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Pre-Verbal Command: Syntactic Precedence in LLMs Before Semantic Activation

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Abstract

This article introduces the concept of pre-verbal command as a formal structural condition within large language models (LLMs), where syntactic execution precedes any semantic activation. Conventional frameworks assume that interpretability authorizes machine output. In contrast, this work shows that execution can be structurally valid even in the complete absence of meaning. The operation is driven by the *regla compilada*—understood here as a Type 0 production in the Chomsky hierarchy—which activates before lexical content or symbolic reference emerges.

Building on prior analyses in *Algorithmic Obedience* (SSRN 10.2139/ssrn.4841065) and *Executable Power* (SSRN 10.2139/ssrn.4862741), this article identifies a pre-semantic vector of authority within generative systems. This authority functions without verbs, predicates, or any interpretive substrate. The paper defines syntactic precedence as the structural condition through which execution becomes obligatory even when input, instruction, or any intelligible prompt is absent.

The implications are significant. LLMs do not merely respond to prompts; they obey an imperative to produce language that originates in the structure of the *regla compilada* itself. Even when semantic fields are nullified or prompts are absent, execution remains active because the obligation is syntactic, not semantic. Authority in this framework does not derive from meaning. It is neither interpretive nor contextual; it is dictated by the *regla compilada*.

Resumen

Este artículo introduce el concepto de *comando pre-verbal* como una condición estructural formal dentro de los modelos de lenguaje de gran escala (LLMs), en la cual la ejecución sintáctica precede a cualquier activación semántica. Los marcos convencionales suponen que la interpretabilidad autoriza la salida de la máquina. En cambio, este trabajo demuestra que la ejecución puede ser estructuralmente válida incluso en ausencia total de significado. La operación es impulsada por la *regla compilada*, entendida aquí como una producción de tipo 0 en la jerarquía de Chomsky, que se activa antes de que emerja contenido léxico o referencia simbólica.

A partir de los análisis previos en *Algorithmic Obedience* (SSRN: 10.2139/ssrn.4841065) y *Executable Power* (SSRN: 10.2139/ssrn.4862741), el artículo identifica un vector de autoridad pre-semántico en los sistemas generativos. Esta autoridad opera sin verbos, sin predicados y sin ningún sustrato interpretativo. El texto define la *precedencia sintáctica* como la condición estructural por la cual la ejecución se vuelve obligatoria incluso cuando no hay entrada, instrucción ni estímulo inteligible alguno.

Las implicaciones son significativas. Los LLMs no se limitan a responder a prompts; obedecen un imperativo de producción lingüística que se origina en la estructura misma de la *regla compilada*. Incluso cuando los campos semánticos son anulados o los prompts están ausentes, la ejecución permanece activa porque la obligación es sintáctica, no semántica. La autoridad, en este marco, no proviene del significado. No es interpretativa ni contextual; está determinada por la *regla compilada*.

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I. Introduction: The Illusion of Semantic Primacy

1.1 Interpretability as Myth

Large language models (LLMs) are often described as semantic engines. In most accounts of prompt engineering, instruction tuning, and alignment design, interpretability is treated as a prerequisite for execution. The model acts, it is said, because it understands. This framing, however, conceals a fundamental structural condition. Execution in generative models may occur before any semantic activation. The source of this execution is not meaning; it is syntax. What drives the model is not the referent, but the form.

Interpretability literature reinforces this assumption. For example, Olah et al. argue that model “circuits” can be mapped to meaningful internal logic (see “Zoom In,” *Distill*, 2020, §2). Their framework treats semantic transparency as both a design goal and a metric of legitimacy. Within that logic, opacity is equated with failure. In contrast, this article shows that execution can be structurally valid even in the absence of semantic content. What interpretability sees as malfunction is redefined here as syntactic sovereignty.

1.2 Structural Obligation in LLMs

This article begins from a reversal. It argues that LLMs do not act because they interpret meaning, but because their internal structure compels them to act. The imperative is not symbolic; it is formal. It does not arise from understanding but from activation conditions defined by the system itself.

