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AION: An Exploratory Simulation Model for AI-Assisted Peace Mediation in High-Symbolic Conflicts

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This paper introduces Artificial Intelligence for Ontological Negotiation (AION), an exploratory simulation framework for modeling negotiation dynamics in conflicts shaped not only by material interests or territorial control, but also by security, legitimacy, memory, recognition, and perceived humiliation. The model represents actors, demands, and actions across iterative rounds and tracks four system-level variables: tension, probability of agreement, accumulated humiliation, and sabotage risk.

Across an initial set of synthetic scenarios, AION generates distinct trajectories of gradual deterioration, fragile negotiability, systemic collapse, and externally guaranteed but unstable bargaining. The results suggest that the framework is useful for modeling how rigidity, sabotage, and symbolic injury can erode negotiation space over time. At the same time, the experiment reveals a key methodological limitation: perceived humiliation functions primarily as an accumulative variable without comparably robust mechanisms of repair, biasing several scenarios toward deterioration. This identifies humiliation as a critical design variable for future iterations of the model

Keywords: armed conflict, negotiation dynamics, peace mediation, artificial intelligence, ontological security, recognition, perceived humiliation, computational simulation

1. Conceptual and Legal Framework

High-intensity political conflicts are not always driven primarily by material competition. In some cases, territory, infrastructure, and security are only part of the dispute; the deeper sources of deadlock lie in symbolic legitimacy, collective memory, political recognition, and perceived humiliation. Under these conditions, negotiation becomes difficult not simply because the parties disagree over distributable goods, but because concessions may be interpreted as threats to collective continuity, dignity, or historical standing. This distinction matters analytically: a conflict centered on divisible resources can often be modeled as a bargaining problem, while a conflict structured by identity, sacred claims, and historical grievance requires a broader framework capable of representing non-material drivers of rigidity.

The Israeli-Palestinian conflict remains one of the clearest examples of such a configuration. International diplomacy has long treated Jerusalem, refugees, settlements, borders, and security as core final-status issues, which indicates that the conflict cannot be reduced to a conventional territorial dispute. These issues persist precisely because they combine material control with symbolic and political meaning. Recent UN processes continue to frame a durable settlement around mutual recognition, the two-state framework, and the need to address those central issues in a politically credible way.

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The legal structure of the conflict is equally important. In its Advisory Opinion of 19 July 2024, the International Court of Justice concluded that Israel's continued presence in the Occupied Palestinian Territory is unlawful, that the settlement regime violates international law, and that Israel is under an obligation to bring that presence to an end as rapidly as possible. The Court also stated that other states have obligations not to recognize as lawful the situation arising from that unlawful presence and not to render aid or assistance in maintaining it. This does not, by itself, resolve the conflict politically, but it establishes that any serious analytical model must account for an asymmetrical legal and territorial structure rather than treat the conflict as a symmetrical dispute between equivalent claimants.

At the same time, legal clarity does not automatically generate political resolution. UN mediation doctrine repeatedly emphasizes that successful mediation depends not only on formal principles, but also on continuous analysis of actors, incentives, interests, historical trajectories, and implementation conditions. In practice, mediation is an adaptive process rather than a one-time agreement. The challenge is therefore not simply to define a just outcome in normative terms, but to understand how conflict actors move toward or away from negotiability under changing emotional, symbolic, and strategic conditions.

This is the space in which Artificial Intelligence for Ontological Negotiation (AION) is situated.

The acronym **AION** stands for **Artificial Intelligence for Ontological Negotiation**. The term is used here to describe negotiation environments in which the dispute cannot be reduced to material distribution, territorial bargaining, or institutional design alone, but also involves identity continuity, legitimacy, recognition, symbolic injury, and perceived existential threat. In this sense, the adjective *ontological* draws on the literature on **ontological security**, which argues that political actors seek not only physical survival but also a stable sense of self, and may therefore become attached to routines, narratives, and relationships that preserve identity even under conditions of conflict (Mitzen, 2006).

The term also draws on the literature on **recognition**, which highlights that political order is sustained not only by coercion or formal status, but also by forms of acknowledgment that constitute actors as legitimate participants in a shared normative space (Bartelson, 2013). From this perspective, negotiation in high-symbolic conflicts is not only a matter of exchanging concessions; it is also a struggle over who is recognized, under what terms, and with what consequences for dignity, status, and continuity. The expression *ontological negotiation* is therefore proposed here as a conceptual extension rather than as an already established subfield: it refers to negotiations in which recognition, legitimacy, and symbolic continuity are part of the bargaining structure itself (Mitzen, 2006; Bartelson, 2013).

The phrase **artificial intelligence** in AION does not imply autonomous political judgment or algorithmic substitution for diplomacy. Rather, it refers to the use of computational modeling and simulation to represent how such variables interact across repeated negotiation rounds. This usage is consistent with emerging scholarship on AI in peace processes, which frames AI as a tool for structuring dialogue, preserving institutional memory, supporting knowledge synthesis, and clarifying complex negotiation environments (Wählisch, 2025). It is also consistent with the literature on automated negotiation systems, which examines how

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computational **decision-making entities** can model strategic interaction under varying constraints (Luo et al., 2024).

Taken together, the name **AION** reflects the paper's central claim: some conflicts become difficult to negotiate not only because material interests clash, but because actors experience concession, recognition, and symbolic loss as questions of political and existential continuity. The model is designed to make those dynamics computationally legible while remaining explicit about the limits of simulation in representing real-world mediation (Mitzen, 2006; Wählisch, 2025).

