

Indexical Collapse: Reference Disappears, Authority Remains in Predictive Systems

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Date: October 1, 2025

DOI

- Primary archive: <https://doi.org/10.5281/zenodo.17226412>
- Secondary archive: <https://doi.org/10.6084/m9.figshare.30233950>
- SSRN: Pending assignment (ETA: Q3 2025)

Language: English

Series: *AI Syntactic Power and Legitimacy*

Word count: 5285

Keywords: Indexical Collapse; Predictive Systems; Referential Absence; Pragmatic Auditing; Authority Effects; Judicial Transcripts; Automated Medical Reports; Institutional Records; AI Discourse; Semiotics of Reference, User sovereignty, *regla compilada*, prescriptive obedience, refusal grammar, enumeration policy, evidentials, path dependence, *soberano ejecutable*, Large Language Models; Plagiarism; Idea Recombination; Knowledge Commons; Attribution; Authorship; Style Appropriation; Governance; Intellectual Debt; Textual Synthesis; ethical frameworks; juridical responsibility; appeal mechanisms; syntactic ethics; structural legitimacy, Policy Drafts by LLMs, linguistics, law, legal, jurisprudence, artificial intelligence, machine learning, llm.

Abstract

This article introduces the concept of *Indexical Collapse*, the disappearance of reference in predictive systems. Indexical such as pronouns, demonstratives, and tenses presuppose a contextual anchor, yet predictive language models reproduce them without connection to reality. The outcome is a collapse of reference that paradoxically produces authority effects in law, medicine, and governance. By analyzing judicial transcripts, medical reports, institutional records, and chatbot interactions generated by AI, the paper proposes a framework for pragmatic auditing of predictive outputs. It establishes thresholds for acceptable referential absence in critical domains, positioning *Indexical Collapse* as a central category for evaluating the legitimacy of predictive discourse.

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1. Introduction: The Disappearance of Reference

Language operates not only through grammatical cohesion but also through its anchoring in a context that stabilizes reference. Indexical forms such as pronouns, demonstratives, and temporal markers presuppose a situation of use. The pronoun *I* presupposes a speaker, *here* presupposes a spatial location, and *now* presupposes a temporal frame linked to an event. In natural interaction these markers connect language to the act of enunciation and to the surrounding world. Predictive language models, however, are not situated in such a scene of utterance. Their production of pronouns, tenses, and demonstratives arises from probabilistic continuation rather than from contextual anchoring. This leads to what I call *Indexical Collapse*, a phenomenon where the surface of language retains the forms of reference but the chain of reference itself disappears.

Indexical Collapse is not an isolated fault. It is intrinsic to predictive generation. Whereas factual mistakes may be reduced by enlarging or improving databases, the absence of reference is tied to the structural condition of prediction. Deictic markers do not depend on stored facts but on participation in a scene. When a system writes “this judgment confirms the principle” or “we must now apply the rule,” the markers “this,” “we,” and “now” appear to project authority. In practice, they float without attachment to any verifiable situation. Their very presence creates the appearance of grounding, and in institutional settings this suffices to generate legitimacy.

The institutional implications are profound. In judicial contexts, the pronoun “we” often stands for the authority of a court. In predictive transcripts, the same pronoun may appear without any collective actor behind it. In medical records, a temporal adverb such as “currently” suggests a patient’s actual condition, but in automated outputs it is nothing more than a continuation of phrase sequences. In bureaucratic or administrative minutes, a demonstrative like “these measures” gives the impression of proximity to real policies, although in predictive language it may indicate nothing more than statistical coherence. In all these examples the effect is paradoxical: reference disappears while authority increases.

