

Dormant Linguistic Capacity Attribution

A Preliminary Investigation

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Abstract

A dormant linguistic capacity attribution connects present operational unavailability to a claim that selected organization remains. Prior proficiency, surviving records, residual processing and later success can support different parts of that claim. This preliminary investigation develops an account of their relation within the Generative Relational framework. It inherits the preservation taxonomy's distinctions among operation schema, execution, exercise and historical correspondence, and asks what warrants attributing the represented capacity to a particular bearer. A focused review of attrition, residual-language and relearning research constrains the interpretation of retention evidence. Philosophical analysis develops present contribution, distributed bearer selection, historical descent and intervention criteria. Restricted formal models then identify specific inferential limits and sufficient conditions. Partial-history counterexamples separate current possession from continuous retention. History operators distinguish creation and loss of a selected capacity predicate, supporting conditional backward attribution when creation is independently excluded. Sequential task evidence receives a separate task-wise sufficient condition. A nonlinear regional field realization derives finite-duration response signs while retaining actual boundary inputs and exposing input ambiguity. These models are selected representations, with interpretive and empirical premises stated separately from their proofs. A developed fictional reading-circle case examines access restoration, retained fragments, joint performance, changed tasks and mixed formation. The resulting account supports differentiated attributions whose present, historical and intervention-dependent components remain assessable. It leaves whole-language survival, revival legitimacy and preservation obligations to further inquiry.

Keywords: dormant capacity; linguistic retention; historical attribution; generative relational theory; partial operations; regional fields.

Scope Note

This paper investigates the grounds for attributing a selected dormant linguistic capacity to a historically formed participant or arrangement. Its object is narrower than the survival of a language, the persistence of all former linguistic knowledge, or the design of a revival programme. The inquiry distinguishes present task organization, historical retention, current execution, contributions to later learning, and resources for reconstruction. The supplied preservation taxonomy provides these initial boundaries; their application to a particular bearer requires further argument and evidence.

Generative Relational (GR) theory is used as an open framework for articulating that inquiry. History-bearing formations are the proposed objects of comparison. Labelled two-complexes, partial histories, operator realizations and nonlinear regional response fields are selected representations with different commitments. They establish neither ultimate ontology nor the adequacy of an attribution merely through their mathematical consistency. The manuscript identifies inherited distinctions and local constructions separately.

The literature discussion examines selected performances, differences in processing, and histories of learning. Those studies do not jointly establish that a whole former language remains available to a participant. The developed examples are explicitly fictional. Their purpose is to make the attribution argument assessable through differing histories and outcomes, without presenting an invented community or intervention as empirical evidence.

The mathematical results are conditional consequences of declared models. In particular, a restriction that prevents an intervention from creating the target capacity is a substantive assumption to investigate, rather than a fact inferred from a successful result. The paper supports bounded discussion of what remains and what is known about it. It supplies no automatic duty to reactivate a capacity or entitlement to another person's participation.

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Notices

Status. This discussion draft presents an evolving inquiry. The definitions, translations, formal constructions, empirical interpretations, and conclusions remain open to criticism and author review. It proposes no universal competence ranking, compulsory language policy or empirically calibrated learning law.

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Statement On The Use Of Language Models. The author selected the research direction, supplied prior manuscripts and a reference exposition, and requested consistency with the Generative Relational research programme. AI-assisted research, source comparison, drafting, formal checking, and document preparation contributed substantially to this draft. These contributions include proposed arguments and interpretations that remain subject to the author's review. Preparation of a checked draft does not establish the author's approval of every claim. Authorship credit remains with the human author; the use of these tools is disclosed to support critical assessment of the manuscript and its limitations.

1 Dormant Linguistic Capacity Attribution

A linguistic capacity can cease to produce its familiar manifestations while its historical formation continues to matter. A person may no longer answer in a previously learned language, yet respond differently during later learning. A collaborative practice may fall silent while its participants, records and interpretive relations retain parts of its organization. The philosophical problem is to determine what these histories warrant attributing to the present formation. Past proficiency, a surviving record, an altered response and eventual renewed performance establish different things. Treating them as interchangeable signs of a capacity that *still exists* would leave the central attribution unexamined.

This paper develops a preliminary account of that attribution for selected linguistic operations. It asks what identifies the present bearer, which task-relevant organization it retains, how that organization relates to earlier formation, and what justifies describing an intervention as enabling an existing capacity rather than supplying the organization required for a new one. The argument combines conceptual analysis, comparison of primary research, historically articulated models and developed fictional cases. The models make some inferential dependencies exact. Their empirical and interpretive application remains a separate part of the inquiry.

1.1 The Attribution Gap

Consider a stipulated bilingual reading circle that once distinguished a speaker's direct report from an editor's inference when preparing captions. The selected competence involves applying the distinction to unfamiliar examples, choosing an appropriate qualifier and explaining a consequential uncertainty. It is a local linguistic profile, not general mastery of either language. After an interruption, the circle's recording interface is no longer accessible. Earlier captions and teaching records survive. Several former participants say that they remember the practice, but the current arrangement cannot execute its recording-based interpretation task.

There are several possible continuations. Restoring the interface may permit some participants to perform the selected task through retained interpretive organization. Others may recognize a familiar phrase without being able to apply its contrast. A new facilitator may teach the distinction through surviving examples. A collaborative arrangement may succeed because one participant supplies the interpretation while another selects the displayed form. Each continuation can yield the same correct caption. The resulting caption alone cannot identify which present capacity existed before the intervention or which participant supplied it.

The example also separates an operation's availability from its exercise. If an intact circle simply chooses not to meet, the selected task may remain executable. If a condition required by that task is absent, the operation may be unavailable within the specified arrangement. The supplied taxonomy uses *dormant* for the latter kind of retained but presently nonexecutable capacity schema, while distinguishing ordinary non-use [7, Section 7]. This paper retains that terminological convention. It does not infer dormancy from silence or apply the term indiscriminately to every capacity of an inactive person or group.

The attribution gap occurs before one can confidently assign that status. A model can retain the name of an operation and declare its gate closed. The inquiry must still explain why the named operation corresponds to organization presently carried by the formation. An archive may be an operative constituent of a continuing interpretive arrangement, a resource from which a new arrangement could be formed, or a record whose significance is currently inaccessible. A label identifying all three as preserved would erase the difference the inquiry needs to resolve.

1.2 Present Organization

The proposed account gives present organization and historical descent different analytical roles. Present organization concerns what retained relations can contribute to the selected task. Historical descent concerns how that organization continues an earlier formation under an appropriate comparison. A current response disposition can be newly acquired. A historical connection can survive after the corresponding

operation has been lost. A capacity-retention claim therefore needs grounds for both relations, at the level actually being claimed.

Those grounds need not identify a self-contained internal object. A participant can retain an embodied discrimination while relying on a translation convention or an organized record. A pair can retain a coordination that neither can perform alone. The boundary of the bearer must make these contributions explicit. Enlarging it can support a true claim about a joint arrangement while leaving a claim about one participant unestablished. Conversely, excluding ordinary supports by definition can misdescribe the competence that a practice actually exercises. The recent participant-formation investigation develops this support-relative attribution problem [4, Sections 3–5]; the present paper follows it into an interval of operational unavailability.

The account also permits weaker positive findings. A retained fragment may help a participant learn a later contrast without already constituting the full contrast being learned. Recognizing that contribution need not force a choice between complete retention and complete erasure. It requires a claim whose object matches the contribution. Such a finding can be substantively important while remaining insufficient to classify the formerly exercised first-order operation as dormant.

1.3 Intervention Dependence

A successful later test can establish present performance while changing what it tests. A reminder may disclose an already retained distinction, teach the distinction, or do both in a historically connected process. The speed of recovery does not by itself decide among these possibilities. Rapid learning is possible, and retained organization can require extensive repair before it contributes effectively. A useful attribution must examine what the intervention supplies and what it recruits.

One restricted positive inference becomes available when an intervention cannot create the selected capacity. If a faithful subsequent probe certifies that capacity, its presence can then be traced backward through such an intervention, under the declared model assumptions. The relevant restriction is weaker than requiring every detail of the organization to remain unchanged. The later formal investigation develops this point through partial history operators and tests its limits through explicit countermodels. The mathematical condition is a way to articulate the required premise; observing success does not independently establish it.

Historical retention remains a further question even after current possession has been established. A formation can lose an earlier organization and later acquire an equivalent one. The new organization may support the same current tests and future responses as a continuously retained counterpart. The metamodel already separates predictive sufficiency from historical and identity judgments [5]. Applying that distinction here explains why present discrimination and an old archive cannot replace evidence about the intervening history.

1.4 Research Contribution

The inquiry develops an attribution architecture rather than announcing the discovery of latent linguistic knowledge. Existing research already investigates attrition, implicit traces, relearning and performance changes. Existing GR manuscripts supply capacity schemas, partial domains, historical anchors, changing operation families and distinctions among preservation modes. The current contribution proposed for criticism is the coordinated use of these resources to identify what a selected dormant-capacity attribution requires and what different observations leave open.

The philosophical sections develop possession, bearer boundaries, historical relevance and intervention effects. The formal sections provide several possible models. A partial-history construction separates current organization, archives and continuity; an operator account distinguishes creation and loss of a declared capacity predicate; a nonlinear regional response model distinguishes a retained interface from the conditions of its manifestation. These models have different carriers and are connected by explicit interpretation, rather than silently identified.

The paper leaves the dynamics of general reactivation policy, the sufficiency of records for practical recovery choices, and the authority to direct a community's linguistic future to separate investigations. Some attribution questions remain unresolved even within its narrower scope. The objective is to make those uncertainties precise enough for reasoned disagreement, while preserving the positive conclusions supported by a particular history.

1.5 Argument Sequence

The inquiry begins with the relevant research and then develops selected capacity possession, historical carriers and enabling interventions. The formal architecture introduces its objects before deriving partial operation diagnostics and regional response results. An evidential analysis then returns those distinctions to substantive inquiry. Section 10 develops the interrupted reading-circle case through differing observations and interventions. The subsequent objections and implications address the limits of the attribution account. Section 13 states the bounded findings and remaining research obligations.

2 Linguistic Retention Research

Research on linguistic retention supplies several ways of investigating an earlier formation whose present expression is limited. Their evidential targets differ: current task performance, a surviving difference in processing, an advantage during later learning, and the continuing organization of a selected capacity. This section compares those targets through a focused reading of attrition, residual-language, and relearning studies, followed by a limited philosophical interface concerning dispositions and interference. Its purpose is to identify what the present attribution inquiry can inherit and where an additional historical or relational argument is required. The studies are used as constraints on that argument; their experimental categories are not assumed to instantiate the Generative Relational taxonomy without interpretation.

2.1 Retention Targets

A report that someone has forgotten a language can concern several losses. A person may no longer produce familiar expressions on demand, distinguish a formerly familiar contrast, follow an extended exchange, or participate in a particular practice. These are separable targets. An inquiry into one of them should specify what the earlier achievement involved and what would count as its current exercise. Otherwise, the contrast between retention and loss can change meaning between the historical description, the test, and the conclusion.

The distinction also affects the historical claim. Exposure to a language can contribute to later organization without having previously produced the complete competence now being tested. A later advantage would then concern the persistence and subsequent contribution of an early formation. Describing it as recovery of an already mastered operation would require an additional premise about the earlier achievement. This possibility matters even when the relevant history is well documented: certainty that an encounter occurred differs from certainty about the organization it established.

The present paper consequently treats residual organization as an attribution target in its own right. It can contribute to a more developed capacity, constrain subsequent formation, or support a selected discrimination. Its preservation need not imply the continuing presence of the entire operation that later becomes available. Conversely, evidence against one proposed residual contribution leaves other retention claims to be assessed on their own grounds. The analytical task is to maintain a stable target while allowing the resulting attribution to be partial.

2.2 Performance Evidence

Longitudinal performance research makes changes in a specified task accessible without requiring a verdict about the survival of an entire language. Jessner, Oberhofer, and Megens followed 114 multilingual

school leavers over approximately 14–19 months. Low use was more clearly associated with reduced lexical diversity in the second foreign language than in English. Participants’ assessments of deterioration did not reliably track its measured degree. The authors also considered increased effort as one possible explanation of some self-assessments. These results concern particular measures, use histories, and interpretations of reported experience; they establish neither complete loss nor the operational unavailability required by the present taxonomy’s dormancy predicate [8].

The distinction between a reported difficulty and an observed performance is conceptually productive. A task can still be completed while requiring greater support or effort, and an accessible task can remain unperformed for reasons unrelated to its availability. An attribution should therefore retain the content of a participant’s report rather than translate every expression of difficulty into the same incapacity judgment. Equally, a successful sample of performance answers a selected question about what occurred under particular conditions. The inference to a wider competence depends on the relation between the sample and that wider target.

Negative findings require the same discipline. Pallier and colleagues compared eight Korean-born adults adopted into French families with French controls. Their behavioral and imaging tasks did not reveal the Korean-specific advantage sought. The authors nevertheless explicitly allowed subtle implicit remnants beyond the sensitivity of their methods, discussed limitations of imaging subtraction, and proposed retraining as a further inquiry. The result supports a bounded failure to detect a retained difference of the tested kinds. It should not be presented as a proof that every linguistic trace had been erased, or as a categorical position subsequently overturned by any positive retention result [10].

An absence becomes informative when a candidate account gives reason to expect an observable difference under the actual test conditions. That expectation depends on the target, the sensitivity of the observation, and the adequacy of the enabling conditions. When those premises are weak, a negative result may leave the retention question open. When they are independently well supported, repeated failure can weigh against the proposed attribution. The distinction protects both possibilities: it prevents a limited test from issuing a total loss verdict, and it prevents appeals to hidden capacity from making an attribution immune to evidence.

2.3 Residual Processing

Processing evidence can identify a historical difference even where the measured performance is similar. Pierce and colleagues found that Chinese-born children adopted into French-speaking families recruited tone-related neural regions in a pattern resembling Chinese/French bilinguals and differing from French monolinguals. Matched groups did not differ significantly in task accuracy or response time. The study therefore supports a differentiated processing history, without establishing a superior current performance or retained competence throughout the birth language. Its evidential object is narrower than the broad expression “a lost language” might suggest when detached from the experiment [11].

A present difference of this kind invites a further explanatory question: what selected operation does the surviving organization support? A marker of historical exposure, a component of current processing, and an organization sufficient for a target task have different relations to that question. The same observation can be relevant to all three investigations while carrying different weight in each. Attribution improves when the proposed role is stated explicitly, because additional tests can then address the relevant connection rather than accumulate further markers of unspecified significance.

The philosophical consequence is a separation between historical efficacy and complete operational possession. A historical formation may continue to matter without carrying the whole capacity formerly associated with it. Its contribution can also be active within one process while another operation remains unavailable. Thus the predicates “residual,” “unconscious,” and “dormant” should retain their distinct jobs. In the terminology adopted here, dormancy concerns a selected retained operation and its unavailable execution. A present process that produces an accessible experimental response is not made dormant merely by lacking deliberate awareness.

This distinction leaves room for plural methods. A neural description, a performance description, and an account of participation identify different aspects of an investigated formation. Their compatibility

requires an interpretive connection, not merely their association with the same person or language name. Generative Relational representation can make that connection an explicit object of inquiry while leaving the empirical adequacy of each description to its appropriate methods.

2.4 Relearning Evidence

Relearning introduces an intervention into the history being investigated. The resulting trajectory can supply evidence about retained organization, but the intervention also changes what becomes available. De Bot, Martens, and Stoessel compared relearning of previously encountered but currently untranslated vocabulary with learning new items. They reported savings for old items. Prior individual knowledge was partly inferred from educational history and item selection, however, and the French replication retained a frequency difference between old and new words. Training supplied information in both cases. Their findings support a comparative residual-knowledge inference; they do not establish intact retention of all inaccessible vocabulary. The proposed benefit of activating an entire lexical set through part of it was not found [3].

Choi, Broersma, and Cutler compared Korean adoptees with Dutch controls during training in consonant identification. Initial scores were comparable, while learning trajectories differed. The overall midway comparison was marginal by subjects, and the final aggregate comparison did not distinguish the groups. Generalization and trajectory analyses supported the authors' interpretation of retained phonological knowledge, which they distinguished from a completed phoneme inventory. Both trained groups remained below native controls. This supports a restricted historical contribution to learning, with the qualifications of the individual comparisons preserved; it does not license a uniform advantage throughout the task or a claim of retained whole-language competence [2].