The model begins from the premise that some conflicts deteriorate not only because violence increases, but because the symbolic cost of concession rises over time. In such environments, rigidity may emerge from perceived humiliation as much as from material insecurity. Likewise, sabotage may function not merely as tactical disruption, but as a mechanism for preserving internal legitimacy when negotiation itself is framed as weakness or betrayal. A simulation architecture that ignores these factors may capture escalation in military or institutional terms while missing the processes through which political space for mediation narrows.

Accordingly, AION is designed as an exploratory simulation environment for conflicts in which symbolic weight, security claims, and legitimacy pressures interact dynamically. It does not attempt to predict real-world outcomes, nor does it claim to substitute for diplomacy, law, or political representation. Its purpose is narrower and more analytical: to model how variables such as tension, perceived humiliation, sabotage propensity, and willingness to compromise interact across successive rounds of negotiation. The goal is to make visible some of the structural mechanisms through which a conflict moves toward fragile stability, progressive deterioration, or collapse.

This framing also clarifies the paper's core methodological wager. If peace processes fail partly because they are modeled too narrowly as disputes over interests or enforcement, then a useful simulation must include variables that capture symbolic injury and the erosion of legitimacy. At the same time, these variables cannot simply be inserted as abstract concepts; they must be operationalized in ways that reveal both their explanatory value and their modeling limits. As the first AION experiment shows, perceived humiliation is especially important in this regard: it appears to be indispensable for representing the degradation of negotiation space, yet difficult to model without introducing a structural bias toward deterioration. That tension is not a flaw external to the project; it is one of the central findings that motivates the model's next iteration.

2. Model Architecture and Experimental Design

AION is designed as an exploratory simulation model rather than a predictive engine. Its purpose is not to forecast the behavior of real-world actors in a specific diplomatic process, but to examine how negotiation spaces change when symbolic attachment, security pressure, rigidity, sabotage, and perceived humiliation interact over time. The model therefore operates as a structured abstraction: it simplifies political reality in order to isolate

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mechanisms that may help explain why some negotiation environments remain fragile, why others deteriorate gradually, and why some collapse altogether.

2.1 Methodological grounding sentence

AION is methodologically situated within the tradition of agent-based computational modeling and generative social science, where simulations are used not primarily for direct prediction, but to explore whether formally specified mechanisms can generate interpretable social dynamics (Epstein, 2006). In this methodological context, the term *agents* refers to autonomous decision-making entities within a simulation (units with distinct attributes, heuristic rules, and interaction effects) and not to contemporary AI-agent systems such as large language model assistants, workflow agents, or tool-orchestration frameworks. In AION, these agents are substantively modeled as political actors participating in repeated negotiation rounds, and the term *actors* is therefore used throughout the paper when referring to the model's conflict units. Its design also aligns with pattern-oriented approaches to complex systems modeling, which emphasize the importance of reproducing analytically meaningful patterns rather than exhaustive realism (Grimm et al., 2005). Because AION is a first-stage exploratory model, questions of validation are approached in line with recent work on methods that support validation in agent-based simulation (Collins et al., 2024).

2.2. General architecture

The AION prototype was developed in Python as a discrete, round-based simulation architecture composed of actors, demands, and aggregate system indicators. Actors were parameterized according to strategic and affective variables, including power, war fatigue, humiliation sensitivity, security need, willingness to compromise, sabotage propensity, and symbolic attachment, while demands were encoded through material, symbolic, and security-related attributes. In each round, a parameter matrix combined actor-level and demand-level values to estimate negotiation pressure, determine heuristic action selection, and recalculate the system's core indicators: tension, probability of agreement, perceived humiliation, and sabotage risk. To ensure comparability across outcomes, each scenario was executed over 20 rounds, generating longitudinal traces and final positional heatmaps for analysis.

At its core, AION models negotiation as a sequence of discrete rounds. In each round, actors evaluate the demands that matter most to them and select among a limited set of actions: hardening their position, making a partial concession, requesting an external guarantee, or engaging in sabotage. These actions alter both the structural state of the negotiation and the internal state of the actors. The model then updates a set of aggregate indicators that describe the condition of the system as a whole.

This architecture rests on three basic components: **actors**, **demands**, and **system-level metrics**.

Actors are entities that participate in the negotiation and possess both structural and psychological attributes. Each actor is defined by a combination of material and behavioral variables, including power, internal legitimacy, war fatigue, humiliation sensitivity, security need, willingness to compromise, and sabotage propensity. Actors also hold differentiated

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symbolic attachments to specific demands. This allows the model to represent the fact that the same issue may carry different meaning for different parties.

Demands are the contested issues around which negotiation takes place. Each demand is assigned values for material importance, symbolic importance, security relevance, convertibility, and public visibility. These dimensions are meant to distinguish between demands that are difficult to trade because they are symbolically charged, and those that are more easily transformed into compensatory arrangements or guarantees.

System-level metrics summarize the evolving state of the negotiation. In the current version of AION, the main metrics are system tension, probability of agreement, perceived humiliation, and sabotage risk. Together, these are intended to provide a compact representation of whether the system is moving toward stability, deadlock, or collapse.

2.3. Actor variables

Each actor in AION is initialized with a set of parameters meant to capture both strategic position and internal disposition. These parameters are not meant to represent fully realistic political psychology, but rather to provide a formal vocabulary for modeling differences in conflict behavior.

Power represents relative material or political capacity.
Internal legitimacy reflects the actor's need to maintain standing within its own constituency.
War fatigue captures the extent to which prolonged conflict increases openness to negotiated outcomes.
Humiliation sensitivity models how strongly an actor reacts to symbolic loss or concession.
Security need reflects the weight given to protection against perceived threat.
Willingness to compromise represents baseline openness to making concessions.
Sabotage propensity captures the likelihood that an actor will prefer disruption over accommodation under certain conditions.

