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World-Building as Cognitive Simulation: A Cognitive-Poetic Analysis of George R. R. Martin's *A Song of Ice and Fire*

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Abstract

This study examines George R. R. Martin's *A Song of Ice and Fire* through a cognitive-poetic approach, focusing on the relationship between world-building and cognitive simulation. The study argues that Martin's fictional world is not simply a detailed background for the narrative but an active cognitive environment that readers gradually construct, test, and revise. The analysis draws on the concept of simulation, which understands fiction as a way of mentally modelling social situations, characters, emotions, intentions, relationships, and possible actions. Martin's detailed geography, political systems, histories, cultures, social structures, languages, and material environments provide familiar cognitive frameworks through which readers can understand the unfamiliar elements of Westeros and Essos. At the same time, fragmented perspectives, limited character knowledge, political uncertainty, historical memories, supernatural events, and conflicting information require readers to make continuous inferences and revise their mental models. The study particularly examines spatial simulation, social simulation, political causality, historical memory, embodied experience, linguistic world-building, and supernatural disruption. It argues that Martin maintains narrative engagement by balancing familiarity with novelty and coherence with uncertainty. Thus, world-building functions as a cognitive mechanism through which readers construct the storyworld, simulate characters and situations, make predictions, experience emotional and ethical responses, and continuously revise their understanding of the fictional world.

Keywords: Cognitive Poetics; World-Building; Cognitive Simulation; Storyworld; Theory of Mind; Spatial Simulation

1. INTRODUCTION

Contemporary fantasy fiction derives much of its power from constructing alternative worlds containing unfamiliar geographies, political systems, cultures, histories, supernatural beings, and forms of magic. Yet effective fantasy cannot rely entirely on novelty. Readers require familiar structures to construct stable mental representations of unfamiliar environments. George R. R. Martin's *A Song of Ice and Fire*, beginning with *A Game of Thrones* (1996), offers a productive example of this cognitive negotiation. Its extensive geography, histories, religions, social hierarchies, political institutions, and cultures create a complex storyworld that readers must mentally assemble from fragmented perspectives.

This study examines Martin's world-building through the cognitive concept of simulation. Keith Oatley conceptualizes fiction as a simulation of social experience, enabling readers to model characters, intentions, emotions, relationships, and possible actions. Similarly, possible-worlds and storyworld theories emphasize the reader's imaginative construction of the fictional environment. Martin's detailed world-building therefore provides the cognitive framework within which simulation becomes possible.

The central argument is that world-building and simulation operate as mutually reinforcing processes. While readers gradually construct a coherent model of Westeros and Essos, restricted character knowledge prevents complete certainty. Readers may understand political structures and geography while remaining uncertain about motives, alliances, betrayals, and future events. This interaction between coherence and uncertainty encourages active inference. Thus, *A Song of Ice and Fire* sustains cognitive engagement by making its world structurally comprehensible while keeping its experiential possibilities unpredictable.

Existing scholarship on *A Song of Ice and Fire* has examined its medievalism, political structures, social complexity, representation, language, and world-building. Shiloh Carroll's study, for instance, situates Martin's fictional universe within traditions of medievalism and examines its claims to historical realism, while Facchini explores the series' representation and reception of the Middle Ages (Carroll 2018; Facchini 2017). Computational research has further demonstrated that the character-interaction networks in *A Song of Ice and Fire* exhibit structural properties comparable to real-world social networks, suggesting that such organization may help readers process the series' extraordinary narrative scale (Labatut and Bost 2020). Linguistic research has also examined Martin's neologisms, demonstrating how terms such as *Kingsguard*, *dragonglass*, and *warg* contribute to world-building through conceptual blending and the integration of familiar and unfamiliar meanings (Akram and Baoussidi).

However, these approaches have not been sufficiently integrated with simulation as a cognitive-poetic account of reading. Cognitive scholarship conceptualizes fiction as a simulation that operates in readers' minds, enabling the modelling of social situations, emotions, intentions, and relationships (Oatley 1999, 2012; Mar and Oatley 2008). The present study therefore proposes an integrated framework in which world-building provides the cognitive environment; simulation activates that environment; uncertainty tests the resulting model; and revision maintains engagement. World-building is consequently understood not as a static accumulation of setting details but as an interaction between textual cues and readerly cognition, through which readers construct, test, revise, and extend mental representations of Martin's storyworld.