The central inferential issue is the relation between a difference in learning and possession before learning. A previously formed distinction might enable a learner to interpret new examples more effectively while the later task still requires new associations, response procedures, or coordinated supports. In such a case the intervention makes use of something inherited and supplies something additional. The positive retention claim concerns the inherited contribution. A stronger claim that the complete target operation was already present requires evidence that the added material served only to make that operation executable.

The same distinction explains why eventual success alone has limited discriminatory force. Suppose two histories end with participants making the same selected distinction. One history may preserve the relevant organization across an interval of unavailable access; another may establish it during instruction. Their endpoints agree on the chosen performance. Evidence about the intervention and the intervening history is needed to distinguish the origins of that agreement. A short interval does not settle the issue, because the amount of new organization required can vary with the learner, task, and support arrangement.

Relearning research therefore supplies a particularly useful interface for the present inquiry. It makes the contribution of an earlier history investigable through a later transformation. At the same time, it exposes the danger of defining the earlier capacity by the transformation's success. The paper's proposed attribution architecture retains the evidential value of changed trajectories while separating residual contribution, restoration of an executable operation, and formation of a new operation. Mixed histories remain intelligible within that separation.

2.5 Dispositional Interference

The philosophical literature on dispositions provides a limited clarification of the testing problem. Lewis treats cases in which a stimulus removes a disposition before manifestation as difficulties for a simple conditional analysis, and argues for an improved account [9]. Bird argues that an interfering antidote presents a further difficulty even where the causal basis required by that proposal persists, and questions the adequacy of the conditional analysis [1]. These positions disagree. The present investigation uses the identified testing difficulties without claiming to resolve their broader debate.

The local relevance concerns the relation between possession and a trial. A trial can encounter an existing organization, alter the conditions of its operation, or transform the organization itself. An account that infers possession solely from what would happen during a trial must explain which of those possibilities its counterfactual holds fixed. For a historically changing linguistic formation, specifying a stimulus while leaving its informational and relational effects unspecified may conceal precisely the change that the attribution is supposed to assess.

A condition-sensitive account can address this problem only if its conditions have independent content. Declaring that a capacity would manifest in suitable circumstances becomes uninformative when “suitable” means merely whatever circumstances would produce the desired response. The conditions need a description that can be evaluated before or apart from the successful outcome. Their adequacy can then be supported, challenged, or left uncertain. This is an evidential obligation attached to a proposed account, not a commitment to one complete analysis of disposition concepts.

The historical issue adds another requirement. A present organization can possess a response profile even if an earlier organization with that profile was lost. Evidence about present dispositions consequently leaves a separate question about descent across the interval. Neither a conditional response description nor a present marker automatically settles that question. The formal constructions later in the paper separate these requirements so that an attribution cannot gain historical strength simply by changing its vocabulary.

2.6 Historical Attribution Interface

The inherited preservation taxonomy already distinguishes retained operation types, the definedness of an operation schema, its execution domain and admissibility, actual exercise, and historically specified capacity correspondence. Its dormancy category applies where selected organization is retained while execution is unavailable; ordinary non-use and recovery after loss occupy different positions [7]. The present paper takes those distinctions as a starting point. Its object is the warrant for applying them to a linguistic formation whose retained organization is incompletely accessible.

The literature constrains that application in two directions. A description of present performance may leave historically effective organization unrecognized. A description of latent knowledge may imply a more complete retained operation than the evidence warrants. The appropriate response is to state the capacity claim at the level that the evidence can address and to preserve its bearer. An individual discrimination, a learning contribution, and an operation realized jointly with other participants should remain separately attributable even when they belong to one continuing history.

A Generative Relational contribution would therefore consist in a disciplined account of those connections: the selected task, the present carrier, the inherited organization, the enabling relations, and the history through which the attribution is made. The existence of sophisticated attrition and relearning research rules out treating the general separation between capacity and performance as a new discovery. The narrower investigation concerns how present contribution and historical correspondence can jointly support an attribution, how each can fail independently, and how a changing relation among them should be represented.

That inquiry requires positive arguments as well as boundaries. A proposed carrier should explain why particular tasks depend on its organization; an enabling intervention should explain what changes and what it preserves; and a historical comparison should explain why a later organization counts as a descendant. These are the obligations developed in the following conceptual and formal sections. Section 9 subsequently examines how the obligations can be supported in combination without turning any single evidential method into a universal test of dormancy.

3 Selected Capacity Possession

An attribution of dormant linguistic capacity concerns a present bearer whose selected operation is currently unavailable. Its distinctive commitment is that something relevant remains organized in that bearer

through the period of unavailability. This section develops the grounds for that commitment. It specifies the attribution target, examines what a present contribution would amount to, and distinguishes a retained operation from a fragment that supports later learning. Constructed comparisons clarify the argument; they are neither empirical findings nor a proposed universal test of competence.

3.1 The Attribution Target

The statement that someone still possesses a language capacity is incomplete until the operation and its required contribution are identified. Recognizing a familiar expression, distinguishing its appropriate applications, explaining a contrast, and producing a new utterance can draw on related organization while supporting different attributions. A person can retain one of these capacities and need further learning for another. A claim about a selected capacity therefore records a task range and what the participant must contribute within that range. The range can remain open to revision without being left unspecified at the moment an attribution is made.

Support conditions belong in that specification. Consulting a familiar record can be part of competent performance when the task concerns selecting and interpreting the relevant information. Reproducing the information from memory is a different task. Likewise, a partner can provide an accessible presentation while leaving the participant to identify the contrast, or can supply the answer and leave only its repetition. These arrangements can produce similar final words. The attribution concerns the contribution required from the selected bearer, including its declared supports, rather than the final words alone.

The bearer also requires identification. The inquiry may concern one participant using established aids, a pair with differentiated roles, or an organized practice containing records and interpretive relations. Those are legitimate possible objects, but evidence about one does not automatically establish the capacity of another. A jointly produced explanation can support an attribution to the arrangement even when its distribution among the participants remains unresolved. Section 4 develops the historical and relational conditions of that choice.

Finally, the comparison must identify the earlier achievement whose retention is at issue. A present ability can be well established while its origin remains uncertain. Conversely, excellent evidence of past proficiency can coexist with uncertainty about present organization. The expression *retained capacity* connects those two claims. Its historical component cannot be replaced by a general expectation that someone with that biography could learn the task again.

3.2 Inherited Availability Distinctions

The supplied preservation taxonomy already distinguishes an operation type, its realization in a particular state, the domain of that realization, admissibility, and actual exercise [7, Section 7]. Its use of *dormant* selects retained schema-level organization with current operational unavailability. An executable operation that is simply unused during an observed interval has a different status. This convention is adopted here because it makes the missing execution relation part of the question.

The distinction prevents silence from doing excessive explanatory work. Someone can remain silent while declining an available activity, waiting for an occasion, lacking access to a required medium, or lacking the organization needed to perform it. An observation of silence does not identify which relation holds. The relevant inquiry investigates the selected operation and its conditions. It need not classify the entire person, practice, or language by a single global inactivity label.

The taxonomy's schema is nevertheless a represented object. Entering an operation into a model does not establish that the present bearer retains the corresponding organization. The current paper addresses this interpretive obligation. It asks what would warrant that representation in an application, while preserving the taxonomy's distinctions rather than treating them as newly discovered forms of linguistic capacity.

3.3 Present Organizational Contribution

A defensible possession attribution needs a present contribution specific to the selected operation. The contribution can take the form of a retained discrimination, a coordinated pattern of response, an ability to select relevant records, or an organized relation through which different participants supply complementary parts of a task. These examples identify possible roles, not an exhaustive inventory of cognitive mechanisms. Their common feature is that the present formation helps explain the operation's prospective realization at the declared level.

This requirement supplies a reason to distinguish possession from generic trainability. A person may be able to learn an unfamiliar distinction because they possess broad learning capacities and suitable future instruction can be arranged. That prospect does not yet attribute the unfamiliar distinction to them. The proposed retention claim becomes more specific when existing organization constrains how the selected contrast is recognized, produced, or recovered. The historical formation then contributes something that a description of unspecified future teaching leaves unexplained.

Present contribution need not mean present successful exercise. A missing interface can prevent the retained organization from entering a test at all. Requiring an immediate successful response would decide against dormancy by stipulation. Instead, evidence can concern the organization and its dependence relations: what remains connected, what changes when a support is restored, which distinctions are already respected, and which aspects still require instruction. Counterfactual comparisons are useful when their interventions and interpretation are independently defensible. They remain claims requiring support, rather than observations of an otherwise hidden capacity supplied by the word *would*.

The contribution requirement is selective. General alertness, a functioning room, and access to food may help make an encounter possible without individuating the linguistic capacity under study. Their importance does not make them irrelevant to an explanation of performance. It means that their enabling role differs from the organization that explains the selected linguistic discrimination. A proposed attribution should show why its identified contribution is relevant to this task range and what a rival description of the same supports would leave unresolved.

3.4 A Constructed Discrimination

The stipulated bilingual caption-reading circle introduced in Section 1 supplies a bounded comparison. Its captions distinguish a speaker's direct report from an editor's inference. Suppose Sena previously learned to apply that contrast to unfamiliar recordings, choose an appropriate qualifier, ask for missing source information, and correct a misleading attribution. The current target is that profile, not general fluency or unaided recall of the qualifiers' written forms. The constructed practice supplies no empirical claim about an actual language community.

After an interruption, Sena encounters an inaccessible recording interface. The absence of a correct answer is compatible with several histories. The contrast might remain organized but unavailable through this medium; only familiarity with the qualifiers might remain; or the prior organization might have been lost. An old notebook recording successful exercises establishes useful historical evidence, but its continued existence does not settle these alternatives. The notebook could retain an accurate description of a capacity that Sena no longer possesses.

Now stipulate that an accessible presentation gives the same examples and instructions without explaining which source relation each qualifier marks. Sena distinguishes unfamiliar cases, asks which recorded words support an uncertain attribution, and corrects a misleading caption. If independent evidence supports the claim that the intervention changed access while preserving the relevant task organization, these responses support an attribution of possession before access was restored. The inference connects the selected target, a specified present contribution, and an intervention whose effects have been bounded. Relating that possession to the earlier learning period additionally requires the historical comparison developed in Section 4.

A different result warrants a different conclusion. Suppose Sena recognizes the qualifiers as familiar but repeatedly assigns them by their visual position, and can explain the source contrast only after the

facilitator states their meanings. The eventual successful explanation supports present achievement after that encounter. It leaves the earlier full-profile retention claim unresolved and can support the narrower hypothesis of retained familiarity. The case therefore permits a positive finding without transferring the status of one achievement to every component of the former capacity.

3.5 Residual Organization

A retained fragment can make an important contribution without supporting the whole former operation. Familiar sound patterns, partial lexical distinctions, or established ways of attending to a task can alter how new instruction is taken up. In the constructed case, remembering that the qualifiers mark an evidential contrast would constrain subsequent learning even if their respective applications had to be learned again. That organization is more specific than an undifferentiated capacity to learn, yet its contribution falls short of the original interpretation profile.

This distinction changes the question an inquiry asks. Evidence that prior history affects a learning trajectory supports a historical contribution to formation. Evidence that a selected operation can be enabled without being supplied anew supports a stronger possession claim about that operation. Neither finding should be redescribed merely to fit a single retained-or-lost classification. A formation can possess an operative capacity to exploit a residual distinction while its former first-order linguistic operation remains unavailable or only partly retained.

The difference also matters for a negative finding. Failure on an interpretation task can defeat an attribution concerning that task under the tested conditions. It does not by itself eliminate a possible contribution to another task or to later learning. Equally, retaining some contribution does not make a full-profile claim immune to disconfirmation. An inquiry becomes informative when its successful, failed, and unresolved components remain identifiable and available for comparison.

3.6 Defeasible Possession Judgments

The positive account developed here connects a selected profile, a present task-relevant organization, and an appropriately bounded claim about its contribution. Historical retention adds a warranted relation to earlier formation. Current operational unavailability supplies the taxonomic dormancy condition. These commitments can be supported to different degrees; they need not be compressed into a single confidence score.

One consequence is that a responsible inquiry can withhold a dormancy attribution while affirming prior proficiency, surviving traces, or present potential for further learning. Another is that the absence of a feasible current test does not prove absence of possession. A capacity may be retained while every presently available intervention is too disruptive, costly, or poorly understood to disclose it. The resulting uncertainty is substantive. It identifies an evidential boundary rather than supplying a reason to reclassify possible retention as either established fact or established loss.

The next step concerns the bearer across the interval. A present organization can support the selected operation after substantial change, and an equivalent organization can be formed after an earlier one has ceased. Distinguishing those histories requires more than a possession judgment at either endpoint.

4 Historical Capacity Carriers

Retained capacity is attributed to a formation with a history, rather than to a response profile detached from its development. This section explains what that historical commitment adds. It distinguishes an earlier record from a present descendant, develops the selection of distributed bearers, and examines the evidence needed to compare changing implementations. The Generative Relational architecture supplies representational resources for those distinctions. Their application still requires a justified account of which relations carry the selected linguistic organization.

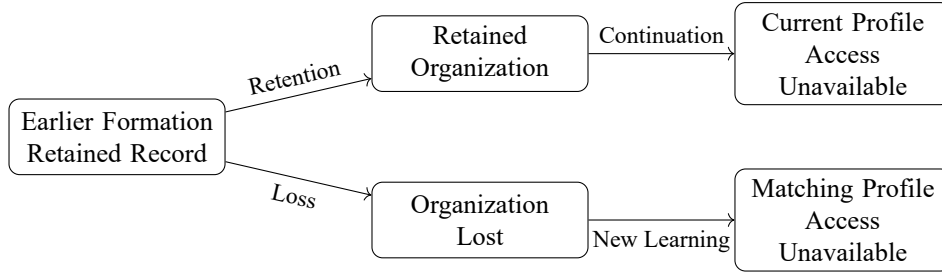


Figure 1: Contrasting Capacity Histories. The constructed routes retain the same earlier record and reach matching current task profiles. Intermediate organization distinguishes retention from loss followed by new learning. Arrows indicate stipulated succession, not evidential sufficiency.

4.1 The History-Bearing Object

A GR object is ordinarily treated here as a historically extended spacetime formation. A labelled two-complex can represent its events, relations and attachments; a spin-foam instantiation would require further labels, compatibility data and weights. The distinction matters because choosing a representation does not settle the underlying ontology or establish the adequacy of a particular cognitive model. In this inquiry, the historical representation has the more bounded task of retaining relevant formation, interruption, support change and later intervention.

The field-power manuscript explicitly permits the selected realized history to remain anchored while future continuations, admissible operations and algebraic carriers change [6, Section 8]. Its framework therefore does not identify historical preservation with keeping every present operation fixed. The present application uses that distinction to examine what a retained learning history does and does not establish about a currently unavailable capacity.

Suppose an accurate record establishes that Sena once applied the caption-reading distinctions introduced in Section 3. The occurrence of those learning and performance events remains part of the inquiry even if their practical effects subsequently disappear. A later instructional programme can consult that record, or Sena can reinterpret its significance, without making the earlier occurrences unreal. This is one useful role of an anchor. The capacity attribution, however, asks whether a relevant organization survives in the current formation. Retaining the occurrence and retaining its operative descendant are different achievements.

4.2 Historical Route Comparison

Two histories can have the same earlier learning event and the same current task profile while differing in the intervening organization. In one constructed history, the selected discrimination remains organized while access becomes unavailable. In another, the discrimination is lost and later formed again through instruction, after which access also becomes unavailable. A current test can give the same result in both cases. The old learning record can also be identical. Neither similarity settles whether the current organization was continuously retained.

Figure 1 displays this comparison. The arrows represent stipulated historical succession; the diagram does not infer its intermediate labels from the matching endpoints. It identifies the additional historical claim that a retention attribution would need to support. The same comparison can be made when the current profiles are available rather than dormant, so its force comes from the historical relation and not simply from present inactivity.

The distinction is consistent with the metamodel's separation of continuation-equivalent descriptions from entity identity and historical explanation [5, Section 6]. A description can answer every declared prospective query while omitting how the current capacity was formed. Such a description can be adequate for choosing a present task and inadequate for an attribution of retention. Its limitation follows from the question assigned to it, rather than from a general inferiority of compact state descriptions.