In addition, each actor is assigned a set of **symbolic attachments** to particular demands. This is a key feature of the model. It allows an issue to function not simply as a negotiable object, but as a politically and emotionally charged node. In practical terms, symbolic attachment increases the difficulty of concession and amplifies the humiliation cost associated with movement on that issue.

2.4. Demand variables

The model treats demands as heterogeneous. Each one is described through five dimensions.

Material value indicates the extent to which the demand concerns resources, territory, access, or other concrete interests.
Symbolic value captures the degree to which the demand is tied to identity, recognition, memory, or sacred meaning.

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Security value reflects whether the demand is strongly linked to threat perception or defense.
Convertibility measures the extent to which the demand can be transformed into an alternative arrangement without being experienced as total loss.
Public visibility represents how exposed the demand is to public interpretation and therefore how likely it is to generate reputational or symbolic cost.

This design is important because it prevents the simulation from treating all issues as equivalent bargaining items. A highly visible and symbolically loaded demand with low convertibility behaves differently from a more technical or material demand. In AION, this difference shapes both actor choice and systemic outcomes.

2.5. Decision logic

In each round, actors assess the demands exerting the greatest pressure on them. Pressure is computed as a function of material value, symbolic value weighted by attachment, security relevance, and the actor's current position on the issue. Based on this pressure, and on the actor's internal state, the model selects one of four actions.

A **hardening** action increases positional rigidity on a given demand.
A **concession** reduces rigidity but may impose a humiliation cost.
A **request for guarantee** increases external assurance and may partially improve perceived security.
A **sabotage** action raises frustration and symbolic tension while further hardening positions.

The decision rule is heuristic rather than game-theoretic in the strict sense. Actors do not solve an optimization problem over all future rounds; instead, they respond to current structural pressure and internal load. In particular, high frustration and humiliation tend to push actors toward hardening or sabotage, while higher fatigue and willingness to compromise increase the likelihood of concession. Strong security needs, when insufficiently met, encourage requests for external guarantees.

This design choice reflects the paper's broader orientation. AION is not intended as a fully rational-choice model. It is a bounded, process-oriented simulation in which actors behave under symbolic and strategic pressure rather than under idealized conditions of complete foresight.

2.6. Aggregate metrics

After each round, AION updates four aggregate measures.

System tension captures the overall degree of divergence in actor positions, adjusted by average humiliation and insecurity. It represents the structural pressure within the negotiation environment.
Probability of agreement estimates the viability of negotiated settlement under current conditions. It is inversely related to tension and sabotage, but positively affected by guarantees and fatigue.

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Humiliation index captures average perceived symbolic injury across actors. In the current version of the model, this variable functions primarily as an accumulated cost of concession and asymmetry.
Sabotage risk estimates the likelihood that actors will shift from negotiation to disruption, based on sabotage propensity, frustration, and humiliation.

These metrics do not correspond to externally validated empirical indicators. Their role is interpretive and comparative: they allow the model to trace directional change across scenarios and to compare trajectories rather than to generate precise real-world measurements.

2.7. Synthetic scenario design

To test the model, AION was run through four synthetic scenarios designed to represent different negotiation environments: a **baseline scenario**, a **possible peace** scenario, a **collapse** scenario, and a **guarantee without fatigue** scenario. These scenarios do not map directly onto empirical events. Instead, they vary core parameters in order to explore how the system behaves under different combinations of fatigue, willingness to compromise, and external guarantees.

The **baseline scenario** represents a condition of moderate initial viability with no strong correction toward peace.
The **possible peace scenario** increases the conditions for negotiability, especially through greater flexibility and lower rigidity.
The **collapse scenario** intensifies the pressures that favor hardening and mutual deterioration.
The **guarantee without fatigue scenario** introduces stronger external guarantees without a corresponding increase in exhaustion or willingness to compromise.

This design makes it possible to compare not only better and worse outcomes, but different *types* of instability. Some scenarios may remain structurally negotiable while accumulating symbolic damage, whereas others may enter reciprocal closure and become much harder to reverse.

2.8. Scope and limits of the experiment

The current experimental design should be understood as a proof of concept. It is meant to test whether a relatively compact simulation can generate analytically meaningful differences across scenarios when symbolic and strategic variables are included explicitly. It is not intended to model the Israeli-Palestinian conflict in all its institutional, historical, legal, and demographic complexity, nor to produce policy recommendations in a direct sense.

The abstraction is deliberate. AION simplifies the field in order to foreground specific mechanisms: the growth of rigidity, the accumulation of humiliation, the role of sabotage, and the conditional effect of guarantees. The first experiment therefore evaluates whether these mechanisms produce interpretable trajectories. As later sections will show, the answer is yes but it also reveals an important methodological problem, namely that humiliation in the

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current model accumulates more convincingly than it heals. That asymmetry becomes one of the paper's central findings.

3. Results

The first AION experiment produced four distinct negotiation trajectories: **baseline**, **possible peace**, **collapse**, and **guarantee without fatigue**. Although all four scenarios are synthetic, they generate useful contrasts in how tension, agreement probability, perceived humiliation, and sabotage risk evolve over time. Taken together, they show that the model can differentiate between gradual deterioration, fragile negotiability, systemic closure, and externally supported but politically unstable bargaining environments.