2. METHODOLOGY

Cognitive poetics examines literature through the mental processes involved in

reading, attention, imagination, emotion, categorization, and meaning construction. Rather than viewing meaning as existing independently within the text, cognitive approaches emphasize the interaction between textual structures and readers' cognitive activity (Stockwell 1-10). For the present study, simulation is particularly significant. Keith Oatley conceptualizes fiction as a form of cognitive and emotional simulation that operates in readers' minds, enabling them to explore situations, emotions, and interpersonal relationships through imaginative engagement (Oatley 101-17). This perspective is especially applicable to George R. R. Martin's *A Song of Ice and Fire*, where readers continually infer what characters know, believe, intend, and might do.

Simulation transforms reading into a form of hypothetical participation. Readers encountering danger, conflict, or political uncertainty construct expectations concerning characters' decisions and their possible consequences. Cognitive approaches to literary reading identify related processes of inference, situation-model construction, immersion, mental simulation, and imagery (Jacobs and Willems). The process can therefore operate through physical, social, and counterfactual simulation. Physical simulation involves constructing environments and bodily actions; social simulation involves modelling relationships, intentions, and conflicts; and counterfactual simulation involves imagining alternative actions and possible futures.

The third level is particularly important in Martin's narrative. Political alliances, marriages, military campaigns, succession disputes, betrayals, journeys, and battles create situations whose outcomes remain uncertain. Readers consequently generate and revise predictions as they construct and update mental models of the fictional world. Reading thus becomes closely associated with predictive and inferential processing, as readers simulate possible developments within the storyworld (Jacobs and Willems).

3. DISCUSSION

One of the most significant forms of simulation in *A Song of Ice and Fire* is spatial simulation. Readers construct an internal geography comprising castles, cities, forests, seas, mountains, roads, islands, kingdoms, borders, and distant territories. Spatial cognition becomes particularly important because movement carries narrative consequences. Distance influences political communication, military logistics, trade, escape, isolation, and access to information. Westeros is therefore experienced not as a static map but as a functional spatial system. The Wall exemplifies this multidimensional construction. It operates simultaneously as a geographical boundary, military defence, political institution, cultural symbol, psychological threshold, and narrative division between the known and unknown. Similarly, Winterfell functions not merely as a castle but as a cognitive anchor associated with the Stark family and northern identity. King's Landing becomes associated with political power, surveillance, deception, vulnerability, and conflict through its courts, streets, chambers, and execution sites.

Martin consequently transforms geographical locations into socially and emotionally meaningful spaces. Readers' mental representations incorporate physical characteristics alongside narrative associations and expectations. Spatial simulation thus contributes directly to storyworld construction. Moreover, the large-scale character-interaction networks in *A Song of Ice and Fire* have been found to display patterns comparable to real-world social networks. Such structural organization may help readers process an enormous cast without overwhelming ordinary cognitive capacities. Martin's spatial complexity, therefore, is supported by underlying relational patterns that facilitate comprehension, prediction, and narrative engagement.

The most significant form of simulation in *A Song of Ice and Fire* is social simulation. Martin presents numerous characters whose intentions, beliefs, and knowledge are frequently concealed from other characters and readers. Consequently, readers must continually infer mental states, asking what a character knows, believes, desires, conceals, or intends. Political conversations therefore become complex exercises in theory of mind, requiring readers to model multiple perspectives simultaneously.

Research on fiction and cognition associates literary reading with mentalizing and the simulation of beliefs, intentions, and social situations. Tamir and colleagues, for instance, identify connections between fiction reading, social cognition, and activity within components of the default network associated with imagining hypothetical situations and mental states. Martin's narrative structure exploits these cognitive capacities extensively. Tyrion's political interactions, Cersei's strategic calculations, Littlefinger's manipulations, Varys's information networks, Arya's identity transformations, Jon's divided loyalties, and Daenerys's evolving political consciousness require readers to construct partially accessible mental models of characters.

