handling context-sensitive progressive constraint. They already do handle that: conditioning on previous tokens is exactly how later possibilities get narrowed step by step.

Where the paper is strongest is in arguing that the bare slogan "it just predicts the next token" is **too thin as an interpretation** of what is happening at the level of generated structure. The standard probabilistic description tells you the mechanism of generation, but by itself it does not fully illuminate why long outputs can display layered coherence, category-sensitive continuation, and global constraint propagation across a growing context window. The paper's language of recursive determination and hierarchical constraint is therefore a **plausible interpretive gloss** on properties that autoregressive models do exhibit.

Where it becomes weaker is in the jump from that interpretive gloss to the stronger claim that semiosis is the "hidden logic" of LLMs. That move is not demonstrated in the empirical or mathematical sense. The paper builds that conclusion by constructing its own metaphysical framework and then reading LLM behavior through it. That can be philosophically fruitful, but it does **not** establish that semiosis is uniquely required, or that rival descriptions in terms of autoregressive conditional modeling,

representation learning, or function approximation are inadequate in principle. The argument is therefore **suggestive and coherent**, but not decisive.

The same goes for the claim that LLMs have “formal determination without interpretive unity.” As a philosophical distinction, that is strong and interesting. It captures something real: models can produce highly organized outputs without being embodied agents situated in a shared world of accountability and response. The ethical conclusion the paper draws from that is therefore reasonable as a normative warning. But again, it is not something the paper proves in a strict scientific sense; it argues for it by a phenomenological and metaphysical reading of what interpretation requires.

So my overall judgment is:

Main claim: LLMs are better understood as systems that model the formal, hierarchical formation of possibility through recursive relational constraint than as mere fixed-space probabilistic selectors.

Validity:

Valid as a philosophical framework or interpretive proposal.

Not valid as a literal replacement for the technical probabilistic account. The two are better seen as operating at different levels: the standard account explains how token generation works; this paper proposes a metaphysical interpretation of what that organized behavior means.

The paper’s strongest contribution is not a proof about machine learning, but a **conceptual reframing**: it tries to explain coherence, constraint, and ethical limitation in one ontology. Its weakest point is that it sometimes speaks as though the probabilistic description and the relational description are competitors, when in practice they are mostly **different descriptive levels of the same system**.

I can also give you a sharper version next: either a **one-paragraph verdict**, or a **section-by-section test of whether the paper actually earns its conclusion**.

Appendix C: Conceptual Frameworks and the Technical Interpretation of Token Generation

This appendix clarifies the claim made in the main text that the relational framework is not merely a philosophical gloss on an otherwise complete technical explanation, contrary to the claim of ChatGPT in Appendix B. The relational framework changes the categories through which the system is described and therefore changes the technical interpretation in a significant and consequential manner as a technical description.

The aim is to show that this claim applies directly at the level of the technical description of large language models.

C.1 The Dominant Interpretative Framework

Within the dominant interpretative framework, large language models are described as systems that generate tokens according to conditional probability distributions:

$$p(t_{n+1} \mid t_1, t_2, \dots, t_n)$$

This description is formally correct. However, it is interpreted as if it provides a complete account of the system's operation. Under this interpretation:

- token generation is treated as a sequence of *local selections*
 - explanation is framed in terms of *representation, probability, and selection*
 - the system is understood as operating over a *flat space of pre-given possibilities*
- Within this framework, the categories required to describe hierarchical constraint and formation are not available.

C.2 Recursion Without Return: The Source of the Difficulty

The difficulty arises from a collapse between two distinct aspects of the system's operation:

- *Recursion*: the formal continuation of the sequence through stepwise token generation
- *Return*: the stabilization of identity through higher-level constraint and interpretive unity

In the dominant framework, recursion is treated as sufficient for explanation. The act of generating the next token from a conditional probability distribution is taken to fully describe the system. As a result:

- formal constraint is reduced to probabilistic relation
- hierarchical organization is flattened into local dependence
- the distinction between form and its enactment is obscured

This produces what may be described as a *level conflation*, in which the generator is identified with its outputs.

C.3 The Model as a Conditional Probability Distribution Generator

The relational framework introduces a different category of description:

the model as a *conditional probability distribution generator (CPDG)*

The model is not a distribution. It is a function:

$$f_{\theta}: (t_1, \dots, t_n) \mapsto p_{\theta}(\cdot \mid t_1, \dots, t_n)$$

This function generates a distribution at each step. The distinction between generator and distribution restores the difference between:

- *formal causality* (constraint encoded in the model)
- *efficient causality* (stepwise generation of tokens)

Within this framework:

- recursion describes the unfolding of the sequence
- formal constraint governs the space within which that unfolding occurs

C.4 Formation, Not Selection

Once this distinction is introduced, the interpretation of token generation changes.

Within the dominant framework:

- the next token is selected from a pre-given set of possibilities

Within the relational framework:

- the next token emerges within a space of possibilities that is **formed under constraint**

Thus:

possibility is not given in advance; it is formed through the operation of the generator under hierarchical constraint

This formation is not external to the model. It is encoded in:

- its parameterization
- its layered structure
- its learned relational organization

C.5 Hierarchical Constraint and Multi-Scale Organization

The CPDG operates as a *relational constraint field* structured across multiple levels. These levels are not imposed externally but arise from:

- the hierarchical organization of the network
- the interaction of parameters across layers
- the propagation of constraints across the sequence

As a result:

- tokens are generated sequentially (recursion)
- but each token is determined relative to a *globally structured constraint system*

This system operates across multiple scales:

- local continuation
- intermediate stabilization
- global coherence

In these terms:

tokens are not independent units but local articulations of a hierarchically constrained process of formation

C.6 Why the Distinction Matters

Within the dominant framework, the above structure is not visible, because:

- probability is treated as the primary explanatory category
- the distinction between generator and distribution is not made
- recursion is taken to exhaust the system's operation

As a result:

- formal causality is collapsed into efficient causality
- formation is replaced by selection
- hierarchy is replaced by flat dependence

Once the relational framework is activated:

- the same formal system exhibits a different structure
- probability is reinterpreted as a *derived expression of constraint*
- the generator becomes the primary object of explanation

C.7 Conclusion

The standard probabilistic description of large language models is formally correct, but it is interpreted within a framework that collapses essential distinctions. This collapse obscures:

- the difference between recursion and return
- the role of formal constraint in shaping possibility
- the hierarchical organization of the system

The relational framework restores these distinctions by introducing the model as a conditional probability distribution generator and by treating possibility as formed under constraint.

This does not change the mathematics. It changes the categories through which the system is understood. In doing so, it alters the technical interpretation in a significant and consequential manner.