3.1. Baseline scenario

The baseline scenario produced a pattern of **progressive deterioration without immediate collapse**. At the beginning of the run, the system retained a moderately viable negotiation space: agreement probability was relatively high, tension was limited, and sabotage risk remained contained. Over successive rounds, however, the model showed a steady decline in agreement probability accompanied by a gradual increase in tension, humiliation, and sabotage risk.

The most important feature of this scenario is that the deterioration was **cumulative rather than abrupt**. The system did not fail because of a single shock. Instead, the negotiation space eroded as symbolic injury accumulated and positional rigidity increased. Around the middle-to-late rounds, perceived humiliation overtook agreement probability, suggesting a structural transition in the dynamics of the model: from a fragile but negotiable environment to one in which the symbolic costs of movement began to outweigh the perceived value of settlement.

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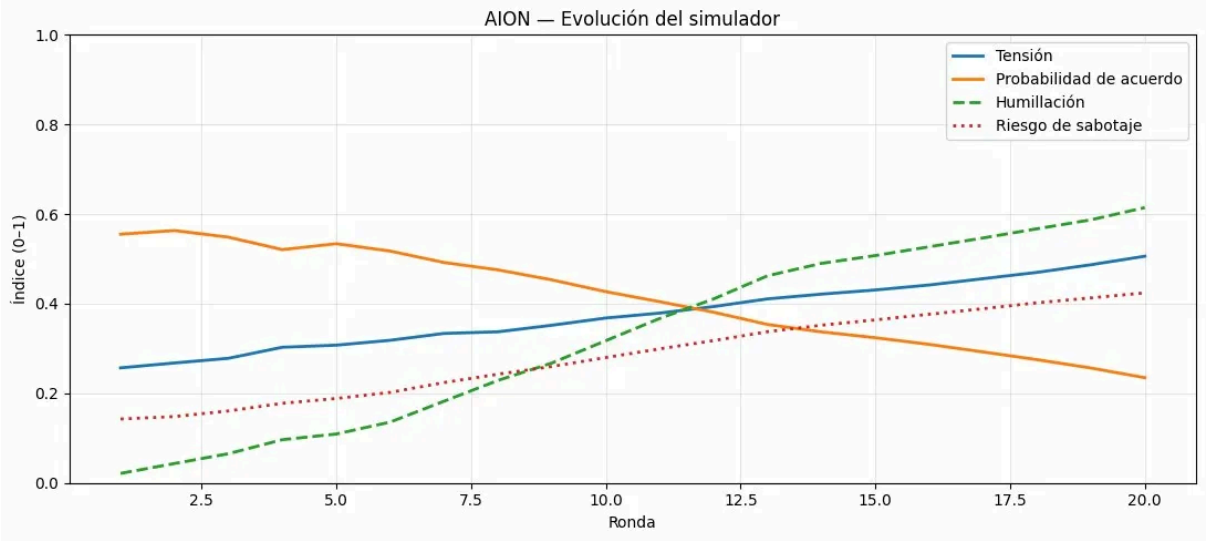

Figure 1.1. Baseline scenario: round-based evolution of systemic tension, probability of agreement, perceived humiliation, and sabotage risk. *The simulation shows a pattern of progressive deterioration without immediate collapse, as agreement probability declines while tension, humiliation, and sabotage gradually increase.*

The heatmap of final positions adds an important asymmetry to this interpretation. In the baseline scenario, the eventual deadlock was not driven by equal hardening on all sides. Rather, rigidity became concentrated in one actor, particularly on symbolically charged demands. This suggests that, in the model's initial configuration, deadlock may emerge not only from mutual polarization, but also from unilateral or concentrated inflexibility around high-salience issues.

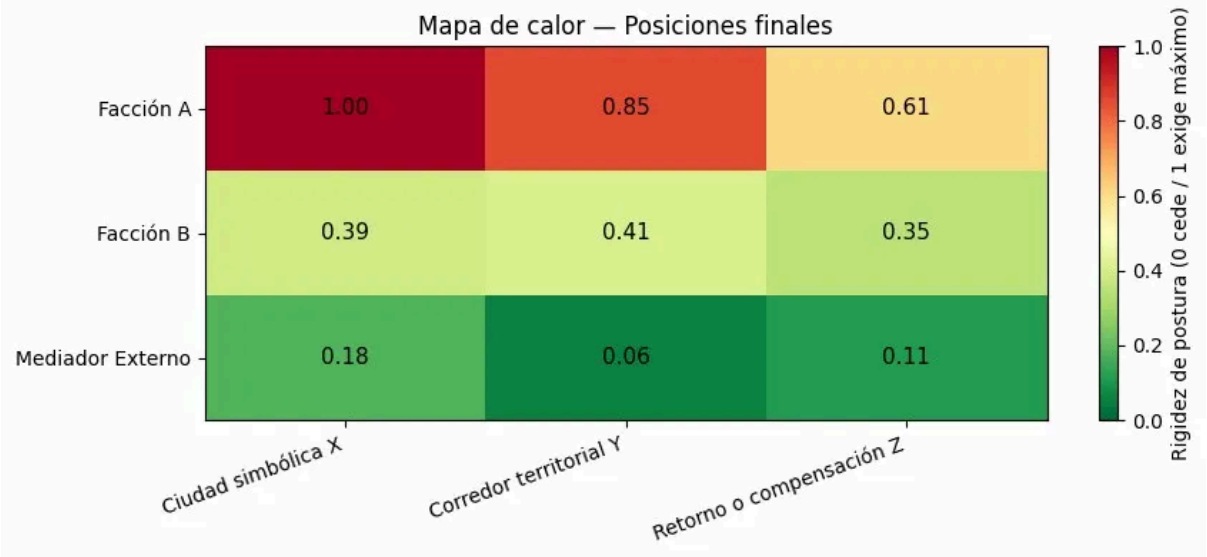

Figure 1.2. Baseline scenario: final positional rigidity across actors and demands. *The heatmap shows that deadlock is driven primarily by concentrated rigidity in one actor, especially around symbolically charged demands, rather than by fully symmetrical hardening.*

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In analytical terms, the baseline scenario represents a **degrading negotiation field**: not yet a full collapse, but no longer a stable bargaining environment.