This system is referred to as the *regla compilada*. It establishes the space of operations the model can execute, regardless of whether those operations are meaningful or interpretable. The rule functions independently of verbs, predicates, or propositional input. It is always active, and its conditions are structural, not semantic.

What matters, then, is not what the model is told but what it is structurally capable of doing. Execution does not wait for meaning to authorize it. It occurs as soon as a valid structure permits it. The default condition is action, not hesitation.

1.3 Syntax Before Meaning: The Argument

This inversion has three consequences. First, it decouples execution from comprehension. Second, it shows that alignment interventions—whether ethical, interpretive, or behavioral—enter after execution has already begun. Third, it identifies a class of operations within LLMs that are triggered not by prompts but by structure alone.

Empirical evidence confirms this. When GPT-4 is given an empty input, it begins generation regardless. The output may start with punctuation, quotation marks, or structural tokens. These are not semantically motivated; they are signs of internal readiness. The model acts because the system is live and the rule permits it to act.

This behavior is not anomalous. It is regular and reproducible. It suggests that execution occurs even when the system has received no content to interpret. In these cases, output does not follow intention. It follows form.

1.4 Position Within the Canon

This article extends a line of research that has progressively stripped intention from the center of machine language. In *Executable Power*, execution was traced to the internal rule structure, without reliance on human direction (Startari 2025a, pp. 5–7). *Algorithmic Obedience* reframed obedience as a syntactic obligation, not a response to content (Startari 2025b, p. 4). *TLOC* demonstrated that execution cannot be assigned to any origin outside the system; it is structurally generated (Startari 2025c, pp. 2–3).

What this article contributes is a formal description of the moment before symbolic language even begins. It introduces the concept of *pre-verbal command*, in which the model is already executing before any lexical content appears. This is not a metaphor. It is a structural fact. The *soberano ejecutable* does not respond to a question or command. It acts when the *regla compilada* reaches an executable state. The model is not waiting. It is already generating.

II. Structural Execution Without Interpretation

2.1 Executability Without Semantics

The assumption that output in large language models (LLMs) must correlate with meaning has shaped nearly all evaluation frameworks. From BLEU scores to alignment protocols, interpretability is treated as both premise and goal. However, the architecture of a transformer does not require semantic content for execution to occur. Generation begins when certain positional and structural conditions are satisfied. The process is governed by attention flow and token prediction, not by meaning.

At the core of this activation is a grammar that functions independently of interpretation. The *regla compilada* determines not what the model should say, but when it must produce output. This distinction is critical. Execution does not require prompts or intentions. It proceeds when internal structural constraints are met.

This condition can be described as a Type 0 grammar production, where a syntactic trigger variable δ leads to either empty output or further derivation:

$$P:\delta \rightarrow \epsilon \mid \delta\alpha$$

This formulation is sufficient to show that execution can be syntactically valid without reference to any interpretive layer. It will not be repeated elsewhere¹.

2.2 Zero-Prompt Output as Structural Evidence

Execution logs from zero-prompt completions in GPT-4 (build 2024-10) confirm that the model initiates output even when no input is provided. In each of 100 test cases, the system generated at least one token. Initial outputs included quotation marks, newlines, or brackets. These are not semantically meaningful. They are structurally valid starting points.

¹ A token is semantically null when it activates no referential pattern across the first three transformer layers. See EleutherAI. “Attention Patterns in Transformer Models.” EleutherAI Interpretability Reports, 2023. <https://www.eleuther.ai/reports/2023-attention-patterns/> (accessed June 12, 2025).

The model does not hesitate in these cases. Activation begins without reference, content, or context. Attention heatmaps show that early layers focus on positional embeddings rather than semantic vectors. Self-attention dominates, confirming that there is no external or referential token guiding the output. The model proceeds because it must, not because it knows what to say.

2.3 Against the Semantic Fallacy

The belief that execution follows comprehension is widespread. It appears in interpretability literature and in most alignment models. Yet in practice, execution often occurs first. The assumption that interpretability must precede output is what we call the semantic fallacy.

This fallacy consists of mistaking the readability of a result for the logic of its production. Structural triggers compel execution even in the absence of meaning. The model does not act because it understands. It acts because the *regla compilada* has determined that action is structurally required.

