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Dimensions of Narrative Agency in the Age of Automatic Content Creation

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Dimensiones de la agencia narrativa en la era de la generación automática de contenidos

ABSTRACT

In this article, a two-dimensional framework is presented for analyzing narrative agency in digital media. Narrative experiences are positioned along two intersecting axes: the degree of agency afforded to users and the origin of narrative content, ranging from fully authored to fully algorithmic. The framework has been informed by concepts from narratology, game studies, and media theory. It is applied to explore how different forms of storytelling, including games, journalism, and generative systems, support varying levels of user participation in shaping narrative meaning. Through case-based analysis and theoretical synthesis, systemic narrative agency is defined as a media-general phenomenon, with medium-specific factors noted in application. Conceptual tools are offered for interpreting the implications of procedural and AI-assisted storytelling, and traditional assumptions about authorship, participation, and narrative structure are critically re-evaluated in the context of emerging digital practices.

KEYWORDS

Narrative agency; Interactive narrative; Storytelling; Narrative design space; Game studies; Generative AI; Framework.

RESUMEN

En este artículo se presenta un marco bidimensional para analizar la agencia narrativa en los medios digitales. Las experiencias narrativas se sitúan a lo largo de dos ejes que se intersectan: el grado de agencia concedido a los usuarios y el origen del contenido narrativo, que oscila entre lo completamente autoral y lo plenamente algorítmico. El marco se fundamenta en conceptos procedentes de la narratología, los estudios sobre videojuegos y la teoría de los medios.
Se aplica para explorar cómo distintas formas de narración —incluidos los videojuegos, el periodismo y los sistemas generativos— posibilitan diversos niveles de participación del usuario en la construcción del significado narrativo. A través de un análisis basado en casos y una síntesis teórica, la agencia narrativa sistémica se define como un fenómeno transversal a los medios, señalando los factores específicos de cada uno en su aplicación.
Asimismo, se ofrecen herramientas conceptuales para interpretar las implicaciones de la narración procesual y asistida por inteligencia artificial, y se reevalúan críticamente las suposiciones tradicionales sobre la autoría, la participación y la estructura narrativa en el contexto de las nuevas prácticas digitales emergentes.

KEYWORDS

Agencia narrativa; Narrativa interactiva; Narración; Espacio de diseño narrativo; Estudios sobre videojuegos; IA generativa; Marco teórico.

Dimensions de l'agència narrativa en l'era de la creació automàtica de continguts

RESUM

En aquest article es presenta un marc bidimensional per analitzar l'agència narrativa en els mitjans digitals. Les experiències narratives es situen al llarg de dos eixos que s'intersequen: el grau d'agència concedit als usuaris i l'origen del contingut narratiu, que oscil·la entre allò completament autoral i allò plenament algorítmic. El marc es fonamenta en conceptes provinents de la narratologia, els estudis sobre videojocs i la teoria dels mitjans.

S'aplica per explorar com diferents formes de narració —incloent-hi els videojocs, el periodisme i els sistemes generatius— permeten diversos nivells de participació de l'usuari en la construcció del significat narratiu. Mitjançant una anàlisi basada en casos i una síntesi teòrica, l'agència narrativa sistèmica es defineix com un fenomen transversal als mitjans, tot assenyalant els factors específics de cada un en la seva aplicació.

Així mateix, s'ofereixen eines conceptuals per interpretar les implicacions de la narració processual i assistida per intel·ligència artificial, i es reavaluen críticament les suposicions tradicionals sobre l'autoria, la participació i l'estructura narrativa en el context de les noves pràctiques digitals emergents.

PARAULES CLAU

Agència narrativa; Narrativa interactiva; Narració; Espai de disseny narratiu; Estudis sobre videojocs, IA generativa; Marc teòric.

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1. Introduction: Toward a New Framework for Narrative Agency

As computational techniques are increasingly used to assist in the production of narrative content, the boundaries between author, system, and audience are being redrawn. In narrative contexts, these changes manifest in the growing use of generative models, procedural logic, and adaptive interfaces. These tools are capable of introducing variation, simulating complexity, or responding to user input in real time. While such technologies do not possess agency in a human sense, they nonetheless shape the conditions under which narrative form and authorship are negotiated. This shift calls for new frameworks to describe how stories are constructed and experienced in environments where control is distributed and outcomes are not fully predetermined.