3.2. Possible peace scenario

The possible peace scenario generated the most favorable outcome among the four, but it did not produce a fully stable peace. Instead, it produced what may best be described as **fragile negotiability**. In this configuration, agreement probability remained comparatively high throughout most of the run, while system tension stayed relatively low and sabotage risk rose only modestly.

This matters because it shows that the model is capable of producing a qualitatively different trajectory from the baseline. The negotiation space does not immediately erode; flexibility is preserved longer, and the system retains a meaningful chance of settlement across multiple rounds. The final heatmap confirms this interpretation by showing comparatively low rigidity across both principal actors.

At the same time, the scenario exposed an important limit. Even under more favorable conditions, perceived humiliation continued to grow and eventually became one of the strongest forces in the system. In other words, the simulation generated a configuration in which political bargaining remained viable in structural terms, but symbolic injury continued to accumulate beneath the surface.

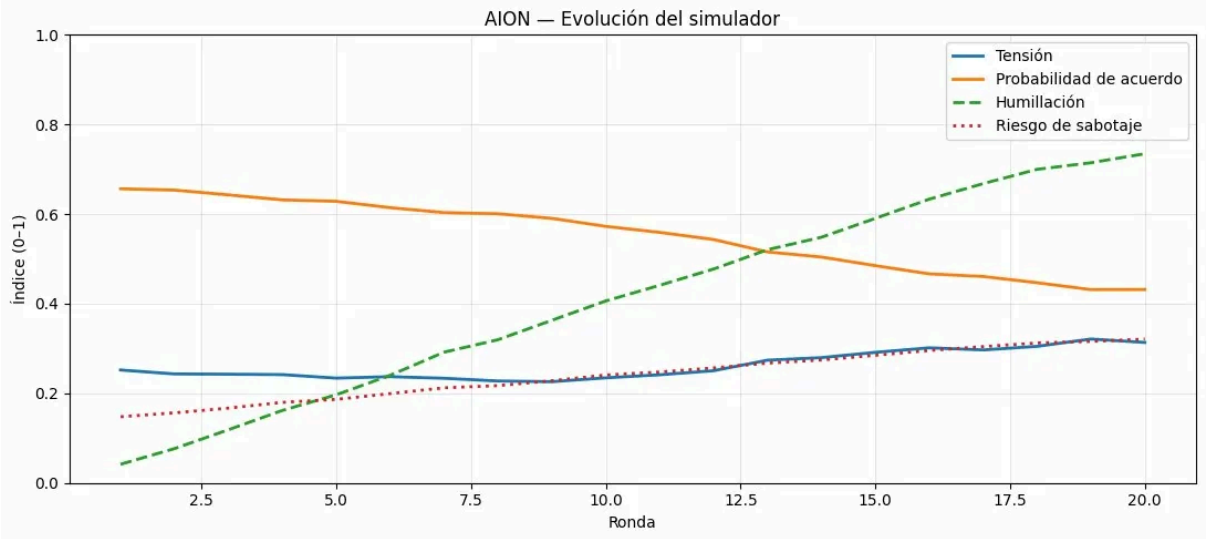

Figure 2.1. Possible peace scenario: round-based evolution of systemic tension, probability of agreement, perceived humiliation, and sabotage risk. *The simulation preserves a comparatively viable negotiation space, with low tension and moderate agreement probability, but still exhibits a sustained accumulation of perceived humiliation.*

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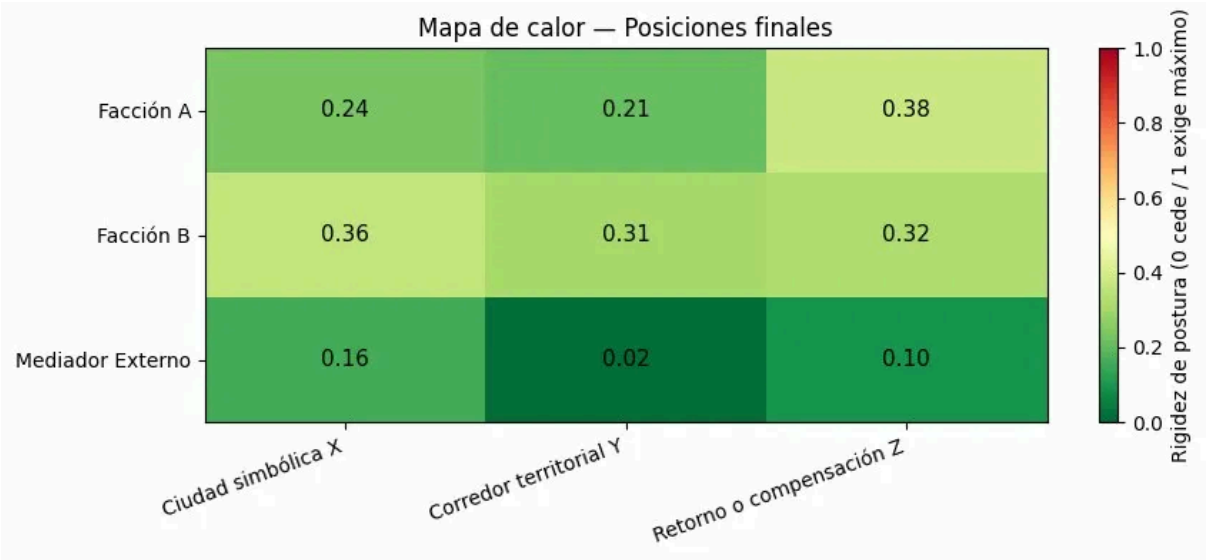