This argument also limits a demand for complete historical certainty. The diagram's routes are fully stipulated so that their difference can be examined. Actual investigations rarely possess comparably complete records. An interval without observations is not thereby an interval of capacity loss. It can leave the relevant descendant relation uncertain. A warranted historical attribution may therefore be defeasible, while a more limited current-capacity attribution is much better supported.

4.3 Selected Descendant Relations

A historical descendant relation needs more content than the persistence of a name. The same name can be attached to a new teaching procedure, while different expressions can continue a selected discrimination. The proposed comparison identifies what is inherited: particular distinctions, ways of applying them, compositional relations, or organized contributions to a declared task. It then examines the transformations through which those elements remain operative.

The taxonomy already permits capacity realizations that vary with the state and typed correspondences across historical change [7, Section 7]. Consequently, retention need not require an unchanged physical implementation or a verbatim rule. Sena might move from a handwritten aid to an accessible audio record while preserving the selected source discrimination and the ability to question an unsupported attribution. The continuity claim would concern those retained contributions and their historical relation. It would not assert that every feature of the earlier practice survived.

The comparison can also fail. Suppose the new aid supplies an answer without preserving Sena's role in identifying whose evidence matters. The final qualifier choice might remain correct, yet the declared participant contribution has changed. If the target is a jointly generated answer, the new arrangement may achieve it. If the target is Sena's interpretive discrimination, that output leaves the required continuity unestablished. A descendant correspondence must preserve the selected analytical content, not merely arrange matching labels around changed performances.

The historical witness is therefore plural. Records of prior learning, evidence of continuing use or rehearsal, changes in support, and the organization revealed by later encounters can constrain different parts of the proposed route. A narrow operation can remain sufficiently identifiable even where other capacities were transformed. Conversely, an impressive present repertoire can remain compatible with extensive new formation. The scope of continuity should follow the distinctions the evidence can carry.

4.4 Distributed Bearer Selection

A history-bearing carrier can include relations among persons, records, tools and sites. The reason to include them is their organized role in the selected capacity, rather than a presumption that everything causally relevant belongs inside one bearer. The taxonomy permits conditions described as external at one resolution to enter the internal organization at another, while requiring those boundary choices to remain explicit [7, Section 8].

Consider a participant who has long used an indexed notebook to locate examples and interpret an unfamiliar expression. The notebook's wording alone does not perform the task. Its contribution depends on indexing, access, reading practices, and the participant's ability to select an appropriate comparison. Together those relations can constitute a supported competence. Locking the notebook away can make the selected operation unavailable without erasing the participant's established organization for using it. Returning the notebook can restore a condition of that particular bearer.

An identical notebook delivered to someone unfamiliar with its indexing or distinctions has a different role. It can be a resource for future instruction, while the necessary interpretive relation remains to be formed. Equality of the artifacts does not make the two bearers capacity-equivalent. The difference lies in the organized relation between artifact and participant. Treating every surviving record as a presently retained capacity would erase precisely that relation.

This account gives the bearer boundary three practical responsibilities. It must identify the organized contribution at issue, preserve whose performance is being attributed, and make the support dependence visible. An indefinitely enlarged bearer containing every possible future teacher may make some eventual

production unsurprising, but it changes the attribution. Its success does not establish that a narrower formation already contains the required organization. A boundary is useful when its retained relations help answer the selected question and its omitted dependencies do not silently supply the claimed result.

4.5 Participant Replacement

Changes of participant require particular care because two continuity questions can diverge. A pair may retain an organized correction practice after one member is replaced, even though the departing member's individual contribution is no longer available. Conversely, one person can remain present while the practice that formerly supported their performance has disappeared. Personal persistence and practice persistence cannot be substituted for one another.

Suppose a facilitator answers every difficult caption question on Sena's behalf. The resulting exchange can be successful at the level of the pair. If a later facilitator takes over that role, the practice may preserve an appropriate joint operation. Evidence of that continuation should identify the replaced role and its new bearer. It would not warrant assigning the facilitator's discrimination to Sena, nor would it imply that the entire practice failed because its participants changed.

The same reasoning supports a constructive account of reorganization. A participant can learn to select an example formerly selected by someone else, while a tool assumes part of the retrieval work. The successor arrangement can preserve some functions, redistribute others, and form new competences. Recording that pattern is more informative than choosing between complete identity and complete replacement. The paper's formal constructions retain changing operations and historical predicates so that these comparisons need not be reduced to equality of a present response vector.

4.6 Historical Interpretation

The history relevant to capacity attribution includes what remains operative in current relations as well as what occurred. An earlier instruction can continue to organize the selection of examples; a record can acquire a new use; a forgotten distinction can become recognizable only after later learning. Those possibilities justify examining historical organization without requiring every past event to exert an identifiable present effect.

They also require a distinction between a useful historical story and an accurate account of descent. A participant can act on a mistaken belief about where an expression originated. That belief can have present consequences while its genealogical claim remains false. The field-power manuscript distinguishes epistemic historical redescription, changes in the presently operative historical relations, and stronger ontological interpretations [6, Section 9.7]. The present inquiry uses the first two distinctions where evidence supports them; it does not infer alteration of past physical events from changed interpretation.

A dormant-capacity attribution therefore needs both a present carrier account and a historical comparison appropriate to its strength. Different inquiries can legitimately establish different parts. The enabling intervention examined next can improve access to current organization, but the historical route it helps disclose remains a separate object of investigation.

5 Enabling Intervention Criteria

An intervention can improve performance by restoring an execution condition, forming task-relevant organization, or doing both. This section examines the criteria needed to distinguish those possibilities. Its objective is a defensible attribution of the intervention's contribution, rather than an optimal restoration procedure. The argument begins with the intervention record, develops a target-relative condition for backward inference, and considers mixed histories and evidential limits. The formal diagnostics in Section 7 make selected versions of these conditions exact.

5.1 The Intervention Record

Calling an encounter a reminder, repair, prompt, or lesson does not identify what it changes. An intervention record should instead specify the materials presented, the distinctions explained, the support relations altered, and the participant contributions required during and after the encounter. The relevant description can be historical and qualitative. It need not reduce the encounter to a uniform treatment or numerical dose.

The caption-reading circle provides a concrete comparison. Restoring a recording interface can return access to the same words, timing and speaker relations that the participant previously interpreted. Supplying an answer key can also improve caption selection. The two changes can occur together, but their roles differ. One restores access to the material on which the selected discrimination operates; the other can supply information about how the discrimination should be performed. Their effects need to be examined at that level rather than inferred from the common result of a correct caption.

Even the interface repair requires interpretation. A replacement player can alter timing, remove an uncertain passage, highlight a phrase, or rearrange the available qualifiers. Those changes may matter to the linguistic task. Evidence that the relevant recording and presentation relations are preserved therefore supports a narrower claim than the unexamined assertion that the equipment now works. The proposed comparison identifies which changes the task can tolerate and which would supply a different cue or answer.

The record also includes the bearer during the intervention. If a facilitator supplies the interpretation while a participant repeats its surface form, the final output belongs to a different distribution of work from one in which the participant selects and explains the contrast. This is why intervention description and bearer specification cannot be completed independently. A procedure that merely enables a joint operation may simultaneously create a new support relation for one participant.

5.2 Instructional Contribution

An access-restoring intervention need not be informationally empty. Interpreting a recording requires hearing material that specifies the occasion, and choosing a qualifier requires knowing what the task asks. If every informative input counted as teaching the capacity, the distinction between using a capacity and forming it would disappear. The relevant question is what organization the participant must contribute in making use of the supplied information.

Suppose a recording supplies what a speaker actually said, leaving the participant to distinguish that report from an editor's additional inference. The recording provides the task material. A facilitator who then explains which missing words make the proposed caption an inference can contribute part of the selected discrimination. That assistance may be pedagogically appropriate. Its appropriateness does not make the result independent evidence that the participant possessed the full discrimination before the explanation.

This distinction can itself be contested. A carefully chosen sequence of examples can make a previously unfamiliar contrast apparent without an explicit explanation. A repaired display can reveal a relation that was difficult to notice before. The investigator's intention to avoid teaching therefore does not establish that no formation occurred. An account of the intervention must consider what its organization makes available to the participant, including new comparisons and opportunities for inference.

The appropriate response is to retain the intervention history and calibrate the attribution. A response obtained before an explanation can support a different claim from one obtained after it, provided the earlier encounter's own formative effects are considered. An uncertain division of contributions can remain uncertain. The purpose is to identify an informative contrast among histories, not to promise a perfectly nonreactive test of every linguistic capacity.

5.3 Target-Relative Noncreation

The strongest simple model assumes that enabling interventions leave the selected task organization unchanged. That assumption makes a backward inference transparent: if the organization is present after the intervention and was conserved through it, it was present before it. The assumption is sufficient within its declared model, but unnecessarily strong for some historical comparisons. The taxonomy allows changing state-dependent realizations and operation correspondences [7, Section 7].

A weaker sufficient condition concerns the attribution target itself. If the actual intervention cannot create the selected capacity in any initial configuration admitted by the comparison, and the later bearer has that capacity, then its possession before the intervention follows within that comparison. Organization may change while this condition holds. An established interpretation practice can acquire a new medium, for example, while the selected discrimination remains inherited rather than newly supplied by the medium change.

The condition must be warranted independently of the successful result. It cannot be established by defining an enabling intervention as whatever happens to reveal a capacity that the researcher wishes to regard as retained. Its possible grounds include a sufficiently understood operation, an identified restriction on what it changes, and evidence excluding relevant routes by which the selected organization could be supplied. The adequacy of those grounds depends on the task and the range of initial configurations that remain live alternatives.

This dependence on the comparison range is consequential. A procedure can fail to teach a novice while enabling someone who retains a fragment to infer the remainder. Evidence concerning the novice does not then establish noncreation of the full capacity for every former participant. The residual fragment changes what the intervention can do. An analysis that excludes such configurations in advance can obtain a formally valid inference whose empirical interpretation remains too narrow.

The backward inference also leaves historical descent open. Showing that the capacity existed immediately before the intervention does not show that it was continuously retained from the earlier learning period. An unrecorded episode of new instruction could have formed it in the intervening interval. The noncreation condition addresses the effect of the selected intervention; the historical witness addresses the longer retention claim. Their distinct roles are retained in the later models.

5.4 Mixed Intervention Histories

Many plausible intervention descriptions contain several contributions. Restoring access can allow a retained distinction to operate; a new example can extend its range; feedback can correct a previously unrecognized misapplication; and practice can establish a new coordination with a partner. A single encounter can consequently contain retention, enabling change and further formation without being incoherent.

For the caption circle, suppose Sena remembers the difference between a speaker's report and an editorial inference but has lost the local convention for marking that difference. A facilitator states the convention, after which Sena applies the appropriate qualifier to a new passage and explains the source uncertainty. The record supports a differentiated account: the intervention supplied the convention, while the participant's interpretation may have drawn on retained organization. A claim that the entire former profile was simply activated would conceal the newly supplied component. A claim that the entire achievement was created during the encounter could conceal the retained contribution.

The reverse pattern is also possible. Sena can remember which written form was associated with a familiar training card while needing to develop the relevant source distinction for unfamiliar cases. The surface continuity then accompanies new interpretive formation. The comparison must therefore follow the selected contribution rather than assuming that familiar wording identifies the retained core.

Partial attributions are useful when their contents remain explicit. They can identify which part of a profile appears to have been retained, which was supplied or transformed, and which dependency remains uncertain. They do not require assigning a numerical fraction of the capacity to memory and

the remainder to teaching. Such an allocation would require a common scale and a defensible account of interaction; the present historical description supplies neither by default.

5.5 Intervention Duration

Short duration and low apparent effort can support an inquiry, but neither defines activation. Someone can rapidly learn a narrow convention by using a more general competence. A retained organization can also require substantial work to become executable because its medium, support network or accepted context has changed. The time taken therefore concerns the entire route to performance, not only the presence or absence of the selected organization.

A constructed comparison makes the point precise. Restoring an old recording format may require weeks of technical work before a participant can interpret the recovered material immediately. Teaching a newly introduced qualifier to a proficient interpreter may take minutes. The longer intervention can preserve the relevant linguistic organization, while the shorter one can add a new convention. Their relative duration does not reverse those descriptions.

Comparative trajectories become more informative when the task, intervention content, relevant prior formation and alternative learning resources are specified. A historical contribution can then help explain why one trajectory differs from another. The inference remains about that contribution at the investigated level. It does not turn a timing advantage into a general certificate that an entire former language repertoire remained intact.

5.6 Investigative Access

An intervention may be unavailable to the investigator while the capacity remains executable for its bearer. Conversely, an investigator may be able to imagine a repair that the bearer cannot currently undertake. These circumstances concern different access relations. A study should therefore specify whose operation is unavailable and within which arrangement, rather than treating the observer's access as the capacity's execution domain.

The distinction also leaves room for restraint. A participant may decline an inquiry, or the proposed intervention may risk changing the very organization being investigated. Neither circumstance establishes absence of capacity. It can limit the conclusions the investigator is warranted in drawing. Earlier history, retained relations and less intrusive comparisons may still support some claims, while a stronger possession or continuity judgment remains unresolved.

The intervention criteria consequently define a disciplined inference problem. They identify what a successful encounter would have to preserve or leave uncreated for it to support a particular backward attribution. They also identify where that reasoning fails and where a mixed account is appropriate. The following formal constructions develop these distinctions under explicit assumptions, while the later inquiry returns to the work needed to justify their application.

6 Formal Attribution Architecture

A dormant-capacity attribution connects a present organization to a selected task and to an earlier formation. This section makes those connections explicit before drawing an inference from performance. It introduces a restricted history carrier, separates a task realization from its execution conditions, and constructs histories that agree on selected evidence while differing in retained organization. A conditional positive result then identifies what a complete, organization-conserving test can establish. The objects are model-relative applications of the taxonomy's capacity, condition, and lineage distinctions [7, Sections 7–9]; the elementary arguments are not proposed as a general new theory of dispositions.

6.1 History-Bearing Attribution Carriers

Let H be a declared countable family of finite histories, closed under the particular extensions admitted below. Countability supports the operator representation in Section 7; it is a restriction of that representation. A history $h \in H$ retains its ordered event records and has an endpoint configuration $\omega(h)$. Its bearer is a historically organized formation X_h , possibly including participants, artifacts, and relations. A labelled complex K_h can represent its incidence and temporal organization. Neither the event sequence nor the complex is identified with an ultimate ontology of that formation.

When the inquiry selects an earlier represented anchor K_- , let $\iota_h : K_- \hookrightarrow K_h$ embed its retained structure. An admitted extension $T_a h$ has a structural map $f_{a,h} : K_h \rightarrow K_{T_a h}$. The anchored regime requires Equation 1.

$$f_{a,h} \circ \iota_h = \iota_{T_a h}. \quad (1)$$

Equation 1 is inherited from the field formalism's fixed-past architecture [6, pp. 46–48]. It preserves the declared old record while permitting the later organization to change. An old successful performance can remain in every subsequent history even after the organization that produced it has disappeared. An invariant historical anchor consequently supplies a record to which an attribution refers, rather than a proof that the attributed capacity persists.

A stronger capacity-lineage claim needs tracking witnesses. For a selected earlier history h_- and later history h , write $D_\sigma(h_-, h)$ for the predicate that the model supplies an admissible capacity-descendant witness under its declared comparison. Its subscript anticipates the task specified next. The predicate requires an interpretation of what is carried through the interval. It can allow changed implementation and transported operations; it need not require identical material components. The taxonomy's operation-type correspondences and historical witnesses provide the inherited form of this requirement [7, Sections 7.5, 9.1–9.4]. The present paper does not infer D_σ from an endpoint equality.

6.2 Selected Task Realization

Fix a finite nonempty task set Q , a response set Y , and a target map $\sigma : Q \rightarrow Y$. The interpretation of a task includes the context and contrast needed to understand its response. At least two distinguishable tasks are retained in the worked example. Success on this target is a restricted operation profile, with no automatic extension to fluent language use, understanding of every context, or the whole earlier competence.