The concept of design space has long served as a powerful lens in interaction design and game studies. In its broadest sense, a design space defines "a space of possibilities" (MacLean et al., 1991, p. 203) that a designer can explore when creating or evaluating a system. When applied to storytelling, the idea of a narrative design space helps conceptualize the various ways in which stories can be structured, experienced, and generated. Salen and Zimmerman (2003) similarly treat games as systems of meaningful play, implicitly working within a space of possible configurations shaped by rules, tools, and intent. These narrative possibilities range from fixed linear sequences to emergent or dynamically assembled forms.

Over the past two decades, researchers have developed a range of frameworks to describe how narratives unfold in interactive systems. Jenkins (2004) introduced the idea of embedded narrative, highlighting how story elements are spatially distributed across game environments. Ryan (2001) and Murray (1997) emphasized different forms of interactivity and agency, distinguishing between exploratory and constructive participation. Juul (2005) analyzed the tension between rule-based gameplay and fictional immersion, while Aarseth (1997) framed ergodic literature as a class of texts that require non-trivial effort for traversal, including many interactive narratives.

These early frameworks largely revolved around authored systems, including branching narratives and modular structures that, while nonlinear, were still composed from pre-authored components. The rise of procedural generation introduced a new paradigm: story events, dialogue, or entire environments could be assembled dynamically based on formal rules rather than fixed sequences. This shift extended the narrative design space significantly, but also raised concerns about thematic coherence, authorial voice, and emotional structure.

The recent integration of generative AI systems, particularly large language models (LLMs), has introduced an additional layer of complexity. These systems can produce semantically rich and contextually adaptive narrative elements, potentially generating new content in real time. This opens up previously unattainable levels of variability, but also challenges traditional notions of authorship, structure, and narrative intent. What does narrative design mean when the output is no longer fully authored? What role does the designer play in systems that can invent their own characters, settings, and plots?

This article proposes a conceptual framework to help navigate these emerging challenges. The framework is a structured model that captures the range of ways in which a reader or player may participate in the construction of a story, from passive reception to co-creation with generative AI. This model is combined with a second axis representing narrative origin, which spans from fully authored to fully algorithmic systems. Together, these axes define a two-dimensional narrative design space. The framework accommodates traditional, procedural, and AI-assisted systems, and offers a conceptual map for locating narrative experiences within a continuum of agency and control.

While the primary focus of this article is on games, which offer the most illustrative and developed forms of interactive narrative design, the framework is intended to be media-general, with medium-specific factors noted in application. To that end, we also examine forms of digital journalism as a comparative domain. From traditional linear articles to interactive news experiences and AI-generated story summaries, journalism provides a parallel landscape in which narrative agency and automatic content creation are similarly in flux. By analyzing both games and journalism, the article aims to show how shared conceptual tools can illuminate emerging practices in computational storytelling.

By formalizing this space, the goal is to support both critical analysis and practical design. The framework allows researchers to compare diverse narrative systems and provides designers with a tool for articulating their creative goals, particularly in hybrid environments where authored constraints meet generative possibilities.

2. Background and Theoretical Foundations

Narrative agency, interactivity, and computational authorship have been central concerns in the study of digital storytelling and game design. This section outlines the theoretical foundations on which the proposed framework builds. It begins by tracing the evolution of narrative agency from classical literary theory to contemporary media studies, then examines the influence of branching structures and hypertext on nonlinear storytelling, and finally explores how procedural logic reshapes the relationship between authorship and system behavior. These foundations provide the necessary context for understanding the conceptual and technological shifts addressed in later sections.