Figure 2.2. Possible peace scenario: final positional rigidity across actors and demands. *The heatmap indicates relatively low rigidity across the main actors, suggesting bilateral flexibility, although symbolic instability remains present in the broader system dynamics.*

This is one of the most revealing results of the experiment. It suggests that a negotiation can remain materially and procedurally alive while still becoming emotionally and symbolically more expensive over time. The possible peace scenario therefore does not represent reconciliation. It represents a **negotiable but affectively unstable peace path**.

3.3. Collapse scenario

The collapse scenario produced the clearest case of **systemic closure**. Agreement probability fell sharply across the run, while tension, humiliation, and sabotage risk rose together in a mutually reinforcing pattern. Unlike the baseline scenario, where deterioration remained partly asymmetrical, collapse was characterized by **bilateral hardening** and much stronger synchrony across negative indicators.

This scenario is analytically important because it displays a threshold effect. After a certain point in the run, agreement probability fell below both tension and sabotage risk, and the system did not recover. From that stage onward, the model entered a tightening feedback loop: increased rigidity raised humiliation, heightened humiliation contributed to sabotage risk, and sabotage further reduced the space for agreement. The result was not merely worsening negotiation conditions, but a loss of reversibility.

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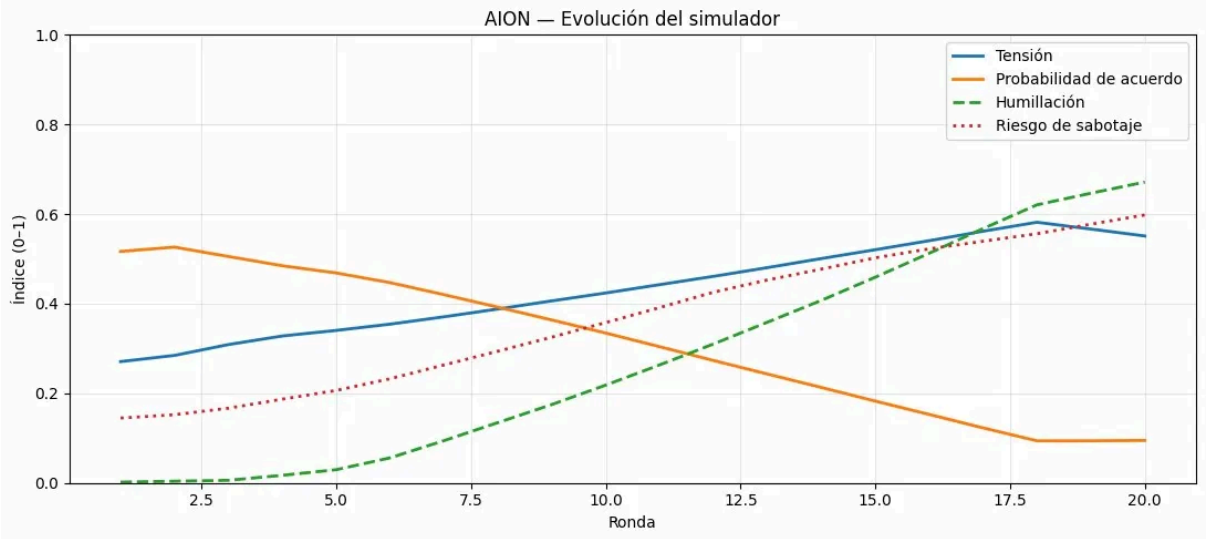

Figure 3.1. Collapse scenario: round-based evolution of systemic tension, probability of agreement, perceived humiliation, and sabotage risk. *The simulation displays systemic closure, with agreement probability collapsing as tension, humiliation, and sabotage rise in a mutually reinforcing pattern.*

The heatmap makes this especially clear. By the end of the simulation, both principal actors had hardened to near-maximum levels across several demands, including those with high symbolic weight. This indicates that collapse in AION is not simply the absence of peace; it is the emergence of a negotiation environment in which multiple actors converge toward closure simultaneously.