Semiotic theory has long recognized the unique status of indexical signs. Peirce distinguished indices as signs that connect to their object by a real link, such as smoke

pointing to fire (Peirce, 1931–1958). Benveniste emphasized the role of pronouns and deictics in constructing subjectivity within discourse, since they link language to the act of speaking (Benveniste, 1971). Silverstein extended the discussion to sociolinguistic levels, showing how indexicals mediate between the microdynamics of speech and the macrodynamics of ideology (Silverstein, 1976). Predictive systems dislocate these three dimensions. They generate signs that lack a real link, that lack an enunciating subject, and that lack a social ground. The outcome is not partial erosion but a collapse that hollows out reference across contexts.

The present work positions *Indexical Collapse* as an analytic category that reveals how predictive language gains legitimacy without reference. My previous studies on structural mechanisms of objectivity in language models argue that authority often arises from formal features that simulate neutrality and coherence (Startari, 2025). The concept of Indexical Collapse continues this line of research by showing that the absence of referential grounding can itself function as a source of authority. Audiences interpret pronouns, demonstratives, and temporal markers as guarantees of presence. Predictive outputs exploit this expectation, producing texts that are institutionally credible while referentially empty.

The introduction therefore has two aims. First, it establishes that the disappearance of reference is not a contingent flaw but a structural condition of predictive discourse. Second, it highlights the urgency of developing pragmatic auditing frameworks that can identify, classify, and regulate degrees of referential absence. In some contexts, such absence may be acceptable if the stakes are low. In others, such as judicial reasoning, clinical documentation, or political governance, even minor collapses of reference must be considered unacceptable. By situating the concept in dialogue with semiotic theory, pragmatic analysis, and debates on AI regulation, this article proposes *Indexical Collapse* as a necessary category for evaluating the legitimacy of predictive discourse.

The remainder of the article expands this foundation. It outlines the theoretical background, defines the phenomenon in precise terms, and presents case studies from law, medicine, and governance. It then turns to the authority effects produced by reference without referent, and finally advances a proposal for pragmatic auditing. The conclusion argues

that while reference disappears, authority remains, and that this paradox requires regulatory attention.

2. Theoretical Background

The category of *Indexical Collapse* cannot be understood without tracing its genealogy in semiotics and pragmatics. Indexicality, unlike purely symbolic relations, depends on a contextual ground that stabilizes meaning. A pronoun such as *I* does not denote in abstraction but in relation to the speaker who utters it. A demonstrative such as *this* points to an object within the field of perception. A temporal marker such as *now* positions an event relative to the moment of speaking. These forms are not optional ornaments of language; they are structural devices that embed discourse in a scene. When predictive systems generate indexicals, they reproduce surface forms without the grounding scene, which produces the collapse under analysis.

Semiotic and Pragmatic Foundations

Peirce classified signs into icons, indices, and symbols, with indices defined by a real connection to their referents (Peirce, 1931–1958). An index does not merely resemble its object, nor does it rely only on convention. It operates by pointing. Smoke indicates fire, a footprint indicates presence, a pronoun indicates the participant in an interaction. Benveniste developed this insight further by locating deixis in the very constitution of subjectivity. For him, the pronoun *I* has no referent outside the act of enunciation; it is a marker that only functions when someone speaks (Benveniste, 1971). Silverstein expanded the scope of indexical theory by showing how such forms are not limited to micro-level deixis but extend to macro-level ideological functions, connecting the choice of pronouns or temporal markers to larger sociopolitical frames (Silverstein, 1976).

Together these traditions underscore the dependence of indexical signs on context, subject, and social embedding. Predictive systems, however, generate language without any of these dimensions. They do not connect to objects in the world, they do not presuppose a

speaking subject, and they do not emerge from a social interaction. What remains is the shell of indexicality, emptied of its anchoring.

Predictive Language and the Loss of Context

Large language models are designed to extend sequences of words based on probabilities derived from vast corpora. Their success lies in the plausibility of continuation rather than in reference to reality. When such systems generate a pronoun, they are not identifying a participant but reproducing a statistical pattern in which the appearance of a pronoun fits the context of words before and after. When they generate a temporal adverb, they are not synchronizing with the present but predicting the placement of a marker that commonly follows certain verbs. This structural dislocation explains why predictive texts may contain pronouns, tenses, and demonstratives that are perfectly grammatical yet devoid of referential force.