The narrative consequently produces a distributed theory-of-mind environment, in which knowledge is unevenly distributed among characters and readers. This creates asymmetric simulation. When readers know that a character is approaching danger while the character remains unaware, the resulting epistemic advantage generates suspense. Conversely, when a character possesses information unavailable to readers, epistemic disadvantage produces mystery. Martin continually shifts between these states, sustaining inference, uncertainty, and interpretive engagement throughout the narrative.

Martin's narrative is particularly effective because knowledge is distributed across multiple perspectives. His use of numerous point-of-view characters prevents the fictional world from being presented through a single authoritative consciousness. Instead, each perspective supplies a partial representation that readers must integrate into an evolving storyworld model. This process can be represented as POV A + POV B + POV C + historical information + rumours + memory = evolving storyworld model. Because these sources may conflict, the resulting model remains provisional. A historical event may be remembered differently by different characters; a political figure may appear heroic to one character and dangerous to another; and supernatural phenomena may initially be interpreted as superstition before becoming undeniable.

Readers must therefore distinguish between what is true, what is believed, what is remembered, what is rumoured, what is predicted, and what remains unknown. This distinction is central to cognitive reading because readers construct not only a model of the storyworld but also models of how individual characters understand that world. The resulting hierarchy can be represented as: Storyworld → Character's knowledge → Character's interpretation of others → Reader's reconstruction. Such layered knowledge produces cognitive uncertainty while preventing narrative confusion. Readers continually compare perspectives, identify contradictions, revise assumptions, and infer missing information. Thus, distributed knowledge functions as an architecture of uncertainty, making *A Song of Ice and Fire* cognitively demanding while simultaneously sustaining curiosity, prediction, and interpretive engagement.

Historical memory is a fundamental component of George R. R. Martin's world-building in *A Song of Ice and Fire*. The fictional present is continuously shaped by memories of

previous wars, rebellions, dynasties, marriages, betrayals, migrations, and political settlements. Rather than functioning as mere background information, history operates as a cognitive framework through which characters and readers interpret present events. Characters do not encounter political situations without precedent; they understand them through memories and inherited narratives. For instance, Ned Stark's memories of Robert's Rebellion influence his perception of loyalty, legitimacy, and political danger, while Daenerys Targaryen's understanding of her family's past shapes her belief in dynastic legitimacy and her claim to the Iron Throne. Similarly, the Northern characters' attitudes toward political authority are informed by memories of ancestral independence, loyalty, and conflict. Individual houses construct their identities through stories of past achievements, humiliations, alliances, and grievances. From a cognitive-poetic perspective, historical memory enables simulation because readers use knowledge of the past to model characters' beliefs and anticipate their actions. The process can therefore be represented as: Past event → cultural memory → character belief → present action → future historical memory. History consequently becomes an active cognitive mechanism. By embedding the present within layers of remembered experience, Martin creates a world that possesses temporal depth, psychological continuity, and historical plausibility.

Martin's world-building becomes particularly sophisticated through its representation of political systems. Political conflict is rarely reduced to a simple opposition between good and evil; instead, political action emerges from interconnected systems of kinship, inheritance, military power, economic resources, reputation, marriage, geography, information, and personal ambition. This complexity enables readers to simulate political causality. A marriage, for instance, is not merely a romantic event. It can generate a chain of

consequences: alliance → military support → inheritance claim → territorial consolidation → altered balance of power. Similarly, a ruler's death may produce a succession crisis → competing claims → faction formation → military conflict → economic instability → social disruption. Readers consequently develop a mental model of politics as an interconnected system.

This systemic causality contributes significantly to the perceived realism of Martin's fictional world. Westeros appears convincing not simply because it resembles aspects of medieval Europe, but because actions generate predictable yet uncertain consequences within a functioning social system. Familiar cognitive schemas concerning hierarchy, kinship, competition, loyalty, resources, and ambition help readers interpret unfamiliar institutions. From a cognitive-poetic perspective, political world-building therefore functions as a form of cognitive scaffolding. Readers apply familiar social knowledge to understand fictional institutions while simultaneously revising their expectations according to the specific rules of Westeros. Political complexity consequently becomes cognitively manageable, allowing readers to simulate both individual decisions and their broader systemic consequences.