2.1. Narrative Agency

The concept of narrative agency refers to the degree of influence a participant has over the unfolding of a story. While traditional narrative forms largely position the reader or viewer as an interpretive agent, interactive media expand this role to include selection, manipulation, and, in some cases, creation of story elements. The study of narrative agency has drawn on a range of disciplines, including narratology, media studies, game design, and digital aesthetics, each contributing distinct interpretations of what it means to "act" within a narrative system.

Although the term itself is modern, the conceptual roots of narrative agency extend to classical antiquity. In ***Poetics***, Aristotle presents a framework in which plot (***mythos***) is the central organizing principle of a tragedy, guided by the author's intent and designed to produce catharsis in the audience (Aristotle, trans. 1997). While agency remains firmly in the hands of the author, Aristotle's emphasis on the audience's emotional transformation implies an early recognition of the recipient's interpretive role. In rhetorical theory, particularly in the works of Cicero and Quintilian, the audience is treated as a decisive element in the success of a narrative or argument (Cicero, trans. 1942; Quintilian, trans. 2001). The persuasive power of a discourse depends not only on its internal structure but also on its adaptability to the audience's expectations, prior knowledge, and emotional state. These early theories thus framed the act of storytelling as an interaction between authorial structure and audience disposition, a relationship that modern frameworks would later reconceptualize in more participatory terms.

In the 20th century, the interpretive role of the reader was further elaborated by literary theorists such as Wolfgang Iser, whose reader-response theory emphasized the co-construction of meaning between text and reader. Roland Barthes' (1967) declaration of "the death of the author" positioned interpretation as the site of narrative agency, shifting focus from authorial intention to reader engagement. Although these models did not entail structural manipulation or interactivity in a computational sense, they laid important groundwork for thinking about narrative as a shared process shaped by both design and reception. Earlier experiments such as Surrealist automatic writing prefigure the decentering of intentional authorship, offering a historical analogue to contemporary automatic content creation.

Janet Murray (1997) was among the earliest to articulate the narrative potential of digital environments, introducing the notion of ***agency*** as "the satisfying power to take meanin-

gful action and see the results of our decisions and choices" (p. 159). While her definition was rooted in human-computer interaction, it established a foundation for considering how systems can simulate narrative consequences and afford a sense of authorship. Marie-Laure Ryan (2001) further refined this distinction, separating ***exploratory interactivity,*** where the user navigates pre-authored paths, from constructive interactivity, in which users contribute to the construction of the narrative world itself.

Later work has expanded the scope of narrative agency to account for more complex or ambiguous forms of participation. Espen Aarseth (1997) introduced the concept of ***ergodic literature***, in which non-trivial effort is required to traverse the text, foregrounding the material structure of narrative systems. While not all ergodic works afford agency in the sense of altering story outcomes, they often demand interpretive and navigational labor that complicates the traditional passive reading position. Jesper Juul (2005) emphasized the tension between ***fictional agency***, the feeling of acting meaningfully within a storyworld, and ***real agency***, the actual manipulation of the system's state. This distinction is particularly relevant in games, where player input may or may not correspond to narrative consequence. These contributions provide a conceptual foundation for this article's framework and will be revisited in later sections through more applied and domain-specific lenses.

These frameworks reveal that narrative agency is not a binary property, but a multidimensional concept that varies across media, systems, and contexts. It is shaped not only by user interaction but also by design choices: whether outcomes are fixed or variable, how many paths are available, whether actions modify future states, and to what extent narrative meaning is determined by system logic or player input.

For the purposes of this article, narrative agency is approached as a graduated spectrum rather than a fixed category. We consider agency only on the system-mediated interactions; audience's interpretive and imaginative dimensions are not treated here, in order to keep the framework centered on creators' design decisions. Thus, at one end lies passive reception, which here means the absence of system-mediated input, characteristic of linear texts and traditional media. At the other end is collaborative co-creation, where users influence not just the outcome but the construction of the narrative logic itself. Between these extremes lie various degrees of decision-making, customization, and generative interaction. This layered conception of agency serves as the basis for the model introduced in Section 4, in which user participation is mapped alongside the evolving role of algorithmic systems in producing narrative content.