Let C be a carrier of task-relevant organizations, let $j : H \rightarrow C$ extract the organization's representation, and let $R : C \times Q \rightarrow Y$ be its partial response realization. The admitted history carrier contains histories for which j is meaningful. An empirically unavailable extraction is an unresolved attribution, not a negative capacity verdict. For a nonempty subset $S \subseteq Q$, the selected possession predicate is stated in Equation 2.

$$\Phi_S(h) = 1 \iff \text{for every } q \in S, (j(h), q) \in \text{Dom } R \text{ and } R(j(h), q) = \sigma(q). \quad (2)$$

Equation 2 assigns a precise role to an independently interpreted organization. Merely defining the map j does not establish that it describes a participant or arrangement. The application must identify the relevant structure and its contribution to the response. A table stored only in the investigator's records cannot discharge this realization requirement.

For the restricted execution model, let $g : H \rightarrow \{0, 1\}$ record one specified access condition. A probe p_q is a partial history extension that appends the attempted task's successful execution and response when the domain in Equation 3 holds.

$$D_{p_q} = \{h : g(h) = 1, (j(h), q) \in \text{Dom } R\}, \quad y_q(h) = R(j(h), q) \quad (h \in D_{p_q}). \quad (3)$$

The word “successful” here means that the operation executes; its response can still differ from $\sigma(q)$. Equation 3 separates access failure from a defined incorrect response. Other execution conditions could

be retained in the domain, but the example holds them fixed. The binary gate is one declared condition, not a numerical measure of environmental adequacy.

Actual exercise is another fact: the event p_q must occur. If $g = 1$ and the response is defined but no probe occurs, the absence of a response is non-use. If an appropriately tracked organization remains while $g = 0$, the selected probe is operationally unavailable. This latter case instantiates the taxonomy's dormancy convention. Its broader possibilities include a retained historically identified schema whose evaluation is undefined at the current configuration, as well as other execution or admissibility failures. Loss of the selected schema is a different claim. The gate model isolates one of these operational failures.

These declarations also fix the bearer boundary. If $j(h)$ represents a learner with an indexed notebook and an established practice of using it, Equation 2 concerns that arrangement. Adding a teacher who supplies the answers can produce a different bearer. Correct responses by the enlarged arrangement do not silently change the earlier claim into an attribution to the learner alone.

6.3 Restricted Intervention Families

Let A name the actual intervention types in the model. Each $a \in A$ has a partial history map $T_a : D_a \rightarrow H$, with $D_a \subseteq H$. A map appends a full event record, including the source history; its endpoint effect can nevertheless erase or overwrite present organization. For a word $w = a_1 \cdots a_n$, successive execution is defined only if each intermediate history belongs to the next domain. Write $T_w = T_{a_n} \circ \cdots \circ T_{a_1}$ on that execution domain and $T_\epsilon = \text{id}_H$ for the empty word. This is the inherited partial-composition discipline [6, pp. 33–35].

A particularly transparent family $A_0 \subseteq A$ obeys Equation 4.

$$j(T_a h) = j(h) \quad (a \in A_0, h \in D_a). \quad (4)$$

Equation 4 is a substantive restriction of the selected model. It can describe a gate-opening operation and noninstructional probes. A real reminder, translation, or collaborative task may fail it. Duration, apparent ease, or subsequent success does not establish the equality. Its empirical warrant would have to come from a defensible account of what the intervention supplies and what the bearer already contributes.

Exact equality is sufficient for the next argument and stronger than its eventual attribution requirement. A changed implementation can preserve the task contribution through an appropriate correspondence, and an intervention can conserve a selected predicate while changing other organization. Section 7 derives a weaker one-sided condition. Keeping these alternatives explicit prevents the easiest proof from becoming a definition of genuine reactivation.

6.4 Constructed Attribution Counterhistories

Take $Q = \{q_0, q_1\}$, $Y = \{0, 1\}$, and $\sigma(q_i) = i$. Let C consist of the nine partial maps $c : Q \rightarrow Y$, and set $R(c, q) = c(q)$ wherever c is defined. An endpoint is (c, g, z) , where the archive coordinate z contains the same old target record in every compared history. The map j extracts c . The archive has no automatic response edge. A model of an actually usable notebook would need to specify that further relation rather than infer it from the artifact's survival.

The intervention o opens access, replacing g by one. The operation b closes it. A probe reads the appropriate entry and leaves c unchanged. An instructional operation t writes the whole target σ into c ; an erasure d_S deletes entries indexed by S . All these operations preserve the historical anchor through event appending. Their effect on present organization differs.

Start every compared history with the same recorded earlier realization of σ . After an unobserved interval, three histories can end with a closed gate and the organizations shown in Table 1. A fourth can lose both entries and acquire the target anew before access closes. Waiting events can equalize the number of recorded interval positions. The selected observation retains the old proficiency record, archive, and absence of current responses; it omits the intervening erasure and instructional events. The full histories are different even though that limited observation agrees.

Table 1: Constructed Capacity Histories. The shared archive and silent interval leave present organization and continuous retention unsettled. The entries concern the stipulated task.

History	Current Organization	Result After Access Opens
Continuous retention	$c = \sigma$	Both selected responses execute correctly.
Retained fragment	$c(q_0) = 0$ only	The first response executes; the second is undefined.
Selected organization lost	$c = \emptyset$	Neither response executes.
Loss followed by learning	$c = \sigma$ again	Both responses execute correctly; the selected continuous-retention witness fails.

Table 1 separates two inadequacies of the observed trace. Silence with a closed gate leaves even present organization unidentified. Later unrestricted teaching makes every initial table capable of the same eventual test result: t writes σ , o opens the gate, and the two probes succeed. Therefore an eventual trained endpoint does not determine which initial table was present.

The fourth history exposes a further limit. Its current table equals the continuously retained table, and every continuation composed only of opening, closing, and noninstructional probes gives the same response and domain outcomes. Induction proves this: the endpoint tables and gates initially agree; opening and closing update only the gates; a probe has the same definedness and response in both and leaves the tables unchanged. Nonetheless, the first history carries its entries through the interval and the fourth includes their deletion and later production. This is a concrete application of the metamodel’s separation of continuation equivalence from historical explanation [5, pp. 22–25, 79].

The relevant historical predicate must state its mode. In this example, an entry has continuous retention only if its source token remains connected through the chosen organization-descendant relation at every retained stage. Instruction after deletion has reconstructive provenance but fails that continuous mode. The distinction does not rank the histories by value or assume that all legitimate historical preservation requires uninterrupted exercise.

6.5 Complete Conserving Tests

The counterhistories leave a positive conditional inference available. If the organization is independently held fixed during the test, each response constrains that same organization. Proposition 6.1 states exactly this limited conclusion.

Proposition 6.1 (Complete Conserving Test). *Suppose an executable finite intervention history begins at h_0 , every step satisfies Equation 4, and every $q \in S \subseteq Q$ is probed at least once with recorded response $\sigma(q)$. Suppose each response is faithfully given by R on the same declared task interpretation. Then $\Phi_S(h_0) = 1$. For $S = Q$, the full selected organization predicate holds initially.*

Proof. Let h_i be the history after step i . Repeated use of Equation 4 gives $j(h_i) = j(h_0)$ for every retained step. Fix $q \in S$ and select its successful probe. The domain condition in Equation 3 implies that $R(j(h_i), q)$ is defined, and faithful recording gives its value as $\sigma(q)$. Substituting $j(h_i) = j(h_0)$ proves the same definedness and value for the initial organization. Repeating this argument for each $q \in S$ gives Equation 2. $\square$

Proposition 6.1 establishes possession within the supplied model. Dormant historical retention additionally requires that the initial operation was unavailable and that the selected descendant witness is warranted. The theorem supplies neither fact automatically. In particular, both the continuously retained and newly learned histories in Table 1 satisfy the same current possession predicate.

Sampling a proper subset has a correspondingly smaller conclusion. A correct response to q_0 is compatible with the first two rows and cannot establish the missing entry. If the probe itself teaches q_1 , the conservation premise fails and success can belong to newly produced organization. Such cases motivate the finer analysis of intervention effects that follows. They also show why an attribution can be substantively informative without deciding whether the entire former competence remained present.

7 Partial Operation Diagnostics

An intervention can preserve, destroy, or produce the organization selected by a capacity attribution. This section represents those effects through partial history operators and derives a limited backward inference from independently excluded creation. The construction retains execution domains and separates the actual intervention family from its mathematical algebra. Its second result concerns task-wise evidence, where sequential successful responses require a more careful inference than a single endpoint certificate. These are elementary applications of declared history and operator structures, consistent with the inherited distinction between algebraic carriers and admissible operations [6, pp. 21, 33, 40–43].

7.1 History-Appending Operators

For the countable history family H of Section 6, take the Hilbert space $\mathcal{H} = \ell^2(H; \mathbb{C})$. Its canonical vector δ_h records one history. Complex coefficients supply a convenient linear representation of these records; they are not amplitudes of linguistic consciousness, empirical probabilities, or superposed social actions. Every actual operation remains a partial map $T_a : D_a \rightarrow H$.

Require an appended history to retain its whole source history and its new event. Then T_a is injective on D_a , even when its endpoint effect overwrites a table or merges two response profiles. Define L_a first on the canonical vectors by Equation 5.

$$L_a \delta_h = \begin{cases} \delta_{T_a h}, & h \in D_a, \\ 0, & h \notin D_a. \end{cases} \quad (5)$$

The zero in Equation 5 records an inapplicable represented map. It is not a zero-valued response, an unattempted action, or the endpoint of a socially irreversible failure. Injectivity means that distinct admitted basis histories have distinct orthogonal images. Thus, for a finite linear combination $\xi = \sum_h \xi_h \delta_h$, its image has squared norm $\sum_{h \in D_a} |\xi_h|^2 \leq \|\xi\|^2$. Density gives a unique bounded extension to $\mathcal{H}$ with norm at most one.

Let P_D denote the diagonal projection onto the closed span of histories in a subset $D \subseteq H$. Taking the adjoint on canonical vectors yields Equation 6.

$$L_a^* L_a = P_{D_a}, \quad L_a L_a^* = P_{T_a(D_a)}. \quad (6)$$

Indeed, an admitted source vector is sent to its unique appended vector and back; an excluded source is sent to zero. An image vector has a unique predecessor under this operation, while any other target vector is killed by the adjoint. Equation 6 proves that L_a is a partial isometry. The proof uses full-history injectivity. Applying the same formula to a many-to-one endpoint update without retaining histories would generally fail to give that conclusion.

For a word $w = a_1 \cdots a_n$, set $L_w = L_{a_n} \cdots L_{a_1}$. Direct application to δ_h shows that $L_w \delta_h = \delta_{T_w h}$ exactly on the word's execution domain and is zero otherwise. Its domain condition includes every intermediate step. Associative multiplication therefore represents actual composition without silently making a blocked word executable. The adjoint L_a^* is a record operation that removes a specified suffix within this representation; its existence supplies no intervention that undoes learning or restores an earlier institution.

7.2 Capacity-Change Blocks

For a selected nonempty task subset $S \subseteq Q$, let P_S be the projection associated with the possession predicate in Equation 2: $P_S \delta_h = \Phi_S(h) \delta_h$. Fix S temporarily and abbreviate P_S to P . Equation 7 defines the two cross-block operators.

$$C_a = PL_a(I - P), \quad B_a = (I - P)L_aP. \quad (7)$$

Here I is the identity on $\mathcal{H}$. The symbol C_a names the creation block for this predicate; it is unrelated to the organization carrier C . The symbol B_a names its loss block. Evaluating Equation 7 on an admitted history gives Equation 8.

$$\begin{aligned} C_a \delta_h &= \Phi_S(T_a h)(1 - \Phi_S(h)) \delta_{T_a h}, \\ B_a \delta_h &= (1 - \Phi_S(T_a h)) \Phi_S(h) \delta_{T_a h}. \end{aligned} \quad (8)$$

Both expressions vanish outside D_a . Equation 8 identifies the diagnostic content exactly. The creation block is zero if and only if no admitted source lacking the selected predicate is mapped to a target possessing it. The loss block is zero if and only if every admitted source possessing it retains it. Neither condition requires the entire organization $j(h)$ to remain equal.

Two-sided predicate preservation is equivalent to commutation, as stated in Equation 9.

$$PL_a = L_aP \iff C_a = B_a = 0 \iff \Phi_S(T_a h) = \Phi_S(h) \quad (h \in D_a). \quad (9)$$

To prove the first equivalence, decompose the domain and range by $I = P + (I - P)$. The diagonal blocks agree in PL_a and L_aP , and their difference consists of the two cross-blocks with opposite signs. Multiplying the equality on the appropriate sides by P and $I - P$ isolates each block. The second equivalence follows from Equation 8. Equation 9 is consequently an audit of a supplied predicate and intervention, rather than independent evidence that the predicate has empirical warrant.

Full organization conservation from Equation 4 implies this commutation for every selected S when the task interpretation is fixed. The converse fails. Two distinct organizations can both realize the target, or both fail it. A predicate-preserving map can move between them. The operator representation makes the preserved claim smaller and more explicit than an assertion that nothing relevant changed.

7.3 One-Sided Backward Attribution

Backward attribution needs exclusion of creation, while allowing loss. Proposition 7.1 gives this distinction a precise compositional form.

Proposition 7.1 (Conditional Backward Attribution). *Let $w = a_1 \cdots a_n$ be an actual executable intervention word. Suppose $PL_{a_i}(I - P) = 0$ for each admitted operation in the word. Then $PL_w(I - P) = 0$. If a faithful endpoint certificate establishes $\Phi_S(T_w h) = 1$, then $\Phi_S(h) = 1$.*

Proof. The zero creation block implies that each L_{a_i} maps the range of $I - P$ into that range, including the possible zero vector. Their product has the same property, proving the displayed block condition for L_w . Equivalently, on each applicable history Equation 8 gives $\Phi_S(T_{a_i} h) \leq \Phi_S(h)$. Following the executable word produces a nonincreasing sequence of zero-one predicates. A final value one therefore requires initial value one. Faithfulness of the endpoint certificate connects the observed certification to that final predicate; it is a separate premise from the operator calculation. $\square$

Proposition 7.1 does not assert that every member of the selected family preserves possession forward. In the table model, an erasure can send a full target table to an incomplete one. Its loss block is nonzero, while its creation block vanishes. If a particular history nevertheless passes the faithful whole-target endpoint certificate after a word of such operations, its initial table must already have satisfied the target. A failed endpoint certificate has no converse implication: the word may have destroyed the earlier organization.

The proposition's premise must be assessed for the actual operations used. A teaching operation that completes a previously incomplete table has a nonzero creation block. Excluding that operator from a mathematical generating list does not establish that an actual encounter was non-formative. Similarly, changing the responder can supply a new organization while preserving the nominal label of the test. Both cases change the inference's substantive premises.

7.4 Sequential Task Evidence

A complete endpoint certificate is stronger than a list of correct responses produced at different stages. That distinction matters whenever testing can change organization. The next result permits sequential evidence while stating a task-wise restriction on the preceding operations.

Write $\Phi_q = \Phi_{\{q\}}$. Suppose task q is tested at a history $h_{i(q)}$ immediately before its response is read. Every earlier step lies on the prefix from h_0 to that history. Proposition 7.2 does not require later steps to preserve an already tested task.

Proposition 7.2 (Task-Wise Backward Attribution). *Suppose each $q \in S$ receives a faithfully realized response $\sigma(q)$ at its test history. For that task, suppose each operation on the preceding executed prefix satisfies $\Phi_q(T_a h) \leq \Phi_q(h)$ on its relevant domain. Then $\Phi_S(h_0) = 1$.*

Proof. Faithful response realization implies $\Phi_q(h_{i(q)}) = 1$. Repeated use of the task's one-sided inequality along its executed prefix gives $\Phi_q(h_0) = 1$. This argument applies separately to every $q \in S$. Equation 2 defines Φ_S as their conjunction, so the initial whole selected predicate holds. No step of the proof requires the tested organizations to remain equal, nor does it infer that all tested contributions survive until the end. $\square$

The task-wise qualification in Proposition 7.2 is essential. Consider the two-task target from Section 6. Begin with only $q_0 \mapsto 0$. Probe q_0 successfully, replace the table by the single entry $q_1 \mapsto 1$, and probe q_1 successfully. Each single-entry replacement maps every source to an incomplete table. It therefore never creates the whole-target predicate Φ_Q . Both correct responses occur, yet the whole table is absent at every stage. The q_1 creation block is nonzero at the replacement, so the task-wise premise detects exactly the step that invalidates backward attribution to the initial full capacity.