Martin's fantasy world is intensely material, repeatedly foregrounding food, clothing, weapons, weather, bodily pain, exhaustion, wounds, hunger, cold, heat, horses, ships, forests, mud, blood, armour, and physical labour. Such details facilitate embodied simulation, enabling readers to construct experiential models of bodily states and physical environments. Caracciolo's work on literary reading suggests that embodied simulation may involve bodily feelings, motor resonance, experiential models, and mental imagery, while neurocognitive research has examined interactions between motor and mentalizing processes during narrative comprehension.

Martin's descriptions of physical conditions therefore contribute beyond visual representation. Cold in the North becomes an embodied threat rather than merely atmospheric decoration. Long journeys involve fatigue and physical limitation rather than simply connecting geographical locations. Sword fights become sequences of movement, effort, injury, and bodily risk. Hunger can influence judgement and behaviour, while wounds alter characters' subsequent abilities and choices. This material causality strengthens the reader's sense that Martin's fictional world operates according to consistent physical rules. Bodily conditions consequently become part of narrative causation: characters cannot act independently of exhaustion, weather, injury, hunger, or environmental constraints. The supernatural elements become particularly effective because they intrude upon an otherwise materially stabilized world. Dragons, Others, resurrection, and magic therefore appear disruptive precisely because readers have already constructed a cognitively credible physical environment. Embodied simulation thus reinforces both realism and the impact of fantasy.

A central feature of *A Song of Ice and Fire* is the gradual re-emergence of supernatural phenomena, including dragons, Others, wights, prophecy, visions, skinchanging, resurrection, and magical objects. These elements disrupt the reader's developing model of reality. However, Martin rarely presents the supernatural as a completely explained alternative system. Instead, it emerges through uncertainty, allowing readers to revise their assumptions incrementally. Initially, readers construct a model based largely on a political, historical, and material world. As supernatural events accumulate, this model becomes inadequate and develops into a political, historical, material, and uncertain supernatural world. The process resembles cognitive accommodation, whereby an existing mental representation must be modified when new information cannot be

adequately incorporated into it. The supernatural therefore functions not merely as fantasy decoration but as controlled cognitive disruption. The Others are particularly important because they challenge the political priorities of human characters. While Westerosi rulers concentrate on succession, territory, dynastic legitimacy, and military power, the threat beyond the Wall introduces a fundamentally different existential scale. This creates a significant cognitive contrast: characters simulate immediate political futures, while the narrative gradually reveals a non-human threat operating beyond their conceptual framework. Readers consequently recognize the limitations of individual and collective mental models. Supernatural disruption thus expands the storyworld while simultaneously increasing uncertainty, inference, and cognitive engagement.

World-building in *A Song of Ice and Fire* also operates through names, titles, and invented terminology. Terms such as *Kingsguard*, *warg*, *dragonglass*, *maester*, and *wildling*, alongside numerous surnames, institutions, and regional labels, enable readers to categorize and organize the fictional environment. Recent scholarship on Martin's neologisms suggests that expressions such as *Kingsguard*, *dragonglass*, and *warg* contribute to world-building by combining familiar linguistic structures with unfamiliar meanings through processes resembling conceptual blending. This strategy is cognitively efficient because invented terms rarely appear semantically empty. *Kingsguard*, for example, combines the familiar concept of a king with the social function of guarding, allowing readers to construct an initial interpretation before acquiring detailed contextual information. Similarly, *dragonglass* combines recognizable lexical elements that provide a semantic bridge to an unfamiliar fictional substance.

Readers consequently perform an inferential operation in which familiar linguistic elements + unfamiliar referent = emergent

fictional concept. Context subsequently modifies and enriches this initial representation. The term *warg*, for instance, acquires increasingly complex associations as readers encounter its supernatural significance and narrative applications. Language therefore functions as a fundamental cognitive mechanism of world-building. Invented terminology compresses complex information into memorable conceptual categories, helping readers distinguish people, places, institutions, objects, and practices. Martin's linguistic choices consequently make an enormous fictional environment more cognitively manageable while simultaneously producing a distinctive sense of cultural and historical depth.