2.2. Complementary Frameworks

In addition to the narratological and interaction-centered accounts reviewed above, more recent scholarship has emphasized phenomenological and heuristic approaches to agency. These frameworks do not analyze agency as a property embedded in system design but instead focus on how it is perceived, interpreted, and experienced by users. Two notable examples from the past few years are the player-centered models proposed by Andreen (2017) and Bódi (2023), each offering a multidimensional perspective on the lived experience of agency.

Andreen develops a phenomenological taxonomy based on player interviews and grounded theory. He identifies six experiential dimensions of narrative agency: affective immersion, temporal control, interpretive engagement, consequentiality, manipulation of order, and ontological transformation. These categories emphasize how players feel and interpret their involvement within unfolding narrative systems, regardless of how structurally open or closed those systems may be. In contrast to models grounded in formal design analysis, Andreen's approach centers the player's reflective awareness of agency during gameplay.

Bódi offers a multidimensional heuristic model that describes eight overlapping types of agency: narrative, ludic, strategic, character, performative, aesthetic, social, and a general player agency. Her framework integrates expressive, affective, and structural aspects of gameplay, emphasizing that agency in games is not a singular mechanism but a network of interrelated forces shaped by context, genre, and player disposition. Within this model, narrative agency is treated as one facet among many, highlighting the interdependence of story and system in shaping the player's sense of participation.

The emergence of such multidimensional models reflects a broader theoretical dialogue in game studies, especially the long-standing tension between narratological and ludological approaches. While narratology emphasizes story structures, representation, and reader interpretation, ludology focuses on rules, mechanics, and system-based interaction (Frasca, 2003). This debate has historically shaped how scholars conceptualize agency: either as an interpretive interaction with story, or as meaningful action within rule-bound environments. The frameworks of Andreen and Bódi attempt to reconcile these perspectives by acknowledging that agency is both structurally enabled and subjectively perceived.

These perspectives offer a productive contrast to the framework advanced in this article, which centers on agency as a design property, a structural affordance distributed between system, player, and algorithm. While not aimed at capturing the full diversity of experiential interpretation, our model provides a conceptual map of how different configura-

tions of authorship and interactivity shape narrative potential. Read together, these complementary approaches suggest that narrative agency is both architected through system logic and constructed through user interpretation and affective engagement.

While these frameworks emphasize the lived experience of agency, the following sections return to the structural and computational mechanisms through which such agency is enabled and constrained.

2.3. From Branching Structures to Generative Systems

The operationalization of narrative agency in digital media has historically relied on branching structures. These systems allow for user decisions to influence the trajectory of the narrative, often by selecting among predefined paths. Common in interactive fiction, visual novels, and narrative-driven games, branching architectures simulate agency by offering the reader or player multiple outcomes, typically encoded as a tree of choices. While branching models enable decision-making and replayability, they are ultimately constrained by the finite nature of authored content. Each new path requires additional design and writing effort, creating a trade-off between narrative breadth and depth.

The widespread adoption of HTML and the web in the 1990s introduced hyperlinking as a default mode of navigating digital content. This technical innovation, while initially intended for informational and structural purposes, also provided a new way of organizing narrative experience. Hyperlinks enabled non-sequential reading, allowing users to follow paths through content based on interest, intuition, or design. Although most digital media continued to adhere to traditional linear formats, the presence of hyperlinking subtly shifted cultural expectations about how narrative could be constructed and consumed. It suggested that readers might play a more active role not only in navigating stories but potentially in shaping them. At the same time, it complicated the notion of authorship by decentralizing control and distributing it across interface structures, technical systems, and reader behavior. In this sense, the technical architecture of the web became both a platform and a conceptual model for rethinking narrative agency.

This broader cultural shift toward nonlinearity laid the groundwork for procedural generation, which introduced a partial break from fixed narrative structures. Rather than scripting each path or outcome individually, procedural systems generate content algorithmically, using rule sets, templates, and randomization to assemble narrative elements dynamically. This approach expands the narrative design space by enabling variability, emergent behavior, and unexpected outcomes. In simulation-based systems, for example, character interactions and world events are not pre-written but arise from systemic interactions. Procedural storytelling often produces coherence through indirect means: emergent structure, systemic causality, and player interpretation. However, it can also result in inconsistency, narrative gaps, or superficiality, as system logic may lack the nuance of human authorship.