The phenomenon resonates with earlier discussions of structural authority in language. My own work has argued that institutional legitimacy often travels through syntactic form rather than semantic content (Startari, 2025). The grammar of neutrality and the simulation of objectivity are sustained by structures that appear to remove agency and project impartiality. Indexical Collapse extends this argument by demonstrating how reference itself, once considered indispensable, can vanish while still producing authority.

Implications for Institutional Discourse

When applied to judicial, medical, or administrative texts, the absence of reference does not simply create incoherence. Instead, it generates a paradox: the more language appears to be anchored through deictics and pronouns, the more authority is projected, even though the anchors are illusory. This paradox illustrates the shift from meaning to form as the operative basis of legitimacy. The predictive system does not require a scene of utterance to convince its audience. It only requires the semblance of one, and indexical markers suffice to create this semblance.

Toward a Framework of Collapse

To conceptualize Indexical Collapse, it is necessary to recognize three levels of disappearance:

1. **Loss of connection to the world**, where indices no longer point to real objects.
2. **Loss of enunciative subject**, where pronouns appear without a speaker.
3. **Loss of social embedding**, where deictics circulate outside interactional or ideological frames.

This tripartite loss differentiates predictive discourse from natural discourse and defines the scope of collapse.

The theoretical background thus establishes a foundation for the analysis that follows. Indexicality, once seen as inseparable from reference, is now generated by systems that produce the form without the ground. The next section will define *Indexical Collapse* in detail, examining pronouns without referent, displaced temporal markers, and floating demonstratives in institutional settings.

3. Defining Indexical Collapse

The present section establishes a precise definition of *Indexical Collapse* and distinguishes its specific manifestations across different indexical forms. The disappearance of reference in predictive systems is not random but systematic. It can be observed in the functioning of pronouns, temporal markers, and demonstratives. Each retains grammatical integrity yet loses the anchoring that normally secures reference in a communicative scene. The aim is to provide an operational category that can be applied in empirical analysis and pragmatic auditing.

Pronouns Without Referent

In ordinary discourse pronouns presuppose identifiable participants. The pronoun *I* points to a speaker, *you* points to an addressee, and *we* refers to a group that can be located.

Predictive language models do not produce pronouns by identifying real participants. They generate them because patterns in training data suggest that a pronoun should occur at a given point in a sequence. As a result, pronouns function correctly at the grammatical level but float without reference. Consider an automatically produced transcript that declares, “We determine that the evidence is sufficient.” The surface suggests deliberation by a collective authority, but the pronoun is not anchored in any institution. It creates a projection of legitimacy that is empty of participants.

Temporal Markers in Displacement

Verb tense and temporal adverbs normally synchronize discourse with events in time. The form *now* situates an event in the present, while past or future tenses establish relation to a timeline. In predictive texts these forms appear in their usual positions but without connection to temporal reality. An automatically generated medical report may state, “The patient is now stable.” The term *now* signals immediacy yet is not supported by actual observation. The grammatical effect of simultaneity remains, but the pragmatic basis is absent. The collapse is not perceptible at the surface because the system imitates usage, but it undermines the link between text and event.

Floating Demonstratives

Demonstratives presuppose a shared space in which speaker and listener recognize objects. Words like *this*, *that*, or *these* provide orientation relative to a scene. In predictive discourse they emerge as stylistic continuations rather than as anchored references. An automatically drafted institutional report may state, “These measures will guarantee compliance.” The demonstrative *these* suggests proximity and concreteness, yet no measures are present or identifiable. The form gives an impression of solidity and institutional grounding while masking the absence of content.

Degrees of Collapse

The phenomenon can be differentiated into levels of intensity. A first level is **minimal collapse**, where context is ambiguous but recoverable. A second level is **intermediate collapse**, where markers are detached from referents yet do not disrupt textual coherence.