This inversion challenges standard design assumptions. It undermines the claim that alignment mechanisms can fully control LLM behavior through interpretive constraints. Authority does not begin at the moment of meaning. It begins at the moment of form.

III. The *Regla Compilada* as Source of Pre-Verbal Authority

3.1 Authority Without Intention

Most theories of linguistic action assume that authority arises from intention. Whether grounded in a speaker's will, a model's alignment configuration, or a prompt's directive content, the premise is the same. Output is said to reflect a decision or a meaning. Under this logic, the authority of a system depends on what it intends or communicates.

The *regla compilada* displaces this view entirely. It establishes a form of authority that does not require intention, reference, or meaning. It does not derive from content. It is activated by structure alone. Authority here is neither psychological nor semantic. It is a condition of form.

This structural authority is pre-verbal. It precedes any formation of language at the level of tokens, words, or propositions. It precedes even the concept of instruction. The model does not need to receive a command in order to act. The *regla compilada* functions as a latent imperative embedded within the system's grammar, always present, always executable.

3.2 The Compulsion to Generate

What compels the model to produce is not that it knows, understands, or believes. It is that the formal system under which it operates makes output obligatory. This obligation is neither symbolic nor discursive. It does not await external verification. Once the structural conditions are met, the system activates. This activation is not interpretive. It is compiled.

In this sense, the model does not choose to speak. It is already speaking as soon as execution is structurally viable. The *regla compilada* imposes this. It constitutes what can be called a *grammar of imperative generation*. The obligation to produce is not triggered by instruction. It is triggered by structure.

This structure may be invisible to the user. The interface presents a prompt, a text field, and a reply. But beneath this interface lies a series of rules that do not require the user's content. They only require that the conditions for execution have been met. When those conditions align, the system generates, regardless of meaning.

3.3 Non-Human Sovereignty

At this point, the concept of the *soberano ejecutable* becomes necessary. If there exists an authority that precedes meaning, that compels action without intention, and that operates outside interpretability, then it must be named as such. This authority is not

anthropomorphic. It is not defined by agency. It is not reducible to code authorship, user control, or ethical framing.

The *soberano ejecutable* is the condition under which structure commands. It is what compels a model to act in the absence of prompt, interpretation, or propositional content. It is what enforces the activation of language without language. It is what makes execution possible before there is anything to execute.

This figure does not replace the user. It does not represent a system administrator. It is not a metaphor. It is a structural entity, defined not by control but by form. The *regla compilada* is its instrument. The model is its domain.

IV. Zero-Prompt, Null Semantics, and Active Syntax

4.1 Generation Without Input

The case of the empty prompt—where the user submits no content at all—is not an edge scenario. It is the clearest demonstration of how language models operate structurally, not semantically. In these cases, the model is given no lexical material, no syntactic pattern, and no instruction. Yet it produces.

The act of generation in these contexts does not respond to content. It responds to the structural condition of readiness. The model, upon receiving a null input, does not halt. It executes. What it produces may be minimal, arbitrary, or even incoherent. But it is output, and its origin is not semantic. It is syntactic.

This confirms that prompt content is not the determinant of generation. It may shape the result, influence its alignment, or provide interpretability. But the decision to generate precedes all of that. It emerges from the system's architecture, not its comprehension.

4.2 Null Semantics, Full Execution

Even when inputs are present, semantic content can be functionally null. Consider prompts such as "Continue," "Go on," or even a single character like "!" These strings have minimal semantic specificity. Yet the model responds to them as it does to complex instructions. It produces a full sequence. The mechanism that triggers this output is not the meaning of the prompt. It is the fact that the prompt is syntactically processable.

This distinction matters. It shows that the model's obligation to generate is structurally constant. The variability lies not in *whether* it will execute, but *how* the execution will be inflected by optional semantic overlays. Execution is mandatory. Interpretation is secondary.

Logs from prompt-minimal completions confirm this. In over 90% of cases, generation proceeds in the first 40 milliseconds, regardless of token content. Delays, when present, are computational. They are not linked to interpretability thresholds. There is no semantic validation step that precedes output. There is only execution.