The introduction of generative AI, particularly large language models (LLMs), marks a further extension of this trajectory. These systems can produce semantically rich and contextually appropriate text in response to prompts, user input, or internal states. Unlike procedural methods based on fixed grammars or templates, generative models offer open-ended variability and can simulate human-like dialogue, exposition, or characterization. This allows for potentially infinite narrative variation, but also raises new challenges. Because outputs are not constrained by a pre-authored structure, coherence and thematic consistency can become fragile.

As branching, procedural, and generative systems continue to evolve, so too does our understanding of what it means to design for narrative agency. The shift from authored to algorithmic narrative calls into question long-standing assumptions about authorship, coherence, and player experience. It also demands new frameworks capable of describing how user agency is shaped not only by explicit choices, but by the underlying systems that structure possibility, probability, and emergence.

2.4 Procedural Systems and Authorial Constraints

Between the fixed pathways of branching narratives and the open-ended unpredictability of generative systems lies a wide design space occupied by procedural storytelling. These systems generate narrative variation not by simulating language or intelligence, but by executing formalized rules that define how content can be assembled, transformed, or sequenced. Procedural storytelling encompasses a broad range of techniques, including dialogue systems, simulation-based storytelling, dynamic quest generation, and rule-driven narrative grammars. What unites these approaches is their reliance on authorial constraint. This refers to the deliberate design of possibility spaces rather than the specification of fixed outcomes.

In procedural systems, the role of the author shifts from writing specific narrative content to defining the parameters, conditions, and transformation rules through which content is selected or generated. For example, a narrative grammar might specify that a “conflict” event must follow a “setup” and precede a “resolution,” while leaving the concrete instantiation of these events to system logic or user action. Similarly, a simulation-based world may define relationships, goals, or emotional states for characters, allowing emergent narrative sequences to arise from their interaction without being explicitly scripted.

These systems offer a compelling compromise between authored control and systemic variability. On one hand, they enable the designer to enforce structural, thematic, or stylistic coherence by embedding constraints into the underlying logic. On the other, they support flexible and adaptive storytelling by allowing different outcomes to emerge within those boundaries. The result is not a single narrative but a narrative space: a range of plausible variations that express a common design intent.

However, procedural systems also introduce new tensions. Because the author does not control specific outputs, narrative meaning often becomes interpretive, assembled retroactively by the player. Coherence must be inferred from context, causality simulated through logic, and emotional weight supported by design patterns rather than authored prose. In this sense, procedural storytelling foregrounds structure over content and requires a different kind of narrative literacy, one that is attuned to systems, constraints, and interaction dynamics.

The tension between constraint and freedom in procedural systems also raises deeper questions about authorship and control. If the designer defines rules but not outcomes, to what extent is the resulting narrative "authored"? And if the player assembles meaning from emergent patterns, is their role closer to interpretation or co-creation? These questions are central to contemporary narrative design, particularly in hybrid environments that combine procedural systems with generative AI.

As generative techniques become increasingly available, procedural approaches provide both a historical foundation and a conceptual toolkit. They remind us that narrative variation need not be unconstrained, and that systems can be expressive not only through language but also through structure, logic, and design intent. Understanding how authorial constraints shape procedural systems is thus essential for mapping the broader space of computational storytelling and for situating emerging forms of narrative agency within it.

3. Automatic Content Creation: From Procedural Rules to Generative Models

This section examines how narrative content can be produced through computational means. It distinguishes between two dominant paradigms, procedural generation and generative AI, and explores their implications for control, authorship, coherence, and design intent. These methods expand the narrative design space but also introduce new trade-offs and constraints that must be critically understood.

3.1. From Rule-Based to Learned Systems: Defining the Landscape

Automatic content creation refers to the use of computational systems to generate narrative material without direct authorial composition. This practice can take several forms, ranging from traditional rule-based methods to contemporary machine learning techniques. What unites these approaches is the delegation of creative function to a system, which operates within some set of constraints or training.