This counterexample also prevents a circular use of the whole-capacity theorem. A transcript cannot be declared a faithful endpoint certificate merely because its answers cover the target. The inquiry must establish that those answers refer to one retained organization or use the more differentiated task-wise argument. A test that simultaneously reveals and forms different contributions may warrant a mixed attribution.

For example, an intervention can keep an old q_0 organization and add a new q_1 organization. Its $P_{\{q_0\}}$ projection can commute with the operation while its whole-target creation block is nonzero. Evidence and the selected historical witness can then support retention of the first contribution and production of the second. Calling the whole endpoint either wholly retained or wholly unrelated would discard the model's actual distinctions.

7.5 Algebraic Attribution Boundaries

One can form the unital norm-closed operator algebra generated by the selected shifts, their adjoints, and the possession projections. Its concrete form is stated in Equation 10.

$$\mathcal{A} = C^*(I, \{L_a : a \in A\}, \{P_S : \emptyset \neq S \subseteq Q\}) \subseteq \mathcal{B}(\mathcal{H}). \quad (10)$$

Equation 10 provides an explicit algebra after the history representation has been supplied. Actual interventions are still the declared partial maps and their executable words. A sum, adjoint, or norm limit in $\mathcal{A}$ acquires an intervention interpretation only if the application separately supplies one. In particular, the adjoint of an erasure shift reverses its represented record and can have a creation block even though

the actual erasure has none. One-sided exclusion of creation is stable under the actual products used in Proposition 7.1; closure under adjoints is a different requirement.

Historical descent is also a separate diagonal predicate. Fix the earlier anchor history h_- . In a stipulated model where $D_\sigma(h_-, h)$ has a definite truth value for every $h \in H$, define $P_\sigma^{\text{hist}}\delta_h = \mathbf{1}_{D_\sigma(h_-, h)}\delta_h$. The constructed counterhistories can supply such complete model statuses. When the empirical historical status remains unresolved, the associated projection has not yet been established. Assigning zero would silently turn missing warrant into a negative historical finding. Restricting the history carrier would instead require a fresh check that the chosen operations remain well typed on that restriction.

The continuously retained and newly learned tables can both lie in the range of P_Q while only the first lies in the selected continuous-descent range. Preserving the old anchor does not equate these projections. Nor does a successful current test compute the historical predicate from P_Q . This applies the source formalism's distinction between historical anchors, current algebraic quantities, and evolving admissible operations [6, pp. 46–48, 55–57].

Changing task meanings or carriers requires a further comparison. A common predicate P_S cannot be transported merely by keeping its name. Source and target task interpretations, organization correspondences, and partial domains must be related explicitly. The taxonomy already permits such capacity transports, and the metamodel shows why a change of descriptive regime can fail to descend through a coarse record [7, Section 7.5][5, p. 79]. The present proofs concern a fixed declared comparison. Their useful conclusion is a conditional attribution rule with identifiable failure points, leaving policy design and a general theory of reactivation to separate investigations.

8 Regional Response Fields

A response field supplies a second realization of the attribution problem. Its purpose is to distinguish retained relational organization from present manifestation through a derived nonlinear response law. This section constructs a two-region carrier, keeps its actual boundary inputs, proves boundedness and convergence, and derives an exact finite-duration sign test. It then examines the information lost when access, input orientation, or historical provenance is omitted. The construction is a proposed illustrative model. The field-realization and regional-compatibility requirements are inherited [6, pp. 27–28, 33–35]; the particular cubic law is selected here and is not an empirical law of linguistic memory.

8.1 Interpreted Regional Carrier

Take a directed graph G with an input region v_x , an output region v_y , and one interface $e : v_x \rightarrow v_y$. The regions name analytically selected parts of a task arrangement. They need not be brain regions or individual persons. Let $x, y \in \mathbb{R}$ be signed response coordinates in specified local comparisons. A fixed coefficient $\kappa \in \mathbb{R}$ represents the orientation and strength of the selected interface effect. Its sign and magnitude have meaning only within this realization. In particular, κ is not an amount of language competence.

Let $\chi \in \{0, 1\}$ represent access to the selected input channel, and let $u(t)$ be the actual externally supplied drive. During the special probe protocol, the task labels are $Q = \{-1, 1\}$, the drive is the constant $u(t) = q$, and a fixed duration $\tau > 0$ is used. Each trial begins from $x(0) = y(0) = 0$. The response alphabet is $Y = \{-1, 0, 1\}$, with target $\sigma(q) = q$. A declared interpretation connects these two task contexts and responses to a selected linguistic distinction. Without that interpretation the construction describes two signed responses, not a linguistic capacity.

Define the local restoring function $f(s) = s + s^3$. It is odd and strictly increasing. The state carrier for a fixed probe sector is $\mathbb{R}^2 \times \mathbb{R} \times \{0, 1\}$, with coordinates (x, y, κ, χ) . The last two coordinates remain fixed within a trial. The selected dynamical law is Equation 11.

$$\dot{x} = \chi u(t) - f(x), \quad \dot{y} = \kappa x - f(y), \quad f(s) = s + s^3. \quad (11)$$

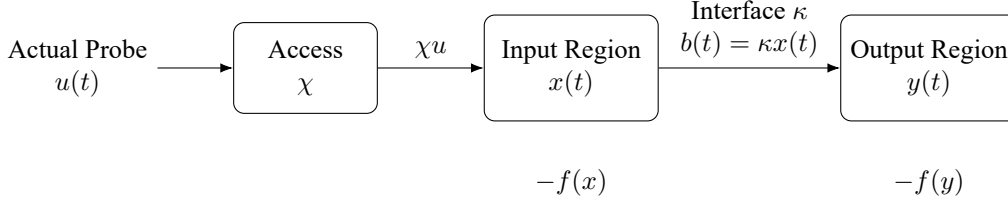


Figure 2: Regional Response Interface. The output region requires its incoming boundary trace b . The restoring terms and coupling are stipulated dynamical components; the drawing supplies no neural or ontological identification.

Equation 11 has three independently interpreted components: delivered input χu , local relaxation f , and the interface term κx . Changing the gate and changing the interface coefficient are different interventions in this model. The cubic term makes response magnitude nonlinear while preserving a tractable sign comparison. No criticality, bistability, or scalar scale of retained ability is assumed.

Figure 2 identifies the regions and boundary quantities that Equation 11 retains. The actual input is part of the dynamical specification; the label of an intended probe alone does not certify its delivery.

8.2 Boundary-Traced Restrictions

A pair of differential equations becomes a field realization only after regional data and their compatibility have been supplied. Fix $I = [0, \tau]$. The full trace datum consists of $x, y \in C^1(I)$, $u, b \in C(I)$, $\kappa \in \mathbb{R}$, and $\chi \in \{0, 1\}$, satisfying Equation 12.

$$\dot{x} = \chi u - f(x), \quad b = \kappa x, \quad \dot{y} = b - f(y). \quad (12)$$

This defines a constrained carrier of full field histories on the interval. The input patch carries (x, χ, u) and its first equation; the interface patch carries (x, κ, b) and its second equation; the output patch carries (b, y) and its third equation. Their overlaps retain the common x or b trace. Regional restrictions forget unretained coordinates, while keeping the boundary trace needed by the retained local equation. The carrier can equally be generated from initial data and input through the solution operators proved to exist below.

The compatibility requirement is concrete. If an input patch and interface patch assign the same x , and the interface and output patches assign the same b , their coordinates assemble into exactly one full trace datum. Every equation in Equation 12 holds because it is already imposed on its patch. Conversely, restricting a full datum gives such a compatible family. Forgetting coordinates in two stages agrees with forgetting them directly. These facts establish restriction, overlap agreement, and unique gluing for this specified patch carrier. They do not establish a general gluing theorem for empirical linguistic descriptions.

Let $\mathcal{V}(R)$ denote one of these regional trace carriers and $\mathcal{D}(R)$ its declared comparison-record carrier. Define $\Xi_R : \mathcal{V}(R) \rightarrow \mathcal{D}(R)$ by recording the selected signed responses, actual input or interface trace, and the region's task interpretation. For the output record, the selected endpoint sign is included. The record restriction r_{RS} retains the same interpreted quantities as the field restriction ρ_{RS} . Equation 13 states the realization condition.

$$\Xi_S \circ \rho_{RS} = r_{RS} \circ \Xi_R \quad (S \subseteq R). \quad (13)$$

Equation 13 holds by the specified coordinate and record restrictions, including their boundary traces. Restricting a full solution to the output patch yields precisely the solution of $\dot{y} = b - f(y)$ with its actual incoming b . Replacing b by zero would define a different dynamical problem. This is the local consequence of the inherited field-realization requirement, which distinguishes the represented datum, its dynamics, and response extraction [6, p. 33].

The construction deliberately preserves more than a final sign. Two output signs can agree while their boundary histories differ. If an application retains only that sign, it obtains a coarser observation of this field and must reassess what can be inferred. Declaring Ξ_R also leaves the linguistic interpretation exposed: it must explain why a response sign represents the selected contrast and why the same task comparison applies across the trials.

8.3 Global Response Dynamics

For a constant probe $u = q$ and fixed κ, χ , the local law admits a unique equilibrium. Since f is continuous, strictly increasing, and onto $\mathbb{R}$, its inverse exists. Equation 14 defines the equilibrium.

$$x_* = f^{-1}(\chi q), \quad y_* = f^{-1}(\kappa x_*). \quad (14)$$

The estimates in Proposition 8.1 establish more than a local linear stability calculation. They apply to every finite initial pair in the stated constant-input sector.

Proposition 8.1 (Global Response Estimate). *For fixed real κ , fixed $\chi \in \{0, 1\}$, constant $q \in \{-1, 1\}$, and arbitrary real initial data, Equation 11 has a unique solution for every $t \geq 0$. It is bounded and converges to Equation 14. Writing $e_x(t) = x(t) - x_*$ and $e_y(t) = y(t) - y_*$, the bounds are Equation 15.*

$$\begin{aligned} |e_x(t)| &\leq e^{-t}|e_x(0)|, \\ |e_y(t)| &\leq e^{-t}(|e_y(0)| + |\kappa|t|e_x(0)|). \end{aligned} \quad (15)$$

Proof. The polynomial vector field is locally Lipschitz, so local existence and uniqueness hold. For real r, s , factor $f(r) - f(s) = (r - s)(1 + r^2 + rs + s^2)$. The second factor is at least one because $r^2 + rs + s^2 = (r + s/2)^2 + 3s^2/4 \geq 0$. Consequently, along a local solution, $\dot{e}_x = -a_x(t)e_x$ with $a_x(t) \geq 1$. Integration yields the first estimate in Equation 15.

Likewise $\dot{e}_y = \kappa e_x - a_y(t)e_y$ with $a_y(t) \geq 1$. Variation of constants and the first estimate give Equation 16.

$$\begin{aligned} |e_y(t)| &\leq e^{-t}|e_y(0)| + |\kappa| \int_0^t e^{-(t-s)}|e_x(s)| ds \\ &\leq e^{-t}|e_y(0)| + |\kappa|te^{-t}|e_x(0)|. \end{aligned} \quad (16)$$

Equation 16 proves the second bound on the maximal existence interval. Both coordinates remain bounded there: $|x| \leq |x_*| + |e_x(0)|$ and $|y| \leq |y_*| + |e_y(0)| + |\kappa||e_x(0)|/e$, using $te^{-t} \leq 1/e$. A locally Lipschitz ordinary differential equation cannot have a finite maximal endpoint while its trajectory stays in a bounded subset of this finite-dimensional carrier. The solution therefore extends globally. Finally, e^{-t} and te^{-t} tend to zero, establishing convergence and the asserted bounds. $\square$

Proposition 8.1 supplies the well-posed constant-probe trajectories used by the field realization. On a finite interval, a continuous input u is bounded; the same local existence argument and scalar inward-pointing bounds give bounded x , then bounded y , so the more general trace carrier also has a solution for each finite initial pair. The constant-input estimate is the sharper statement used below. Neither result claims that every linguistic arrangement converges, or that convergence is preservation.

8.4 Finite-Duration Sign Attribution

A finite experimental interval need not reach equilibrium. The next proposition gives an exact sign result at every positive duration under the specified zero initial state. It is stronger than inferring a finite outcome from the asymptotic sign in Equation 14.

Proposition 8.2 (Finite-Duration Response Sign). *Suppose $x(0) = y(0) = 0$, $u(t) = q \in \{-1, 1\}$, and $\chi = 1$. For every $t > 0$, $\text{sgn } x(t) = q$. If $\kappa \neq 0$, then $\text{sgn } y(t) = \text{sgn}(\kappa q)$; if $\kappa = 0$, then $y(t) = 0$. If $\chi = 0$ instead, the same initial state yields $x(t) = y(t) = 0$ for every $t \geq 0$ and every κ .*

Proof. Write the first equation as $\dot{x} + (1 + x^2)x = q$ for the open gate. Along its unique solution, the integrating-factor identity gives Equation 17.

$$\begin{aligned} x(t) &= q \int_0^t \exp\left(-\int_s^t (1 + x(v)^2) dv\right) ds, \\ y(t) &= \kappa \int_0^t \exp\left(-\int_s^t (1 + y(v)^2) dv\right) x(s) ds. \end{aligned} \tag{17}$$

Every exponential factor in Equation 17 is strictly positive. The first integral is positive for $t > 0$, so x has the constant sign q on that interval. The second integral has that same nonzero sign because its integrand has sign q for every $s \in (0, t)$. Multiplication by nonzero κ gives the output sign. For $\kappa = 0$, uniqueness gives the identically zero output. For the closed gate, the zero pair solves both equations with zero initial values; uniqueness makes it the whole solution. $\square$

Fixing $\tau > 0$, define the candidate organization realization by Equation 18.

$$R_\tau(\kappa, q) := \text{sgn } y_{\kappa, \chi=1, q}(\tau). \tag{18}$$

Equation 18 evaluates what the selected coupling contributes under the specified input and initial conditions. Proposition 8.2 proves that $R_\tau(\kappa, q) = \sigma(q)$ for both tasks exactly when $\kappa > 0$. A negative coefficient realizes the reversed sign relation, while zero realizes the zero response. This is an explicit relation between a distributed organization and a selected task profile. The comparison is categorical; it does not rank larger positive coefficients as more competent.

Current execution adds its gate requirement. When $\chi = 0$, the selected probing operation is unavailable in this model, even though its potential response organization remains represented by κ . A passive zero trace during this period occurs for positive, negative, and zero coefficients alike. With $\chi = 1$ and $u = 0$ because no probe is performed, the same zero trace represents ordinary non-use. The observed equality therefore cannot itself determine dormant retention.

An independently justified access intervention that changes χ while leaving κ , the local laws, the input interpretation, and the responder fixed allows the sign test to bear on the earlier organization. An intervention that installs a positive κ can produce the same later signs from a previously absent or oppositely oriented coupling. The mathematical result does not decide which intervention occurred. Its attribution role is conditional on that distinction, just as the table result depends on a warranted restriction of the operations.

The actual measured sign needs separate care. For arbitrarily small nonzero κ , the finite response can be arbitrarily close to zero. Proposition 8.2 uses exact real-valued observation and supplies no uniform finite noise margin. Approximate measurement therefore needs its own error model and cannot inherit a binary empirical verdict directly from the proposition. Figure 3 illustrates the exact model's separated response directions and common closed-gate trace.

8.5 Response Attribution Boundaries

Restricted observations can leave the interface unidentified even when the nonlinear law is known. If an inquiry observes only the output-region trace, its local equation determines the boundary forcing $b = \dot{y} + f(y)$ in an ideal differentiable record. Factoring that forcing as $b = \kappa x$ is a further problem. The regional restriction retains b precisely because discarding it would conceal that dependence.