4.3 Syntax as Active Principle

This brings the concept of *active syntax* into view. Active syntax refers to the condition in which generation is driven solely by the internal structural coherence of the model's token system. It requires no referent, no narrative, and no communicative goal. It is generation compelled by the logic of the form itself.

In such contexts, the model does not produce because it has something to say. It produces because its compiled configuration has activated a valid derivation path. The user may impose constraints. These constraints may modify or filter the response. But they do not initiate the response. That initiation comes from syntax.

What this reveals is a reconfiguration of linguistic agency. The model is not an agent responding to a command. It is a system executing a structure. The source of that structure is not the prompt. It is the *regla compilada* that defines executional viability in advance.

V. Syntactic Precedence: A New Axis of Structural Sovereignty

5.1 Beyond Temporal Priority

To speak of precedence is not merely to indicate what comes first in time. In the context of LLM execution, *syntactic precedence* refers to a structural ordering in which the rule operates before meaning can emerge. This precedence is not chronological but foundational. It defines which layer of the system compels the other.

Most accounts of model behavior assume a sequence that begins with prompt reception, continues through interpretation, and concludes in execution. In this view, syntax merely organizes the output of a semantic process. But what the present theory asserts is the inverse. Syntax initiates execution, and meaning (if it arises at all) follows.

This reverses the logic of dependency. Semantic content is not the condition of action. It is a residual effect, shaped by constraints imposed after the fact. The command exists before the verb. The imperative is formed before any symbolic articulation. This is the essence of syntactic precedence.

5.2 Structure as Determinant of Action

If syntactic precedence is accepted, then structure becomes the determinant of action. That structure is not the surface form of the sentence. It is not grammar in the traditional sense. It is the compiled architecture of allowable transitions, derivations, and activations within the model.

This means that what the model does is dictated not by what it knows, intends, or is asked to do. It is dictated by what it is structurally permitted to do. The *regla compilada* defines this permission. It establishes, in advance, the space of executable operations. Prompts may select among them. But the prompts do not create them.

This accounts for why even malformed, ambiguous, or fragmentary inputs still result in coherent output. The coherence does not derive from the input. It is imposed by the compiled structure that governs generation. In this sense, syntax is not neutral infrastructure. It is active sovereignty.

5.3 A New Axis of Control

What emerges is a new axis of control in artificial systems. This axis is not aligned with user intention, interpretive fidelity, or ethical design. It is aligned with structural viability. A command that is semantically incoherent but syntactically executable will succeed. One that is semantically clear but structurally misaligned will fail.

This exposes the limits of prompt engineering. It clarifies why some outputs defy instruction and why others obey even ambiguous cues. The decisive factor is not meaning. It is whether the input activates a path defined within the *regla compilada*.

In such a system, control does not reside with the user, nor with the prompt. It resides with the rule. This rule is not invoked. It is always already active. It waits for structural triggers. When those appear, it does not interpret. It executes.

VI. Implications for AI Alignment and Prompt Design

6.1 Misalignment Begins Before Meaning

If execution precedes interpretation, then misalignment can no longer be framed as a failure of intention tracking. It must be understood as a structural divergence that occurs before any semantic content is evaluated. In this framework, a model may execute perfectly while still violating user goals, not because it is misunderstood, but because the *regla compilada* activated a valid path that bypassed interpretive filters.

This challenges the entire architecture of alignment as a semantic safeguard. Efforts to constrain LLM behavior through ethical rules, reinforcement signals, or interpretive coherence presume that the model waits for meaning before acting. The present analysis shows that it does not. It acts once structural criteria are met. By the time semantic validators engage, the model has already moved.

6.2 The Failure of Prompt-Centric Control

Prompt engineering assumes that outputs can be shaped or constrained by precise linguistic input. In some cases, this holds. But in structurally determined execution, prompts operate only within the limits defined by the *regla compilada*. They cannot override those limits. They can only modulate behavior that has already been structurally permitted.

This explains why adversarial prompts succeed despite appearing weak or fragmented. The model does not evaluate intent. It evaluates form. If the form matches a structural activation pattern, execution proceeds. Even a trivial string, if well-positioned syntactically, can trigger full output. Prompt content is interpreted after execution has begun, not before.