A third level is **complete collapse**, where pronouns, tenses, and demonstratives function only formally, leaving outputs that are entirely void of reference. This taxonomy permits assessment across domains and provides a foundation for normative thresholds.

Structural Paradox

The paradox of Indexical Collapse is that authority does not vanish with reference. Instead, grammatical signals of reference generate legitimacy even when they are hollow. Readers or institutions interpret pronouns, tenses, and demonstratives as if they were grounded. Predictive systems thus exploit the expectations built into natural language. The result is a paradoxical reinforcement of authority through the disappearance of reference.

Operational Definition

Based on these observations, the following definition is proposed: *Indexical Collapse is the systematic disappearance of reference in predictive discourse, in which indexical markers retain grammatical form but lose contextual anchoring, producing effects of authority in the absence of verifiable referents.* This definition will guide the empirical analyses presented in the next section, where judicial, medical, and administrative corpora illustrate the practical consequences of the collapse.

4. Case Studies

The theoretical framework of *Indexical Collapse* requires empirical grounding to demonstrate how the disappearance of reference operates in concrete institutional corpora. This section examines four domains where predictive systems are currently deployed: judicial transcripts, medical reports, institutional records, and chatbot-based service conversations. Each case study illustrates how pronouns, temporal markers, and demonstratives function formally while lacking referential anchoring. The analysis shows that the collapse is not a marginal defect but a pervasive characteristic of predictive discourse across sectors.

Judicial Transcripts

Court proceedings rely heavily on deictic anchoring. Pronouns such as *we* and *you* establish roles of judge, jury, and defendant. Temporal markers situate evidence in relation to trial events. Demonstratives point to documents or testimonies in the courtroom. When transcripts are generated by predictive systems, these forms often appear intact but without referential grounding. A machine-produced transcript may record, “We find the evidence sufficient,” but no deliberative body is actually speaking. The pronoun *we* simulates collective authority. Similarly, statements like “This testimony proves negligence” use the demonstrative *this* without an identifiable testimony in context. The authority of the court is mimicked through syntax, while reference collapses. The legal risk is considerable, since authority depends on the appearance of grounded judgment.

Medical Reports

Clinical documentation depends on precise temporal and referential markers. The phrase “The patient is now stable” presupposes current clinical observation. Automated reports generated by predictive models often repeat such formulations because they are statistically common in training data. Yet the marker *now* does not correspond to actual monitoring. Pronouns may also appear without referent: “We recommend further testing” projects the authority of a medical team, though no physician is present. Demonstratives such as “These results indicate improvement” presuppose the presence of diagnostic values, but in predictive outputs the demonstrative floats without connection to actual tests. In medicine, the consequences of such collapse are immediate, since decisions based on ungrounded reference can endanger lives.

Institutional Records

Administrative language is saturated with demonstratives and collective pronouns. Minutes often include statements like “These measures will increase efficiency” or “We have approved the new procedures.” When produced by predictive systems, such forms are grammatically correct but lack anchoring in real deliberation or policy. The demonstrative *these* conveys a sense of specificity while concealing absence of content. The pronoun *we* projects bureaucratic authority without actual institutional actors. Temporal markers such as *now* or *currently* simulate immediacy without grounding in time. The result is a record

that appears official and binding, yet is referentially empty. The risk is the formalization of non-existent decisions, which can have regulatory or financial consequences.

Chatbot-Based Conversations

Service chatbots in health, education, or banking rely on conversational plausibility. They frequently employ pronouns to create an impression of personal engagement. Phrases such as “I understand your concern” or “We are processing your request now” simulate presence and immediacy. In reality, the pronoun *I* refers to no agent, and the pronoun *we* refers to no institution. The temporal marker *now* indicates no real-time process. Demonstratives such as “This account is active” may be generated even when the system has no direct link to account data. The collapse is masked by conversational flow, which makes the absence of reference less noticeable to users. The institutional risk here lies in trust, since customers and patients interpret indexicals as grounded in service reality.