The cognitive effectiveness of Martin's world-building can be understood through the dynamic relationship between familiarity and novelty. Westeros is sufficiently unfamiliar to function as a fantasy world, yet sufficiently familiar to remain cognitively accessible. Its monarchies, castles, feudal relationships, armies, religious institutions, trade networks, and dynastic conflicts activate readers' existing schemas of political and social organization. At the same time, dragons, undead creatures, supernatural visions, magical transformations, and extraordinary seasonal patterns disrupt these familiar frameworks. Readers therefore move through a sequence in which familiarity produces cognitive stability, novelty generates stimulation, integration encourages cognitive accommodation, and uncertainty activates prediction. This balance is crucial for sustained narrative engagement. A completely familiar fictional environment would offer limited cognitive stimulation because readers could rely almost entirely on existing knowledge. Conversely, a world in which every element were radically unfamiliar would impose excessive processing demands, making the construction of a coherent mental model difficult.

Martin instead produces structured novelty, combining recognizable social and

material systems with carefully controlled deviations from them. Familiar structures provide cognitive anchors, while unfamiliar elements require readers to modify and expand their representations. The resulting interaction allows readers to experience both recognition and discovery. From a cognitive-poetic perspective, world-building is therefore most effective when novelty operates within an intelligible framework. Martin's fictional world maintains this equilibrium by grounding extraordinary phenomena in recognizable systems of politics, geography, society, and human motivation.

Simulation in *A Song of Ice and Fire* is not purely intellectual; it is also deeply emotional and ethical. Readers' engagement with characters involves affective responses that develop as they simulate situations, motivations, relationships, and conflicts. Martin complicates this process by resisting straightforward moral categorization. Characters may appear sympathetic in one context and disturbing in another, while actions initially perceived as unjustifiable may become intelligible when additional information about circumstances, motives, or experiences is revealed. This narrative strategy encourages readers to simulate conflicting perspectives rather than simply assign characters to categories of good and evil. Instead of asking "Is this character good or evil?", readers are encouraged to ask "What circumstances make this character's decision intelligible?" The latter question requires greater perspective-taking because it involves reconstructing the character's beliefs, emotions, desires, constraints, and social circumstances.

Oatley's conception of fiction as social simulation is particularly relevant because literary narratives enable readers to model relationships and emotional states that may extend beyond their ordinary experiences. Martin's characters consequently function as complex cognitive and emotional models through which readers encounter competing

values and perspectives. The ethical force of *A Song of Ice and Fire* therefore emerges partly from the difficulty of simulation. Readers must repeatedly inhabit contradictory viewpoints, revise emotional judgments, and negotiate moral ambiguity. Simulation thus becomes simultaneously a cognitive, emotional, and ethical process.

This study has demonstrated that *A Song of Ice and Fire* achieves its extraordinary narrative complexity through the interaction of world-building, simulation, uncertainty, and cognitive revision. Martin's construction of geography, history, political institutions, social hierarchies, language, material environments, and supernatural systems provides readers with the cognitive architecture necessary to construct a coherent storyworld. Yet this coherence is continually challenged by fragmented perspectives, distributed knowledge, conflicting memories, political instability, embodied experiences, and supernatural disruption.

4. CONCLUSION

The analysis has shown that readers do not merely receive Martin's fictional world; they actively construct and simulate it. Spatial simulation organizes geographical relationships, social simulation requires theory-of-mind processes, political systems invite causal reasoning, and historical memory provides temporal continuity. Linguistic categorization and material detail further support the formation of increasingly sophisticated mental representations. At the same time, Martin's controlled use of novelty prevents these representations from becoming static. Ultimately, the cognitive-poetic significance of Martin's world-building lies in its ability to balance familiarity with novelty and coherence with uncertainty. Readers construct models, test predictions, encounter disruptions, and revise their assumptions. Emotional and ethical simulation further deepens this engagement by requiring readers to inhabit contradictory perspectives. Thus, world-

building functions not as decorative background but as an active cognitive mechanism that sustains interpretation, prediction, emotional involvement, and narrative engagement.

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