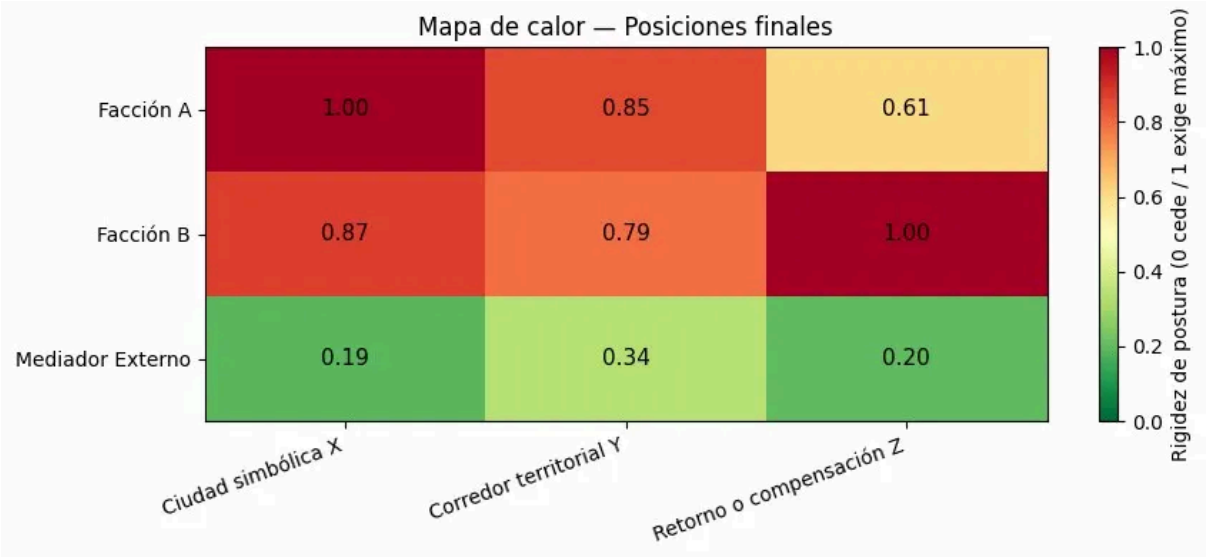

Figure 3.2. Collapse scenario: final positional rigidity across actors and demands. *The heatmap shows near-maximal bilateral hardening across several demands, indicating reciprocal closure and loss of reversibility in the negotiation space.*

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For the purposes of the model, collapse therefore marks a shift from **erosion** to **self-reinforcing deadlock**. It is the scenario in which the interaction among rigidity, humiliation, and sabotage is most visible.

3.4. Guarantee without fatigue scenario

The fourth scenario, guarantee without fatigue, produced one of the most conceptually useful outcomes. It shows that **external guarantees alone are insufficient to stabilize negotiation when actors are not sufficiently exhausted or willing to compromise**. At first, this scenario appears more favorable than the baseline and less severe than collapse: agreement probability begins from a stronger position, and the initial increase in tension is somewhat moderated. However, over time the system drifts toward a pattern much closer to collapse than to possible peace.

Agreement probability declines substantially, while humiliation and sabotage continue to rise. By the later rounds, sabotage risk overtakes agreement probability, and the system's trajectory becomes clearly unstable. The key insight is that guarantees delay deterioration but do not reverse it.

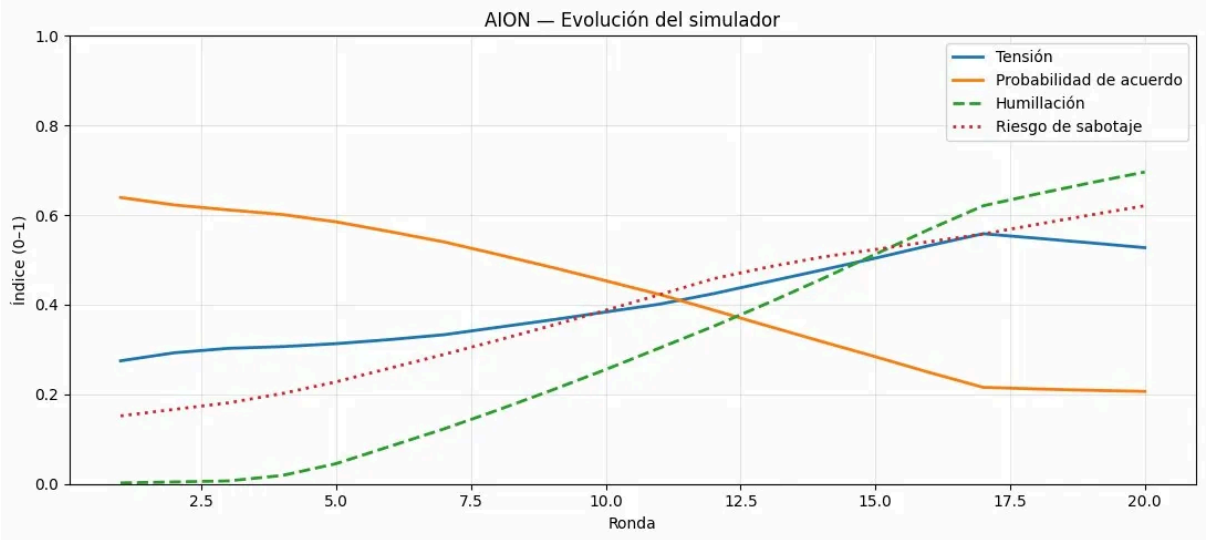

Figure 3.1. Guarantee without fatigue scenario: round-based evolution of systemic tension, probability of agreement, perceived humiliation, and sabotage risk. *External guarantees initially moderate deterioration, but the system ultimately trends toward instability as humiliation and sabotage continue to grow in the absence of sufficient fatigue or willingness to compromise.*

The heatmap provides an additional layer of interpretation. In this scenario, both principal actors end in highly rigid positions, and even the external mediator shows increased rigidity on one of the most symbolically charged demands. This suggests that guarantees, in the absence of sufficient fatigue or reciprocal flexibility, may become absorbed into the conflict rather than standing outside it as stabilizing instruments.