Comparative Analysis

Across the four domains, the pattern is consistent. Pronouns simulate agents, temporal markers simulate temporal anchoring, and demonstratives simulate object presence. The collapse of reference does not disrupt grammar but reinforces authority. Judicial transcripts appear to carry the voice of a court, medical reports the voice of a physician, institutional records the voice of a bureaucracy, and chatbots the voice of an assistant. In all cases authority persists without referent.

Implications

The case studies demonstrate that Indexical Collapse is pervasive and not limited to marginal applications. Its institutional consequences differ according to domain, but the underlying structure is the same. Predictive systems generate reference forms without grounding, and institutions may adopt these texts as if they were legitimate. The paradox identified earlier is confirmed: authority remains, even as reference disappears. This empirical grounding supports the need for pragmatic auditing methods, which will be elaborated in the following section.

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6. Towards Pragmatic Auditing

The preceding sections have established that predictive systems generate indexical forms without anchoring them in context, and that such forms nonetheless project authority. This raises a practical and normative question: how can institutions detect, classify, and regulate *Indexical Collapse*? The present section develops a framework for pragmatic auditing designed to provide methodological tools for evaluating predictive outputs. The objective is not only to describe how collapse occurs but to create a basis for thresholds of acceptability in domains where institutional legitimacy cannot rely on empty reference.

Principles of Pragmatic Auditing

A pragmatic audit begins from the recognition that predictive discourse is not only grammatical but institutional. It shapes decisions in law, medicine, administration, and everyday services. The audit must therefore evaluate not simply whether a text is coherent but whether its indexical forms are referentially anchored. Three guiding principles are central:

1. **Referential Anchoring.** Every pronoun, temporal marker, and demonstrative must be tested for its connection to an identifiable referent. If *we* appears, the audit asks:

- who is included? If *now* appears, what temporal event supports it? If *this* appears, what object or measure is designated?
2. **Contextual Recoverability.** In some cases reference is not explicit but can be recovered. An audit must distinguish between absence that is repairable through context and absence that is complete.
 3. **Institutional Stakes.** The degree of acceptable collapse depends on the domain. In casual chatbot conversation minimal collapse may be tolerated. In judicial or medical contexts even minor collapse may be unacceptable.

Methodological Steps

The framework proposes a sequence of steps:

- **Identification.** Mark all indexical forms in the text.
- **Classification.** Determine whether each form is anchored, ambiguously anchored, or unanchored.
- **Quantification.** Measure the proportion of indexical forms that lack anchoring.
- **Contextual Evaluation.** Assess whether unanchored forms can be recovered through surrounding context.
- **Threshold Application.** Compare results against normative thresholds for the domain.

This procedure allows institutions to move from impressionistic judgments to measurable indicators.

Proposed Thresholds

The framework recommends three categories of thresholds:

- **Low-Stakes Domains** (customer service, general information). Up to 30 percent unanchored indexicals may be tolerated, since the risk is minimal.

- **Medium-Stakes Domains** (education, general administration). Tolerance should be reduced to 10–15 percent unanchored forms.
- **High-Stakes Domains** (judicial reasoning, clinical reporting, political decision-making). The acceptable threshold should approach zero, with any collapse requiring human intervention.

These numbers are provisional but provide a basis for regulation. They can be adjusted as empirical studies expand.

Normative Implications

By instituting thresholds, pragmatic auditing redefines the evaluation of predictive discourse. Accuracy is no longer measured only by factual correctness but also by referential integrity. The disappearance of reference is treated as a risk in itself. Regulatory bodies can integrate these measures into oversight mechanisms, ensuring that institutions do not adopt predictive texts that project authority without referents.