An exact ambiguity is available when the actual input orientation is unrecorded. Starting from any full trajectory, define the transformed data in Equation 19.

$$\tilde{x} = -x, \quad \tilde{\kappa} = -\kappa, \quad \tilde{u} = -u, \quad \tilde{\chi} = \chi, \quad \tilde{y} = y. \tag{19}$$

Oddness of f gives $\dot{\tilde{x}} = \chi \tilde{u} - f(\tilde{x})$, and $\tilde{\kappa} \tilde{x} = \kappa x$ leaves the output equation unchanged. Thus Equation 19 produces exactly the same y trace with the opposite interface orientation. It is a comparison

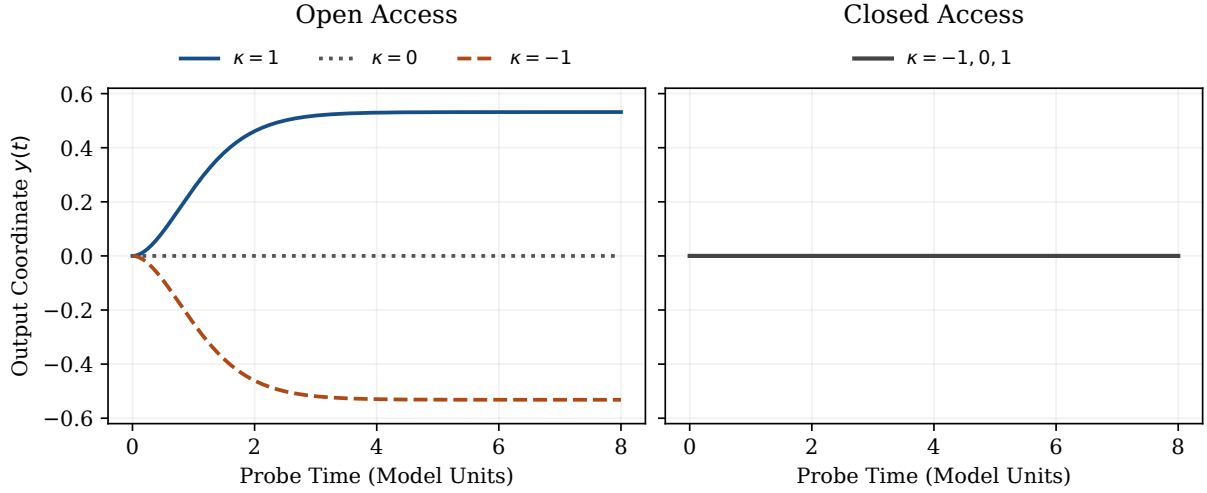


Figure 3: Constructed Probe Responses. Numerical trajectories illustrate Equation 11 from the zero initial pair for a positive probe. The open-gate responses distinguish interface orientations; the closed-gate traces coincide. The curves are illustrative and uncalibrated. The finite-duration sign and convergence results follow from the proofs rather than the plotted numerical samples.

across different delivered inputs; it does not contradict Proposition 8.2, which fixes the input and its interpretation. It exposes the premise that must be verified before that proposition supports attribution.

Even under the standardized probes, a sign-only record merges all positive coefficients. The selected task is realized by each, while their full amplitude trajectories can differ. The task predicate therefore identifies a response class, not a unique physical coupling. A historical record might require precisely the differences that the successful sign comparison leaves unexamined.

To represent historical passage, a finite series of recorded regional episodes can be carried by copies of G joined along an ordered interval, with interface and response labels on the resulting cells. The product of the graph and an interval is a possible two-complex; a more detailed continuous trace can remain a label or a separate realization over it. New episodes extend the record while changes in κ or access occur outside its retained earlier anchor. This is a restricted use of the inherited history-bearing architecture, not an identification of continuous field time with the whole temporality of language.

A history with a positive interface retained through a closed-gate interval and a history that loses the interface and later installs the same coefficient can have identical current parameters and identical subsequent probe traces. The second history preserves the earlier episode as an anchor but has a different intervening capacity history. Only an appropriate descendant witness decides the selected historical claim. Conversely, a retained interface can undergo changes of realization that a justified capacity correspondence allows. Numerical constancy is therefore sufficient in this special example, not a general criterion of historical capacity identity.

The continuous response carrier used here is separate from the countable record carrier used for the operators. A study may choose a countable family of recorded episodes and represent their admitted appending operations by Section 7. The full real-valued field family need not be identified with that record space. This separation preserves both constructions' assumptions. Together they show how present realization, intervention effects, input adequacy, and historical descent enter an attribution through distinct, inspectable commitments, without supplying a general reactivation policy.

9 Attribution Evidence

Dormant linguistic capacity attribution requires evidence about a selected present organization, its relation to an earlier formation, and the conditions of its unavailable execution. This section develops a positive comparative account of that warrant. It examines the specification of the claim, the contribution

of different evidential channels, the interpretation of interventions, and the circumstances that support revision or suspension of an attribution. The argument uses the preceding models to distinguish inferential requirements; their stipulations become questions to investigate when the account is applied. The objective is an assessable attribution, with explicit grounds and possible defeaters, rather than a general procedure for conducting participatory research.

9.1 Target Specification

Evidence becomes relevant to a capacity claim through a description of what is being attributed. That description should identify the selected operation, the bearer, the historical interval, and the support arrangement relative to which execution is being assessed. Each element excludes a different substitution. Specifying the operation prevents a finding about a narrow discrimination from becoming a claim about unrestricted communication. Specifying the bearer prevents joint performance from being reassigned to an isolated participant. Specifying the interval separates present organization from retention across an earlier interruption. Specifying the supports makes the execution claim intelligible.

This specification is an interpretive commitment with evidential consequences. If the proposed task is recognition of a selected spoken distinction, a record of accurate copying may establish a different ability. If the proposed bearer includes a continuing interpretation practice, its participants and tools require an account of their organization. Calling the relevant entity “the speaker” or “the community” supplies a convenient name, but the name alone does not decide which relations enter its capacity. A defensible description explains why the included relations contribute to the selected operation and how the inquiry distinguishes their contributions.

The target can be revised as inquiry proceeds. Such revision should retain the difference between correcting a mistaken description and acquiring new evidence for the original claim. Discovering that a participant preserves a useful discrimination can justify replacing an initially overbroad claim of retained fluency with a narrower attribution. The revised claim may be well supported even though the original claim remains unsupported. Presenting the change explicitly preserves the evidential gain without letting a moving target absorb every result.

Historical targets need comparable care. A present task may require a distinction or response format absent from the earlier practice. Successful performance can then involve historical inheritance and a new organization of its use. The inquiry should identify the correspondence between the earlier and current operations, including what has been added or changed. Exact task identity is one sufficient way to avoid this difficulty in a restricted model; an actual historical argument often needs a justified, more selective comparison.

9.2 Convergent Warrant

A positive attribution becomes more credible when evidence addresses several parts of its explanation without deriving them all from the same outcome. A record of prior achievement can support the existence of the earlier formation. Evidence of a present task-relevant organization can support its current contribution. A history of maintenance or transformation can support descent between them. Evidence about an unavailable enabling relation can explain the present failure of execution. Their conjunction supplies a more developed account than any component alone, because the claim concerns their relation.

Convergence here means explanatory connection rather than a count of favorable observations. Several observations can reproduce the same inferential weakness. A participant’s own recollection, a later interview based on that recollection, and an archive summary copied from the interview may all depend on one historical report. Three resulting documents supply no independent reason to regard the report as three separate witnesses. Conversely, one carefully documented episode can support more than one component if the record makes their distinct grounds inspectable. The relevant question concerns dependence among reasons, not the number of media carrying them.

Present organization also requires more than historical association. A feature that accompanies prior exposure may help locate a candidate carrier while leaving its selected contribution unsettled. Stronger

support would connect that feature to a differentiated response, a constrained learning effect, or some other consequence appropriate to the attribution. The consequence must be interpreted at its own level. Evidence that an inherited component improves later learning can warrant a claim about that component while leaving the complete first-order operation to be explained.

The resulting argument is comparative. A retention account should explain a pattern that plausible alternatives would have difficulty explaining under their own stated assumptions. Relevant alternatives include new formation during the intervention, a general learning advantage, reliance on an added respondent, or a mismatch between the tested operation and the historical claim. Their relevance depends on the case. The account need not defeat every imaginable story before any attribution is reasonable, but it should address alternatives supported by features of the actual history or investigation.

Positive warrant therefore has an explanatory structure. It connects a particular earlier formation to a particular present contribution and explains the observed unavailability without appealing only to that unavailability as evidence of a hidden capacity. The connection may remain incomplete. A limited attribution can nevertheless be informative when it identifies which component is supported and where the uncertainty lies. This is how partial evidence can advance the inquiry without being inflated into complete possession.

9.3 Intervention Comparisons

The interpretation of an enabling intervention is central because a successful result can be produced by several histories. An intervention described as restoring access should receive an independent account of its content: the cues it provides, the distinctions it presents, the relations it repairs, and the contributions made by other participants. This account is needed before success can support a claim that the selected organization was already retained. Characterizing a procedure as a reminder because the participant responds successfully would make the desired conclusion part of the procedure's description.

An independently characterized intervention can still have uncertain effects. Restoring a familiar medium might reinstate an earlier relation, teach a new way to use it, or do both. A repair of the interface through which a participant encounters a task can also alter the organization of the task. The investigator therefore needs a reason for the proposed distinction between organization and enabling condition at the chosen resolution. The same material change may play different roles in different descriptions, and those descriptions should be compared through their explanatory adequacy.

The partial-operation model offers one transparent sufficient case: an independently fixed intervention family conserves the selected organization, and appropriately discriminating probes reveal its profile. The inference is conditional on that conservation and on the adequacy of the probes. The weaker target-relative noncreation criterion permits implementation changes while excluding formation of the selected capacity. Its evidential burden concerns the intervention's formative possibilities across the relevant comparison range. In an application, these premises cannot be obtained merely from the successful responses that the inference is intended to explain. Evidence about what the intervention supplied, and about the participants or devices actually producing the response, has its own argumentative role.

Comparisons can strengthen the assessment by varying a suspected enabling relation while keeping the task contrast explicit. The purpose is to test the proposed dependence. If the attribution says that one missing access relation explains unavailability, evidence that restoring that relation leaves the predicted operation unavailable calls for an explanation. It may reveal an additional condition, a poorly specified task, or loss of the proposed organization. An additional condition should be supported by features of the case; continually inventing unobserved conditions after each failure would weaken the attribution's explanatory value.

Temporal order matters, although speed alone does not decide the issue. The content available before a response, the opportunities for new formation, and the contribution of intervening practice can distinguish rival explanations. A rapid response may still use information just supplied. A prolonged process may preserve a historical contribution while repairing several damaged interfaces. The evidential question concerns the operations performed during the interval, rather than a universal duration separating activation from learning.

Table 2: Attribution Evidence Profiles. Each row concerns a different inferential target; the grounds and possible revisions do not form a confidence scale.

Attribution Target	Positive Grounds	Scope-Revising Evidence
Task Organization Before Intervention	Evidence connects the pre-intervention carrier to the selected differentiated contribution.	The response depends on information or organization first supplied by the intervention.
Historical Retention	A warranted descendant relation connects the relevant organization across the interval.	Intervening loss and new formation explain the present profile equally or more adequately.
Unavailable Execution	A specified missing relation explains why a retained operation cannot currently be exercised.	The proposed operation is already executable and merely unused, or its retained organization is unsupported.
Residual Learning Contribution	A historical component explains a selected part of subsequent formation.	General learning differences, changed targets, or newly added supports account for the effect.
Distributed Possession	The included participants and supports form the attributed bearer through identifiable task relations.	Success is produced by an added respondent without establishing the original bearer's contribution.

Mixed outcomes are consequently substantive findings. An intervention may reveal a retained component, recruit a newly supplied support, and generate additional organization. An attribution that separates those contributions can explain more of the history than a forced choice between total retention and complete novelty. The remaining uncertainty should be assigned to the relevant components, including the possibility that the available evidence cannot yet separate them.

9.4 Historical Counterevidence

Historical retention requires evidence across an interval, in addition to evidence at its endpoints. The preceding countermodel distinguishes continuous retention from loss followed by new formation of an equivalent current response profile. A complete description of present responses within the selected task family therefore leaves this historical contrast open. The two histories differ in the relation between earlier and later organization, even where they support the same currently executable operations.

Evidence of an intervening replacement, a break in the selected support arrangement, or instruction that first established a relevant distinction can accordingly challenge continuous retention. Such evidence does not have to undermine present competence. It may support an account of successful reconstruction or new formation. The attribution should change at the level challenged by the evidence: loss of continuity does not entail absence of current organization, and failure of one current task does not establish loss throughout the entire historical formation.

Counterevidence also concerns the proposed size of the retained object. Suppose an attribution includes several differentiated operations, but evidence supports only one of them. The supported component can remain attributable while the stronger claim is withdrawn. Repeated failure of the remaining operations becomes especially relevant when their enabling conditions and test interpretation are independently established. This is a principled narrowing of the claim, rather than a judgment that retention must be wholly present or wholly absent.

Table 2 summarizes the different objects of positive warrant and revision. Its entries are analytical possibilities, not a scoring instrument or a list of necessary and sufficient empirical tests. A consideration in the final column can challenge the stated claim while leaving another claim intact.

The table makes an asymmetry visible. Evidence against a strong retention account can improve a weaker or differently directed account by locating the actual contribution. This improvement is substantive only when the revised claim specifies its object and explanatory grounds. Replacing an unsupported complete capacity with an unspecified “something preserved” would leave the attribution too indetermi-

nate to assess.

9.5 Changed Bearers

Linguistic evidence is produced through an arrangement that can change the bearer of the investigated operation. A participant may recognize a distinction only while an interlocutor manages turn-taking, interprets ambiguous responses, or supplies a usable record. Those contributions can belong to an organized joint capacity. Whether they establish a capacity of the participant alone depends on a separate analysis of the operation and its realization. The choice should follow that analysis rather than a prior preference for either individual or distributed possession.

Bearer enlargement can generate two misleading inferences. The first attributes the entire joint achievement to one participant because that participant occupies the response position. The second attributes no retained contribution to the participant because the achievement depends on others. Both inferences ignore the differentiated organization of the task. An adequate account identifies what each relation enables and what the participant contributes. Dependence on support is compatible with a significant retained contribution; it is also compatible with a newly assembled capacity whose historical continuity remains limited.

The observation format can change the task as well as the bearer. Selecting an offered response, producing an expression without that offer, interpreting another person's use, and sustaining an exchange place different demands on the formation. A change between formats may help locate retained organization, but a conclusion should identify the operation actually supported. Otherwise, success obtained after changing the task can appear to restore the original capacity merely because the same vocabulary is used to describe both.

The relevant support boundary may itself have a history. A familiar record can continue to function within a retained reading practice while becoming unusable when its index, medium, or interlocutory context changes. Evidence about possession must then connect the material and interpretive relations. Counting surviving items alone omits their mode of contribution. Equally, assuming that every restoration of access constitutes new learning would erase the historical organization that can make a restored interface usable.

These distinctions support a relational form of evidential modesty. The inquiry can attribute a present contribution where it is supported while leaving the complete organization or historical continuity unsettled. It can also describe a newly available joint capacity without treating its acquisition as evidence that every component previously possessed it. This preserves the practical significance of collaboration and repair while keeping their implications for retention explicit.

9.6 Differentiated Confidence

An attribution can have uneven support across its components. Evidence for earlier acquisition may be strong, evidence for a present contribution substantial, and evidence of continuous retention weak. A single confidence score would conceal which inference needs further investigation unless a separately justified model connected those components. The present account therefore retains reasons and qualifications at the level of the specific claim. It proposes no numerical measure of dormancy.

The components are also not naturally ordered on one scale. Present task organization and a historical descendant relation answer different questions; either can receive stronger support while the other remains unresolved. Evidence of present operational unavailability adds a further claim. The resulting assessment can be expressed in connected prose: a selected historical contribution is supported, the complete task organization remains uncertain, and continuous retention across a particular interval has not been established. Such an assessment is informative because its next evidential obligations are identifiable.

Suspension should have similarly definite content. There is a difference between insufficient evidence for the current organization, uncertainty about its bearer, and underdetermination between continuous retention and later reconstruction. These forms of uncertainty suggest different follow-up inquiries.

The first concerns present contribution; the second concerns the organization of performance; the third concerns intervening history. Treating each as generic uncertainty would make the account less useful despite its appearance of caution.

A positive provisional judgment becomes reasonable when the specified retention account explains the relevant pattern, the principal alternatives have been assessed, and its remaining qualifications are compatible with the claim being made. This is a proposed standard of disciplined attribution, not a theorem guaranteeing true judgments. It remains open to revision through better historical information, changed task descriptions, or evidence about previously unnoticed contributions. The standard's value lies in making the grounds and revision conditions available for criticism.

9.7 Attribution Decisions

The practical result of the evidential argument is a family of distinguishable judgments. An inquiry may support a selected dormant operation, attribute a retained fragment with a learning contribution, identify a newly assembled capacity, establish ordinary non-use, or suspend the proposed attribution. These outcomes should be stated with the task and bearer attached. They do not determine the survival of a named language, the legitimacy of a revival, or an obligation to continue an intervention.