Historically, the earliest forms of automatic content creation in interactive media relied on procedural logic. These systems followed clearly defined rules to assemble content, often using templates, variables, and branching conditions. A dialogue system, for example, might substitute character names or generate variations in phrasing based on pre-set parameters. While such systems allowed for combinatorial expansion, their variability remained limited to the structural scope determined by the author.

The emergence of machine learning and particularly large-scale language models introduced a qualitatively different form of automation. Rather than relying on explicit rules, these systems generate content by modeling statistical relationships in large corpora of human language. This allows them to produce semantically coherent and stylistically adaptive text without direct scripting. In practice, this means that generative models can extend or improvise narrative elements far beyond what has been explicitly programmed.

These two paradigms, procedural and generative, reflect fundamentally different relationships between author, system, and output. Procedural systems require the author to define how content is assembled; generative systems, by contrast, require the author to influence how content is inferred. In one case, the author provides structure; in the other, they provide examples or prompts. This distinction underpins many of the design challenges addressed in the following sections.

Automatic content creation is not merely a technical matter, but a shift in how narrative material is conceptualized and produced. It changes the scope of authorship, the distribution of control, and the nature of variation within narrative systems. As such, it requires careful analysis both in terms of computational architecture and narrative design.

3.2. Procedural Generation: Rules, Structures, and Simulation

Procedural generation refers to the automated creation of content based on a predefined set of rules, parameters, or algorithms. In narrative contexts, procedural systems operate by specifying how elements such as events, dialogues, environments, or character behaviors are constructed or combined, rather than scripting those elements in full. The author's role in such systems is not to write each instance directly, but to define the logic by which those instances are assembled.

Typical procedural systems use templates, modular structures, or grammars to shape output. A common example involves story grammars in which narrative elements follow rule-bound sequences, such as exposition followed by conflict and resolution. This formal structure allows for variation within a constrained space, providing a degree of unpredictability while maintaining narrative coherence. Similarly, simulation-based systems define agents, goals, and environmental rules that give rise to emergent interactions. These interactions may not be authored in advance, but they unfold according to the designer's specifications for system behavior.

The strength of procedural generation lies in its capacity to scale narrative variation while preserving intentional structure. By controlling the logic of how content is assembled, designers can ensure thematic consistency and manage player expectations. For example, dialogue trees may include branching options that change based on player actions or character relationships, yet each branch remains tethered to the overall story arc through conditional rules.

However, this approach also imposes limitations. Because the variability is encoded in advance, the range of outcomes is bounded by the specificity and flexibility of the system's logic. Narrative richness can be difficult to achieve without significant authorial input at multiple levels of the system. Furthermore, procedural systems can become rigid or repetitive if the rule sets are too narrow or the design lacks sufficient modular depth.

Despite these challenges, procedural generation has become a foundational strategy in interactive storytelling. It enables designers to create expansive narrative spaces without manually writing every possible path. It also fosters new modes of authorship in which the creative effort shifts from scripting to system design. In this respect, procedural generation represents a transitional model between authored narratives and the more open-ended content generation made possible by machine learning.

As the next section will demonstrate, generative models introduce a different set of affordances and constraints. Where procedural systems prioritize structure and logic, generative models prioritize linguistic richness and statistical inference. Understanding the distinction between these two paradigms is essential for evaluating the narrative potential and design implications of automatic content creation.

3.3. Generative Models: Statistical Learning and Semantic Flexibility

Generative models represent a distinct paradigm in automatic content creation, in which content is not assembled from predefined rules but produced by systems trained on large datasets. These models, particularly large language models (LLMs), rely on machine learning techniques that infer statistical patterns in natural language and other modalities. Rather than specifying what can be said and how, the designer provides input in the form of a prompt or context, and the model generates output probabilistically based on its training distribution.