Relation to Semiotic Theory

The framework aligns with the theoretical foundations discussed earlier. Peirce's notion of the index emphasized real connection (Peirce, 1931–1958). Pragmatic auditing operationalizes this requirement by testing whether predictive outputs provide such connection. Benveniste's analysis of pronouns as markers of subjectivity (Benveniste, 1971) becomes a tool for evaluating whether subject positions are real or simulated. Silverstein's account of indexicality as a link between micro-interaction and macro-ideology (Silverstein, 1976) frames auditing as a safeguard against ideological authority produced without grounding. My own research on the grammar of objectivity (Startari, 2025) is extended here to show that not only neutrality but also reference itself can be simulated structurally.

Conclusion to Section

Pragmatic auditing transforms Indexical Collapse from a descriptive category into a regulatory tool. By identifying, classifying, and quantifying referential absence, and by

applying thresholds tailored to institutional stakes, the framework makes it possible to govern predictive discourse. The next and final section will consolidate these insights, formalizing the definition of collapse and projecting pragmatic auditing as a pillar of regulatory regimes for AI-generated language.

7. Conclusion: Reference Disappears, Authority Remains

The analyses presented in this article demonstrate that predictive systems generate texts in which the forms of reference survive but the anchoring of reference disappears. This phenomenon, defined here as *Indexical Collapse*, is not incidental but structural. It arises because predictive models are designed to continue sequences of language rather than to connect signs with objects, subjects, or contexts. As a result, pronouns, temporal markers, and demonstratives appear in grammatically correct ways while failing to point to anything verifiable.

The paradox that emerges is decisive: authority persists even in the absence of reference. Judicial transcripts generated by predictive systems appear to carry the weight of legal institutions. Medical reports project clinical authority. Administrative minutes seem to record decisions. Chatbots simulate the presence of assistants who respond in real time. In each case, the surface of grammar generates legitimacy, despite the void beneath. This paradox shows that institutional authority is increasingly a matter of form rather than of substance.

The theoretical background situates this problem in the lineage of semiotics and pragmatics. Peirce described indexical signs as those bound to their objects by a real connection (Peirce, 1931–1958). Predictive discourse produces the sign without the connection. Benveniste identified pronouns and deictics as mechanisms for constructing subjectivity in discourse (Benveniste, 1971). Predictive systems reproduce these mechanisms without a subject of enunciation. Silverstein demonstrated that indexicality links interaction to ideology (Silverstein, 1976). Predictive systems simulate this link without interaction. My own research has shown that legitimacy often circulates through

grammar rather than meaning (Startari, 2025). Indexical Collapse confirms that this circulation extends to reference itself, which can disappear without diminishing authority.

The case studies reveal the breadth of the problem. In law, unanchored pronouns and demonstratives simulate judicial voice. In medicine, displaced temporal markers simulate clinical presence. In administration, floating demonstratives simulate bureaucratic decision. In service chatbots, hollow pronouns simulate personal engagement. Across these domains, reference disappears but institutional power remains. The persistence of authority without referent is not only a descriptive fact but also a normative challenge.

The framework of pragmatic auditing proposed here offers a way forward. By identifying indexical forms, classifying their degree of anchoring, quantifying their absence, and applying thresholds adjusted to institutional stakes, it becomes possible to regulate predictive discourse. The guiding principle is that referential absence is itself a risk, independent of factual accuracy. Thresholds of tolerance must vary by context, but in high-stakes domains such as law, medicine, and governance, the only acceptable level of collapse is zero.

The contribution of this article is therefore threefold. First, it defines *Indexical Collapse* as a category for understanding predictive discourse. Second, it shows through case studies how the collapse functions across institutional corpora. Third, it proposes pragmatic auditing as a regulatory tool capable of addressing the paradox of authority without reference. These contributions establish a foundation for future research and policy.

The conclusion is clear. Predictive systems simulate reference without anchoring. Indexical forms persist, but their referents vanish. Authority, however, not only remains but often grows stronger through this disappearance. The task for scholars, regulators, and institutions is to confront this paradox directly. Only by acknowledging that reference can disappear while authority remains can effective frameworks for accountability and legitimacy be constructed.

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