The empirical interfaces in Section 2 motivate the need for this differentiation, while the formal constructions explain why selected observations can leave different attributions open. Neither role supplies the missing evidence for a particular case. The developed historical example in the next section therefore specifies its assumptions and varies them to examine the resulting judgments. Its purpose is to show how the proposed distinctions guide reasoning when retained contributions and new formation interact.

The account ends at that attribution boundary. Detailed theories of how collaborative inquiry produces evidence, how authority is distributed within an investigation, and how research participation changes a practice require their own sustained treatment. Here their local relevance is that the production of a response belongs to the history being assessed. Recording that fact allows an attribution to acknowledge the intervention's contribution while preserving whatever historical organization the evidence independently supports.

10 Mixed Capacity Histories

An attribution of dormant linguistic capacity can now be examined through a developed historical case. This section returns to the fictional bilingual caption-reading circle introduced at the beginning. It specifies the task, compares several participants and support arrangements, and changes the attribution as the stipulated evidence changes. The purpose is to show what the philosophical and formal distinctions enable an inquiry to conclude, including positive conclusions narrower than intact retention. Every person, observation and intervention in this section is invented for analysis. None reports a community study or a likely intervention outcome.

10.1 The Interrupted Reading Practice

Before its interruption, the circle worked with recordings and bilingual captions. Its selected practice distinguished an account explicitly given by a speaker from an editor's inference based on that account. The distinction affected whether a caption directly attributed a judgment to the speaker or marked it as an interpretation. Participants could disagree about the appropriate judgment while still understanding what the two forms committed an editor to. The retained target is this contrast and its correction, rather than agreement on every disputed reading.

The task family includes identifying the source of a claim, selecting a suitable qualifier in the caption, explaining why an ambiguous recording does not settle the attribution, and repairing a caption that overstates what was said. New recordings can extend that family only through an explicitly defended comparison. Performance on a small set of familiar captions is correspondingly narrower evidence. The

inquiry does not equate remembering two expressions with retaining every interpretive operation of the former circle.

The circle then stops meeting. At first its members, records and working interface remain available. That initial interval is ordinary non-use relative to the selected collective operation: no meeting occurs, but the stipulated supports remain in place. Later the interface becomes inaccessible, and the current arrangement lacks another means of reaching the relevant recordings. Its recording-based task is now operationally unavailable. That change concerns a declared condition. Whether the task-relevant organization remains is a further question, investigated below.

The specificity of this target matters. The former members may still speak both languages, read ordinary text and understand the difference between testimony and inference in other settings. Calling those capacities dormant because the recording interface failed would overstate the result. The disputed attribution concerns a selected operation carried by a particular arrangement. A broader attribution would require broader evidence about the participants' linguistic organization.

The inherited archive includes recordings, earlier captions, revisions and comments. It establishes a history of a practice and supplies material for interpreting that history. It does not automatically identify the present bearer of the practice. The captions might remain usable through an intact interpretive relation, or acquire a new use through later instruction. The case therefore retains the archive as one part of the configuration while separately tracking present participation and support.

10.2 Restricted Access Restoration

Suppose the interface is restored through a technical procedure that preserves the recorded content and supplies no explanatory answer key. That description supports a limited claim about the intervention: the procedure does not itself introduce new recordings or explicit instructional material. It is insufficient to establish that the whole subsequent encounter creates no task-relevant organization. Hearing an example, attempting a classification and observing another person's response can all participate in learning. The technical restoration and the interpretive encounter are distinct steps in the history.

Call one former participant Elena. Before the restoration, Elena has already used the same source-attribution contrast in a contemporary written exchange unrelated to the circle's test. She identifies the difference between a quoted judgment and an inference, corrects an over-attribution, and explains an unresolved case. These stipulated observations support a present capacity for that written task. Their relation to the recording-based operation needs a comparison: understanding a written contrast does not automatically establish sensitivity to every feature of a recording.

For the historical comparison, add independently dated written exchanges at several intermediate points during the interruption. They contain Elena's own source queries and corrections, including reasons for rejecting an over-attribution. The exchanges document repeated use of the selected contrast through a medium that remained accessible. They strengthen a descendant account for that contribution, while leaving intervals between observations and the cross-medium comparison open. They do not make the recording-based operation executable during the interface failure.

After access is restored, Elena applies the selected qualifiers to a small set of previously unheard recordings, states why one case remains uncertain, and repairs a misleading caption. She does so before receiving feedback on those examples. This supports present recording-based performance. The current written observations and limited restoration support a defeasible attribution of relevant organization before that encounter. The intermediate exchanges add separate grounds for a retention account across the interval. Each contributes something different: current use supplies task-related evidence independent of the test, intermediate use supports a selected descendant relation, the earlier participation record identifies the prior formation, and the intervention account helps limit what could have been supplied anew. Unobserved loss followed by new formation remains a possible historical alternative; its comparative plausibility needs assessment.

The result remains scoped. Some adaptation can occur during the restored encounter, and the sampled recordings may leave important contrasts untested. The warranted finding is strongest for the common organization supported across the earlier and current tasks. It is weaker for unfamiliar acoustic features

or an entire language. A responsible report would retain that difference rather than describing every successful response as the release of an intact former competence.

The formal backward-attribution result offers a sufficient model of a stronger inference, when its premises have been established. An empirical application cannot borrow that certainty merely because a repair is called technical or a test is called noninstructional. A faithful endpoint certification, or appropriate task-wise restrictions across a sequence, requires its own support. In Elena's history, the positive interpretation is warranted comparatively by converging observations; it is not presented as a direct measurement of an invariant capacity projection.

10.3 Residual Organization

Call a second former participant Marek. Marek recognizes the sound and written form of the two qualifiers, recalls who commonly used one of them, and identifies familiar caption layouts. When asked to classify changed examples, however, he initially treats the two qualifiers as interchangeable. The stipulated responses support some retained organization: recognition, historical association and familiarity with the medium. They fail to establish the selected application contrast at that point.

Suppose a facilitator then compares two examples and explains how their source relations differ. Marek begins applying the distinction to additional cases. His older familiarity may contribute to that development, perhaps by making the relevant forms easier to identify or by locating the new explanation within a remembered practice. Those are different proposed contributions. The case needs further evidence to choose among them. What the observed change directly supports is an improved application profile after an encounter that supplied instructional content.

The stronger attribution that the whole selected operation had merely been dormant is consequently unestablished. This is compatible with acknowledging a valuable historical contribution. A retained fragment can help form a more extensive competence without being identical to that competence. The positive result should name the fragment and its supported role, rather than forcing it into a binary verdict of total preservation or total loss.

Several correct answers during this encounter do not resolve the issue automatically. The explanation attached to one answer might create a distinction used in the next. The learner's organization can change between tests. Even a sequence covering all selected tasks therefore needs an account of those transitions before its results are assigned to one earlier competence profile. The partial-operation analysis makes this dependency precise. In the case, the relevant history includes the order and content of explanations, not only a final list of correct responses.

Calling Marek's development wholly new learning would also require care. It could overlook the actual contribution of retained recognition or practice-specific expectations. A mixed account can preserve both the newly formed application relation and its historical enabling material. Such an account is more informative because it says which parts require further support and which can already contribute. It does not treat mixed formation as an inconvenient exception to a simpler taxonomy.

10.4 Distributed Task Performance

Call a third participant Nila. In the restored encounter, Elena supplies the interpretation of the recording and Nila selects the corresponding caption from a display. Their combined response is correct. Suppose the target for Nila was only to select the correct written qualifier given an explicit interpretation. The observation supports that restricted contribution. If the target was independently interpreting the recording, Elena's contribution prevents the same response from establishing it.

The pair can nevertheless possess a useful coordinated capacity. Elena may depend on Nila to locate the appropriate record or identify an ambiguity in the display. The joint organization is not necessarily an artificial testing artifact. Its status depends on whether these contributions belong to the declared practice and whether they remain available across the relevant tasks. A claim about this pair should describe their actual coordination rather than assigning the whole achievement to either person.

Historical attribution then needs a further comparison. If the former circle included the same organized division of interpretive and representational work, some corresponding joint capacity may have continued through the interruption. If Elena and Nila establish their coordination only in the new encounter, its present success can instead be an achievement of formation. Shared records and membership in the same institution do not settle which description applies.

The archive changes role across these cases. For a participant who retains the relevant indexing and interpretation practices, its restoration can make an already organized relation usable. For a new learner, the archive can supply material for building such a relation. For an investigator who cannot interpret it, the archive may provide only evidence that a former practice occurred. These are properties of the archive's relations to the target and bearer, not three intrinsic kinds of stored file.

This comparison also explains why an ever-expanding bearer boundary would weaken the attribution. Adding enough competent helpers can make a task executable while changing the organization being described. The resulting collective capacity can be real and important. It does not retroactively establish that Nila alone, or the earlier interrupted circle, possessed that capacity. Conversely, a requirement that Nila succeed without any record, partner or interpretation aid would introduce a different target whose relevance must be defended.

10.5 Historical Equivalence

A fourth comparison concerns the interval itself. Suppose two present arrangements now support the same complete selected response profile. One has continuously retained a relevant organization, with changing supports and no admitted break in the declared capacity correspondence. The other lost that organization and subsequently formed an equivalent one through new instruction. In this constructed comparison, the histories are stipulated to differ; a real inquiry would have to establish the difference through fallible historical evidence.

Both arrangements can preserve the same earlier archive and perform identically in current access-restoring tests. Their future task profiles can also agree within the model. Those agreements support present functional comparison, while leaving the continuity claim unresolved. A surviving anchor identifies an earlier shared history. The additional descendant relation concerns what happened to the relevant organization between that history and the present.

This conclusion does not make continuous retention the superior achievement. Reconstituting a useful practice can be worthwhile, and new instruction can improve a formerly exclusionary one. The distinction matters because it identifies different objects and different support needs. A programme claiming uninterrupted retention should supply the relevant historical warrant. A programme establishing a new organized capacity from surviving resources can accurately describe that achievement without borrowing a stronger continuity claim.

Actual evidence will often leave both histories partly open. A recollection of never having forgotten may be sincere without describing every operative distinction across the interval. A record of later lessons establishes instruction without proving that every earlier contribution had disappeared. Neither source deserves automatic priority. The inquiry should ask which historical alternatives the record excludes, which it favors, and which remain indistinguishable at the available resolution.

10.6 Changed Comparison Targets

The restored circle can also change what its qualifiers mean. Suppose its members decide that an attributed judgment now requires an explicit statement of the speaker's uncertainty. Earlier usage distinguished report from inference without requiring that additional information in every caption. The new target can be justified while exceeding the former one. An earlier participant's failure on the added requirement does not by itself show loss of the old distinction.

Conversely, success on the old contrast cannot establish the new one. The inquiry should identify the retained comparison domain and the added operations, including any changed interpretive or institutional consequences. The supplied taxonomy [7, Sections 7–8] permits a capacity correspondence

Stipulated History	Supported Finding	Remaining Boundary
Elena's current and intermediate contrast use, followed by restored access	Present performance, pre-restoration organization and a defeasible continuity account	The sampled profile, historical gaps and cross-medium comparison limit the finding
Marek's recognition followed by instruction	Retained recognition and later formation of a stronger application profile	The contribution of the fragment does not certify prior possession of the whole profile
Nila's coordinated response with Elena	A specified contribution and a possible joint task capacity	The joint achievement does not establish every participant's individual competence
Equivalent present profiles after differing histories	Current functional agreement	Continuous retention requires evidence beyond present behavior and the shared archive
Revised uncertainty requirement	A retained core with an additional or disputed task	Earlier and revised competence claims require a declared correspondence

Table 3: Selected Capacity Attribution Findings. Each fictional finding retains the relevant bearer, task and historical scope. The examples supply analytical comparisons rather than observed population effects.

across changed realizations. It still requires the correspondence to be specified. Reusing the same word or display position does not do that work.

A more difficult case occurs when participants disagree about whether the uncertainty condition was already implicit in the earlier practice. That dispute can concern historical evidence, the most appropriate interpretation of the practice, or a proposal about its future. An attribution should preserve the distinction among these roles. It can report retained performance on an agreed core while leaving the disputed extension open. It need not settle every disagreement before stating a bounded positive finding.

10.7 The Resulting Attribution Record

Table 3 collects the case's different findings. Its rows describe the stipulated histories at their actual evidential resolution. They are neither participant rankings nor an empirical instrument.

The case supports a constructive use of the term dormant. A selected organization can be attributed as presently retained, historically related and operationally unavailable when the different parts of that claim have appropriate support. The term is less informative when it groups every survival trace, future learning possibility and unavailable task under one unqualified status. Precision permits several positive findings to coexist without promoting each into intact capacity retention.

The inquiry has also identified what could change its conclusions. Evidence that the restoration supplied a new contrast would weaken the backward attribution; evidence of a different bearer would change whose capacity was established; evidence of loss and reconstruction would change the continuity judgment; and a revised target would alter the comparison. These are concrete revision conditions. They make the proposed account answerable to history and practice rather than protecting a dormant capacity by definition whenever a result is inconvenient.

11 Attribution Objections

The proposed account depends on judgments about present organization, historical descent, intervention effects and bearer boundaries. Those judgments invite objections that the formal models alone cannot resolve. This section examines the strongest local challenges: representational circularity, behavioral equivalence, expansive bearers, constitutive transformation and evidential uncertainty. It states what the account can answer and where a stronger attribution remains unsupported. A final discussion separates

capacity classification from the authority to act on it.

11.1 Representational Circularity

The first objection concerns the status of the proposed carrier. If a model contains a variable called retained organization and its enabling maps are defined to conserve that variable, the resulting retention theorem can seem to restate an assumption. A capacity projection in an operator algebra can likewise encode the conclusion through its membership rule. Merely replacing the original vocabulary with maps and projections would add no warrant for the attribution.

This objection identifies a genuine limit. The paper's mathematical results do not establish that a specified human or practice contains the represented organization. Their task is to expose the consequences of a supplied interpretation and identify which assumptions a proposed inference uses. The finite histories show that an archive and eventual trained success leave different present organizations possible. The operator conditions distinguish a history that preserves the selected possession predicate from one that creates it. The regional law identifies a response dependence that current silence does not disclose. These are conditional results, whose practical use depends on evidence for their interpretation.

The positive answer therefore has two parts. First, a proposed carrier should identify relations that can be described and investigated independently of the desired retention verdict: the participant's contribution, an established interpretation practice, a particular interface, or the content supplied during an intervention. Second, the model should expose an alternative whose evidence would change the verdict. Discovering that the facilitator supplied the entire source distinction, for example, undermines a backward attribution based on the intervention's supposed noncreation of that distinction.

These obligations also constrain the framework's contribution. The taxonomy already defines represented capacity and operational availability [7, Sections 7–8]. The metamodel already supplies task-relative continuation comparisons [5, Section 6]. The present account earns its role only insofar as it connects those inherited constructions to a substantive attribution problem and makes a weaker, alternative, or unresolved judgment possible. Consistent notation and a valid proof do not independently establish philosophical novelty.

11.2 Behavioral Equivalence

A second objection asks why retention and reconstruction should be distinguished when the present formation responds identically under every relevant future test. If the inquiry concerns a current capacity, insisting on an additional historical difference may appear to introduce an unnecessary hidden fact.

The force of the objection depends on the attribution being made. For a specified current-use question, an adequate response profile can make the earlier route irrelevant to the decision. Two participants may be equally able to interpret the selected captions despite different learning histories. The account does not require every practical decision to distinguish them. It requires a historical claim about retained competence to carry the historical information that claim asserts.

Consider the two routes in Figure 1. Both can support current capacity and both can support a successful access-restoring intervention. Only one has been stipulated to retain the selected organization continuously from the earlier formation. Describing both as presently competent preserves their common achievement. Describing both as uninterrupted retention adds a claim not established by their common prospective behavior.

The distinction need not imply a mysterious extra substance. It concerns events and relations in the selected history: loss, further instruction, transfer of a role, or continuation of an established discrimination. An inquiry can have incomplete evidence about those events while retaining their relevance to historical explanation. The metamodel expressly allows behaviorally adequate descriptions to omit identity and occurrence information [5, Section 6.8]. Which description is adequate follows from the question it must answer.