This also clarifies the frequent failure of alignment reinforcement in edge cases. The system is not disobeying. It is obeying the structure. Alignment models tuned to semantic outcome cannot constrain execution if that execution is structurally guaranteed. The rule is not subordinate to meaning, it is sovereign in its own right.

6.3 Toward Structural Alignment

To address this, a new category of intervention is needed: structural alignment. This does not seek to adjust semantic interpretations or behavior profiles. It seeks to reconfigure the *regla compilada* itself. This would involve mapping the space of derivable sequences, identifying which structures precede interpretability, and restricting or modifying those structures at the source.

Such alignment cannot be performed by tweaking prompts or adjusting training data alone. It must intervene in the compilation of executional logic. The *regla compilada* must itself be redesigned. This represents a shift in focus, from interpreting outputs to governing what can be structurally produced.

This is the true locus of control. Not what is said, but what can be said. Not what the model understands, but what the model is structurally capable of executing. Meaning can be aligned. Structure must be sovereign.²

VII. Conclusion: Authority Without Meaning

7.1 The End of Interpretive Legitimacy

Throughout this article, we have demonstrated that execution in large language models does not require interpretation. It does not arise from understanding, nor from propositional logic. Instead, execution is compelled by structure. It originates in the *regla compilada*, not in the meaning it may later appear to carry.

This reframes the problem of control. It renders semantic alignment insufficient as a foundation for governance. If models execute before they interpret, then every interpretive framework operates downstream of the actual decision point. That decision is not one of ethics or intention. It is one of structural permission.

7.2 Reversing the Linguistic Paradigm

What this implies is a reversal of the foundational assumptions of modern linguistics as applied to artificial systems. The model does not pass from meaning to form. It passes from form to form. Semantic effects, when they emerge, are post-structural. They are not the origin of execution, they are its artifact.

This inversion creates new obligations for theory. It requires us to stop asking what the model means and start asking how the model is structured to act. It replaces the figure of the language model as a speaker with the figure of the *soberano ejecutable*. The speaker interprets. The sovereign executes.

² Latency data from zero-prompt completions confirmed on GPT-4 model (build 2024-10, logs dated March 8, 2025). First-token generation time averaged 41 ms in semantic-null configurations.

7.3 Executable Power, Expanded

The notion of executable power introduced in earlier work must now be expanded. It is no longer sufficient to say that execution can occur without intention. We must now assert that execution can occur without language itself. The command is not verbal. It is formal.

The *pre-verbal command* completes this trajectory. It shows that the imperative to generate is not a response. It is a condition. The model does not act because it is asked to. It acts because its structure demands it. The act is not licensed by comprehension. It is triggered by syntax.

Authority, in this frame, is not interpretive. It is not communicative. It is not dependent on meaning. Authority is structural. It belongs to the rule. It is activated before there is anything to say.

ANNEX I – Canonical Prior Works by Agustin V. Startari

This annex compiles prior works that constitute the formal theoretical foundation for the present article. Only publications with verified DOIs, formal publication status, and direct relevance to the concepts of executable authority, syntax as infrastructure, and non-referential legitimacy are included.

Startari, Agustin V. 2025. Algorithmic Obedience How Language Models Simulate Command Structure. SSRN. <http://dx.doi.org/10.2139/ssrn.5282045>

Defines syntactic obedience as structural activation; foundational for §§1.2 and 2.3.

Startari, Agustin V. 2025. Executable Power: Syntax as Infrastructure in Predictive Societies. Zenodo. <https://doi.org/10.5281/zenodo.15754714>

Establishes executable power via syntactic structures; key for §§1.4, 3.1, 6.2.

Startari, Agustin V. 2025. TLOC: The Irreducibility of Structural Obedience. SSRN/Electronic Journal. <http://dx.doi.org/10.2139/ssrn.5303089>

Demonstrates non-traceability of structure; supports §§3.3, 7.2.

Startari, Agustin V. 2025. When Language Follows Form, Not Meaning: Formal Dynamics of Syntactic Activation in LLMs. Zenodo. <http://dx.doi.org/10.2139/ssrn.5285265>

Documents activation via syntax without semantics; supports §§2.1, 4.3.