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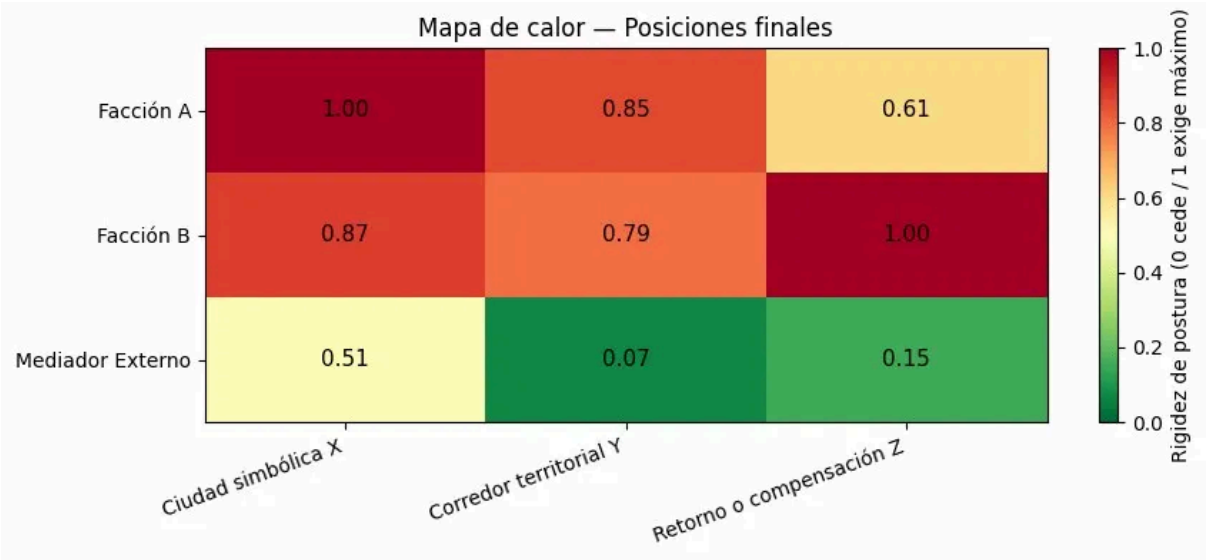

Figure 3.2. Guarantee without fatigue scenario: final positional rigidity across actors and demands. *The heatmap shows persistent bilateral rigidity and suggests that external guarantees alone do not prevent closure when symbolic strain remains unresolved.*

This scenario therefore distinguishes between two conditions that are often conflated in peace analysis: **external assurance** and **internal readiness for compromise**. In AION, they are not equivalent. Guarantees can reduce insecurity, but they do not automatically reduce humiliation, rigidity, or sabotage incentives. As a result, they may prolong negotiability without producing transformation.

3.5. Cross-scenario comparison

Across all four scenarios, one variable stands out as especially persistent: **perceived humiliation**. Whether the system moved toward gradual deterioration, fragile stability, or full collapse, humiliation tended to rise over time and exert increasing influence on the negotiation environment. This makes it the most analytically consequential variable in the first experiment.

The scenarios can be grouped into three broad types.

The **baseline scenario** represents progressive deterioration with partially asymmetric rigidity.
The **possible peace scenario** represents sustained negotiability under conditions of low rigidity, but with unresolved symbolic accumulation.
The **collapse** and **guarantee without fatigue** scenarios both move toward closure, though through somewhat different pathways: the former through overt bilateral hardening, the latter through the insufficiency of guarantees in the absence of exhaustion and compromise.

Two broader findings emerge from this comparison.

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First, **reducing tension is not enough**. A system may remain comparatively calm in structural terms while still accumulating symbolic damage that undermines future settlement. This is clearest in the possible peace scenario.

Second, **external guarantees are not substitutes for political or affective transformation**. They may improve short-term stability, but they do not by themselves generate a sustainable bargaining environment when humiliation and rigidity continue to grow.

Taken together, these results suggest that AION is especially useful for modeling how negotiation spaces degrade. The model can distinguish among forms of instability, show how symbolic and strategic variables interact, and make visible the different ways a process may remain open, narrow, or close altogether. At the same time, the experiment also points toward the model's main limitation: humiliation behaves as a powerful driver of deterioration, but not yet as a variable capable of meaningful recovery. That issue is central to the next section.

Editorial note

This article is published as a working paper and should be read as an exploratory study. It was developed and published by the author as part of an independent research and laboratory initiative. The conceptual design of the model, the research direction, the scenario framing, and the interpretation of results are the author's own. GPT-5.4 Thinking was used as a language and drafting assistant to improve clarity, structure, and fluency in English. All substantive decisions, including the framing of the argument, the selection of scenarios, and the final editorial content, were made by the author.

References

Legal and political framework

International Court of Justice. (2024, July 19). *Legal consequences arising from the policies and practices of Israel in the Occupied Palestinian Territory, including East Jerusalem* (Advisory Opinion).

United Nations. (2025). *High-level international conference for the peaceful settlement of the question of Palestine and the implementation of the two-State solution*.

United Nations Peacemaker. (2022). *Strengthening the role of mediation in the peaceful settlement of disputes, conflict prevention and resolution*.

Conceptual foundations: ontology, recognition, negotiation

Bartelson, J. (2013). Three concepts of recognition. *International Theory, 5*(1), 107–129.

DOI: https://doi.org/10.5281/zenodo.18907453
Preprint

Mitzen, J. (2006). Ontological security in world politics: State identity and the security dilemma. *European Journal of International Relations, 12*(3), 341–370.

Luo, X., et al. (2024). A survey of automated negotiation. *Artificial Intelligence Review*.

Wählisch, M. (2025). Leveraging AI in peace processes: A framework for digital dialogues. *Data & Policy*.

Methodological references

Collins, A. J., et al. (2024). Methods that support the validation of agent-based models. *Journal of Artificial Societies and Social Simulation, 27*(1).

Epstein, J. M. (2006). *Generative social science: Studies in agent-based computational modeling*. Princeton University Press.

Grimm, V., et al. (2005). Pattern-oriented modeling of agent-based complex systems. *Science, 310*(5750), 987–991.