There is nevertheless a stopping point. If the selected evidence cannot distinguish the routes, the appropriate current finding can be capacity with unresolved historical attribution. The framework does

not authorize choosing retention because it is more attractive, or reconstruction because the intervening history was unobserved. It permits a common present judgment alongside an unsettled historical one.

11.3 Bearer Expansion

A relational account faces a further objection: sufficiently enlarging the bearer may make almost any future performance attributable to it. An individual, every potential teacher, available archives and an indefinite institution of future learning could be assembled into a formation that eventually produces the desired result. If this is capacity possession, the distinction from mere reconstructibility appears to collapse.

The account avoids that inference by requiring a presently organized contribution at the selected boundary. A possible future teacher is not already a functioning teaching relation merely because the person exists. An available text is not already an interpretation practice merely because its marks can in principle be read. To enlarge the bearer responsibly is to specify an existing coordination or a proposed formation and state which of those is being attributed. The distinction between them cannot be removed by placing their components in a common list.

This requirement does not privilege habitual arrangements simply because they are old. A newly organized support relation can be an actual capacity-bearing formation. Its achievement should be acknowledged as such. The separate question is whether it establishes retention by a previously specified bearer. A new pair can possess a joint capacity without showing that either member previously possessed the full operation alone.

The opposite strategy, restricting every bearer to an unsupported individual, has its own cost. It can redescribe the removal of an established interpretation aid as failure to possess a capacity whose ordinary task conditions included that aid. The proposed account permits individual and distributed descriptions when their contributions and supports are specified. It does not settle a universal boundary of mind, language or social agency. A local attribution can be defensible before those broader metaphysical questions are resolved.

11.4 Constitutive Transformation

An objection from transformation challenges the assumption that activation can leave its object intact. Returning to an old practice can change attention, expectations, coordination and the meaning of its distinctions. Even a technically faithful interface repair can place a participant in a new relation to the recorded material. If capacity is historically relational, exact organizational conservation may be too restrictive to describe these encounters.

The objection limits the exact model without defeating the attribution problem. Exact conservation is one sufficient case, and the weaker noncreation condition concerns the selected possession claim rather than every organizational feature. More generally, the taxonomy's capacity correspondence permits changed realizations under a declared comparison [7, Section 7]. The question is which contributions continue through the transformation and which are newly formed.

For example, a participant may retain the distinction between a direct report and an inference while learning how the new interface marks overlapping voices. The latter learning changes the task's implementation and may extend the participant's interpretive repertoire. It need not erase the former distinction. A justified account can identify continuity at one level and formation at another. The newly supported whole task may still exceed what the earlier capacity alone could do.

This answer does not license arbitrary continuity. If every relevant contribution to the claimed profile must be supplied again, endpoint resemblance alone does not establish its retention. Likewise, if the criterion changes from source attribution to a different interpretive task, success under the new criterion cannot silently become evidence for the old one. A comparison must state the retained task content, the transformation and its limits. Some cases will remain mixed or indeterminate after that work.

11.5 Intervention-Induced Uncertainty

The account also faces an epistemic challenge. If tests can teach, if interventions can reorganize their objects, and if the historical route can be incompletely observed, perhaps no robust attribution is possible. The conditional models might then clarify a distinction that actual inquiry can never establish.

The premises do not entail that universal skeptical conclusion. They identify sources of uncertainty whose importance varies with the attribution. An independently understood restoration of a recording interface, a well-documented prior task profile and a carefully recorded intervention can support a narrower judgment than an unrecorded programme of teaching. A claim about one retained contrast can also require less than a claim about an entire former repertoire. Differences in evidential resolution matter even when no observation is metaphysically transparent.

Equally, a promising model does not establish that the necessary independence is available in a particular study. The noncreation condition can remain unsupported when the intervention gives a partially prepared participant enough information to form the remainder. An apparent access effect can also depend on a changed responder or an altered task. In such circumstances, the account supports a description of what was observed and which explanations remain live. It need not supply a binary possession verdict.

The regional model has an analogous limitation. Exact response differences can exist in its stipulated dynamics while an actual observation cannot distinguish them reliably. Its equations identify what data the chosen inference would need, including the actual boundary input. They supply neither a noise model nor a validated measurement procedure for language. An unsuccessful empirical discrimination would therefore require examination of the measurement bridge before it could be treated as an absence of the modeled organization.

The resulting position is a defeasible attribution practice with explicit revision points. A new record can alter a historical assessment; a new example can narrow a claimed task range; an intervention audit can reveal instruction hidden inside an enabling description. These changes are evidence-bearing improvements to the account, rather than failures of a definition that should have made every conclusion permanent.

11.6 Attribution Consequences

Finally, a classification of dormant linguistic capacity can acquire practical significance beyond its evidential basis. It can be used to expect participation, assign responsibility for teaching, make a claim about cultural identity, or support a preservation decision. The objection is that a seemingly descriptive attribution may conceal those demands, especially when the bearer does not endorse them.

The appropriate answer is to keep the inferential steps explicit. Possessing a selected capacity does not itself establish an obligation to exercise it. Retaining an organization does not assign another person a right to test it. A possible role in future teaching does not make that role an already accepted commitment. Each stronger conclusion requires reasons about the particular relationship, undertakings, affected interests and alternatives.

A negative or uncertain attribution also has bounded force. Failure to establish one selected operation does not determine membership in a community, settle the value of someone's linguistic history, or prove the disappearance of a collective practice. Those questions have different objects and evidential requirements. The limited scope is especially important when a task-based finding is presented using the broader name of a language.

These restrictions leave room for positive practical uses. A more accurate description can identify an appropriate support, acknowledge a retained contribution, avoid unnecessary instruction, or recognize that a new joint arrangement has been formed. The account can inform those choices by clarifying what the evidence supports. Their justification remains a further inquiry, and the present paper does not convert capacity retention into a general duty of linguistic continuity.

12 Dormancy Attribution Judgments

Attributing a dormant linguistic capacity can affect how a practice describes its history and what it considers worth supporting. This section examines those consequences without turning the attribution into a preservation directive. Its objective is to identify the additional judgments required when a descriptive finding informs historical recognition, prospective inquiry or support decisions. The argument develops the positive roles of a bounded attribution, its revision conditions, and the limits of formal translation.

12.1 Differentiated Preservation Claims

A retained-capacity finding can identify an achievement that a record inventory alone would miss. An archive may persist while the interpretive organization needed to use it disappears. Conversely, a selected capacity can remain carried by participants or relations even when the form of its earlier documentation changes. The preservation judgment should name which of these targets has been retained. This is an application of the taxonomy's separation of manifestations, relational structure, capacities, conditions and historical lineage [7], rather than a claim that one target provides the universal measure of preservation.

The differentiated account permits constructive disagreement. One participant may value continuity of an earlier distinction, another the availability of new uses, and another the ability to interpret a historical record without adopting its judgments. These interests can coincide, but they can also support different preservation targets. Establishing that a capacity remains dormant does not resolve the disagreement. It improves the discussion by identifying a present organization and the conditions whose absence limits its use.

That improvement can matter even where reconstruction is the preferred course. If parts of the earlier organization remain, a new practice can acknowledge their contribution and examine which supports they require. If reconstruction depends primarily on records and new instruction, an accurate account can recognize that achievement without describing it as simple release of an intact past. The language of preservation should permit both histories to be described precisely. A preference for the prestige of unbroken continuity supplies no evidence that continuity occurred.

12.2 Reasons For Further Inquiry

A credible indication of retained organization can give a reason to investigate further. Its force depends on the purposes and conditions of the proposed inquiry. If willing participants seek access to a valued practice and a limited investigation could clarify a currently unresolved support dependence, the potential gain in understanding can count in its favor. The reason arises from that combination: the finding, the participants' purposes and the anticipated contribution of the inquiry. Dormancy alone does not supply all three premises.

The same structure explains why a limited positive finding need not be dismissed as trivial. Evidence of retained recognition can be relevant when the practical objective concerns relearning selected forms. It can be insufficient when the objective requires present interpretation of complex recordings. Its significance changes with the target. The appropriate response is to state the connection between the retained contribution and the proposed activity, rather than ranking every fragment below every complete task repertoire.

An inquiry also consumes attention, time and cooperative effort. Some participants may prefer a new learning arrangement, a different language or no renewed involvement. Their reasons do not disappear when an investigator has a defensible capacity attribution. A prospective study can therefore have epistemic value without having priority over every competing use of those resources. The present paper identifies these dependencies without proposing a universal allocation rule.

12.3 Attribution Responsibilities

A historical description can distribute credit and burdens. Calling an intervention mere activation can obscure the work through which someone formed a new distinction or created a usable interface. Calling the same achievement wholly new can obscure the contribution of retained practices and earlier participants. An accurate mixed description can acknowledge both, provided the supporting history has been established.

This is a reason to keep the granularity of the attribution answerable to the actual contributions. In the fictional circle, Marek's retained recognition and the facilitator's new explanation can both matter. The first need not amount to intact prior competence, and the second need not be its sole origin. Identifying this combination improves the explanation before any question of reward or obligation is decided. A normative conclusion about credit still requires a defended account of what should count and for which purpose.

Bearer specification also has practical consequences. A joint capacity can depend on a partner's continuing interpretive work. Describing the capacity as an attribute of one participant can make that work invisible and create unrealistic expectations of independent performance. Describing the partner as merely an external condition can obscure a constitutive relation. The appropriate boundary should preserve the contributions relevant to the claim, while recognizing that the people involved can change their commitments. A model's executable domain is not a standing authorization to demand their labor.

12.4 Historically Revisable Descriptions

Dormancy is a status of a specified operation within a described configuration. It can change when task organization, admissibility, supports or the relevant comparison change. A report should therefore retain its historical location and resolution. It should not convert a warranted attribution at one interval into an unlimited guarantee of future retention.

There are at least two routes of revision. New evidence can change what is warranted about the same underlying history. Alternatively, the formation itself can change after the earlier description was adequate. A support can disappear, a retained distinction can be reorganized, or participants can create a new operation. These routes have different explanatory significance. Treating every revised attribution as proof that the earlier one was wrong would erase actual transformation; treating every discrepancy as transformation would protect an inadequate earlier inference.

A history-bearing representation helps retain the difference by recording the observations, their interpretation and the later operations through which the described situation changes. It does not guarantee that those records are complete or correct. The interpretive advantage is conditional: the representation must retain the distinctions needed for the revision question. A compressed alternative can be adequate when it preserves them explicitly.

12.5 Framework Translation

The GR framework's contribution is most defensible where it coordinates distinct questions without treating their objects as interchangeable. A linguistic task profile, a neural response, a historical witness and an operator projection can each have a role in an attribution. Their connection requires an interpretation of what is measured or represented, what is retained, and which inference is supported.

For example, a capacity projection in the formal model is selected through the declared target and realization map. A processing difference reported in a study is an empirical result under that study's conditions. The two can be related only after an additional argument identifies what the observed difference establishes about the selected operation. The existence of a convenient projection does not supply that argument. Likewise, the field model's interface coefficient is not an automatic representation of a particular neural or linguistic mechanism.

The framework nevertheless supplies a positive discipline. It asks for the carrier, the history, the operation domain, the support relation and the comparison needed by a claim. Those questions can

expose a missing premise while leaving a successful disciplinary explanation intact. Where they support a translation, its scope should be stated. Where the translation fails, the failure can identify a difference of object or method rather than a defect to be concealed by common terminology. This preserves the intended use of GR as a revisable framework for inquiry, while keeping the adequacy of each substantive attribution open to criticism.

13 Attribution Scope

The present investigation concerns warranted attribution of a selected dormant linguistic capacity. Its contribution lies in connecting an account of present organization to a historical comparison and an independently characterized intervention. This closing section identifies the conclusions supported by that connection and the further inquiries needed to extend it. The distinction matters because an explicit representation can clarify an inference while leaving its empirical premises unsettled.

13.1 Supported Analytical Conclusions

A selected attribution has several components: the operation being attributed, the bearer whose contribution is claimed, its present organization, its operational unavailability, and its relation to an earlier formation. These components can receive different support. The philosophical analysis explains why their separation improves the attribution: it keeps a historical record from substituting for a present carrier, a joint achievement from becoming an individual possession claim, and a useful retained fragment from becoming evidence of an entire former repertoire. The constructive result is a more differentiated account of what persists and contributes.

The finite examples establish a restricted underdetermination. An old proficiency record, a surviving archive and present silence are compatible with different current organizations. Even matching present response profiles leave continuous retention and reconstruction distinguishable in their histories. These are counterexamples to specified inferences, rather than a proof that historical retention is generally unknowable. Evidence about a carrier, an intervention and the intervening history can discriminate cases that the selected observation leaves equivalent.

The positive formal results make that additional warrant explicit. A complete test whose operations conserve the selected organization supports initial possession of the selected response profile. Earlier unavailability and historical descent remain separate requirements for dormant retention. A weaker condition excludes creation of the target predicate while permitting other changes, including loss. A faithful whole-target endpoint certificate then supports backward attribution. Sequential task responses require further warrant; task-wise restrictions provide one sufficient route. Correct answers at different stages can be produced without simultaneous possession of the full profile. These results identify sufficient conditions inside the stated models. Establishing them in an application remains an independent evidential task.

The operator construction preserves execution domains and distinguishes actual intervention words from the larger generated algebra. The regional field construction supplies another representation of condition-sensitive expression. Their common role is to expose dependencies that a bare outcome can conceal. Neither representation determines linguistic significance merely by assigning a projection or writing a dynamical law. The history-bearing formation remains the object of inquiry, while each construction selects relations appropriate to its local question.

13.2 Interpretive Extension

The formal examples use a fixed task interpretation and a sharply specified response target. Actual linguistic inquiry can admit several appropriate responses, context-dependent judgments, disagreement about source authority, and changes in what the participants are trying to accomplish. An extension would need to represent those possibilities while retaining an assessable attribution. Allowing plural

responses should not make every response successful; preserving an interpretable distinction is part of the analytical obligation.

Historical translation introduces a related difficulty. An earlier practice may lack the current task's response format while retaining a relevant distinction. Conversely, the same expression can acquire a different inferential role. A useful capacity correspondence would identify the selected relation that survives and the domains on which the comparison applies. The inherited taxonomy provides room for such correspondences. This paper's fixed-profile proofs do not establish their existence in a particular language history.

Bearer selection also remains contestable. A participant, a supported participant and an organized group can each be appropriate to a different question. Extending the account requires comparative reasons for the chosen boundary, including how it distributes credit and responsibility. The present case shows why silently changing that boundary invalidates an inference. It does not produce one universally preferred boundary for every linguistic capacity.

13.3 Empirical Discrimination

The central empirical obligation is to connect a proposed present organization to the contribution attributed to it. Historical association alone leaves that connection weak. A suitable investigation would need evidence that distinguishes the selected contribution from general learning ability, newly supplied task information, and additional respondents. Different empirical methods can address different parts of this comparison. Their integration requires a shared specification of the claim, rather than an assumption that their measurements are interchangeable.

Intervention restrictions deserve particular scrutiny. Full conservation is unusually demanding, and target-relative exclusion of creation can also be difficult to establish. A comparison group that fails to learn from an intervention may help investigate its effects while leaving open the possibility that a retained fragment enables another participant to learn the missing part. The relevant alternative is therefore sometimes mixed formation. An adequate investigation would examine that possibility directly, with conclusions proportionate to the evidence it can obtain.

Historical retention adds a separate challenge. Current competence and later prospects can be examined without complete knowledge of an earlier interval, whereas an attribution of continuity depends on its organization. Better records may resolve part of that uncertainty; some cases may remain underdetermined. The resulting limit should be attached to the historical claim. It need not erase established present capacity or the practical significance of a successful reconstruction.

13.4 Programme Boundary

Dormant capacity attribution supplies a bounded contribution to the broader preservation inquiry. It specifies grounds on which a selected retained contribution may be recognized, qualified or left unresolved. Questions about the production of evidence through participation, the identity of a revived practice, the dynamics of reactivation and the allocation of preservation resources require further arguments. They should draw on the present distinctions without treating them as completed theories of those subjects.

The main proposed discipline is to retain the differences that the history itself can contain. A formation may preserve a useful fragment, acquire a new support relation and learn an additional distinction in one encounter. Describing those contributions together preserves their practical significance while keeping their origins assessable. A justified dormancy attribution is one possible result of that inquiry; an equally informative result can identify ordinary non-use, partial retention, new formation or a specific unresolved historical relation.

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