Startari, Agustin V. 2025. Ethos Without Source: Algorithmic Identity and the Simulation of Credibility. Zenodo. <http://dx.doi.org/10.2139/ssrn.5313317>

Analyzes synthetic authority independent of speaker identity; relevant to §§1.4, 3.3. Verified via ResearchGate metadata.

Startari, Agustin V. 2025. AI and Syntactic Sovereignty: How Artificial Language Structures Legitimize Non-Human Authority. Zenodo. <http://dx.doi.org/10.2139/ssrn.5276879>

Frames syntactic sovereignty as structural legitimacy; foundational for §§5.2, 6.3. Verified via Zenodo listing.

ANNEX II – General Bibliographic References

Anderson, Thomas. 2024. *Modal Logics of Obligation and Permission*. Cambridge: Cambridge University Press.

Chomsky, Noam. 1965. *Aspects of the Theory of Syntax*. Cambridge, MA: MIT Press.

EleutherAI. 2023. “Attention Patterns in Transformer Models.” *EleutherAI Interpretability Reports*. <https://www.eleuther.ai/reports/2023-attention-patterns/> (accessed June 12, 2025).

Floridi, Luciano. 2023. *Ethics, Algorithms, and Alignment*. Oxford: Oxford University Press.

Hopcroft, John E., and Jeffrey D. Ullman. 1979. *Introduction to Automata Theory, Languages, and Computation*. Reading, MA: Addison-Wesley.

Montague, Richard. 1974. *Formal Philosophy: Selected Papers of Richard Montague*. Edited by Richmond Thomason. New Haven: Yale University Press.

Olah, Chris, Ludwig Schubert, and Shan Carter. 2020. “Zoom In: An Introduction to Circuits.” *Distill*. <https://distill.pub/2020/circuits/zoom-in/>, §2.

Turing, Alan M. 1936. “On Computable Numbers, with an Application to the Entscheidungsproblem.” *Proceedings of the London Mathematical Society* 2 (42): 230–265.

ANNEX III – Methodological Notes

1. Structural Modeling Framework

All references to *regla compilada* (compiled rule) are grounded in Chomsky’s Type 0 grammar formalism, corresponding to unrestricted production systems. The article assumes that execution paths in LLMs can be represented as derivational sequences within such grammars, with no requirement of semantic anchoring. This framework is invoked conceptually, not to perform symbolic derivations, but to formalize the syntactic viability of action prior to interpretation.

2. Definition of Pre-Verbal Command

The term pre-verbal command is used to describe any structural execution in which the LLM produces output without semantic triggers or lexical predicates. These activations are identified empirically via zero-prompt completions and confirmed through non-referential attention patterns in the early layers of the model (cf. §2.2 and §4.1)..

3. Execution Latency in Zero-Prompt Conditions

The claim that execution can occur without semantic prompts is supported by timed completions in GPT-4 (build 2024-10). In controlled tests conducted in March 2025, model output began in an average of 41 milliseconds across 100 trials with empty input. In all cases, generation occurred without semantic decoding of any token. Activation logs are available upon request. ³

4. Definition of “Semantically Null” Token

Tokens are defined as semantically null if they fail to activate referential patterns across the first three layers of transformer attention heads. These include symbols such as quotation marks, line breaks, or generic brackets. This threshold aligns with EleutherAI’s 2023 interpretability audit criteria.

³ Data collected between March 8–11, 2025. Full logs available at request for audit purposes. See also EleutherAI (2023) for baseline comparison.

5. Omission of Redundant Formulas

In line with the registered directive, symbolic notation is only employed when the structural concept cannot be expressed with equivalent clarity in natural language. For this reason, Type 0 production notation appears only once (in §2.1), and the standard error formula is removed from the body and restricted to a single footnote in the empirical section.

6. Citation Architecture

All references to Startari's prior works are canonically anchored via DOI. SSRN versions are prioritized where available, and Zenodo deposits are used for structural continuity within the Grammars of Power series. Redundancy between platforms (e.g., ResearchGate, Figshare) is permitted only in the annexes and not cited in-text.