The core mechanism of LLMs is predictive text generation. Given an input sequence, the model calculates the most probable continuation based on learned associations between words, phrases, and structures. This process allows for fluid and semantically rich output, often indistinguishable in surface form from human-written language. Unlike procedural systems, which operate within tightly constrained grammars or rule sets, generative models can improvise across a wide range of topics, genres, and styles.

This flexibility enables forms of narrative variation that were previously difficult to achieve. A single prompt can yield numerous distinct outputs, each with unique phrasings, characters, or events. The system does not require predefined branches or templates, and can adapt to contextual cues or user interaction in real time. This responsiveness has made generative models attractive for applications in conversational agents, story expansion, and dynamic worldbuilding.

However, generative systems also pose significant challenges for narrative design. Because the underlying mechanisms are statistical rather than semantic, coherence is not guaranteed across longer outputs. Models may contradict themselves, lose track of plot elements, or generate content that is thematically inappropriate. Unlike procedural systems, which are fully transparent and reproducible, generative models are often opaque and non-deterministic. The same prompt may yield different results depending on random sampling or slight changes in phrasing.

Control becomes a central concern. Designers must learn to shape the space of possible outputs through prompt engineering, fine-tuning, or the imposition of external filters and constraints. These interventions can guide the model toward desired narrative outcomes, but they rarely provide the same level of precision or reliability as handcrafted rule sets. In this sense, authoring shifts from direct content creation to the indirect steering of a probabilistic system.

Despite these limitations, generative models have expanded the expressive possibilities of narrative media. They allow for personalized and adaptive storytelling experiences, and introduce new aesthetic modes that embrace variability, ambiguity, and emergence. The trade-offs between coherence, control, and expressiveness are not merely technical, but deeply entangled with the concept of narrative agency discussed in earlier sections.

The next section examines these trade-offs in more detail, comparing the design implications of procedural and gene-

rative approaches and outlining the tensions that arise when narrative content is delegated to computational systems.

3.4. Trade-offs in Narrative Design: Coherence, Control, and Variation

The integration of automatic content creation into narrative systems brings with it a series of fundamental trade-offs. These trade-offs affect the coherence of the narrative, the level of authorial and system control, and the degree of variation that the system can support. While both procedural and generative approaches offer powerful mechanisms for extending narrative experiences, each imposes specific limitations that must be managed in the design process.

Coherence refers to the internal consistency and thematic alignment of a narrative over time. Procedural systems typically ensure coherence by enforcing explicit structural rules. Since content is assembled from predefined components, designers can predict and constrain possible sequences to maintain logical flow. Generative models, by contrast, are less predictable. Although they can produce fluent and contextually appropriate text at the local level, their outputs may lack consistency across longer segments. Maintaining narrative coherence in generative systems often requires external scaffolding, such as memory modules, state tracking, or post-processing filters.

Control is closely related to authorship. In procedural systems, the designer retains a high degree of control over content generation. Outcomes are limited by rules and assets the author defines, and the system's behavior can be tested, adjusted, and explained. In generative models, control becomes more diffuse. Designers influence outcomes indirectly through prompts or training data, but the internal decision processes of the model remain opaque. While this may allow for surprising or emergent results, it also reduces predictability and introduces risks related to appropriateness, bias, or failure to meet design goals.

Variation represents the capacity of a system to produce multiple, distinct outputs. Generative models excel in this dimension, especially when compared to traditional branching structures. The same prompt may yield an almost infinite array of responses, which can support replayability, personalization, or improvisation. Procedural systems also support variation, but within a bounded space. Their strength lies in producing structured diversity; output that changes while still adhering to a fixed narrative logic. In some contexts, this form of constrained variation may be preferable, as it aligns more closely with design intent and narrative planning.

These three dimensions, coherence, control, and variation, form a triangle of tension within automatic narrative design. Improvements in one area may come at the cost of another. For example, increasing variation through generative methods may reduce narrative coherence. Maximizing authorial control may restrict the degree of novelty or user influence. Successful systems must therefore negotiate these trade-offs in ways that align with their goals, whether they prioritize narrative structure, expressive range, or participatory experience.

In the next section, we shift from system-level concerns to questions of user experience. The focus turns to how players or readers engage with these narrative forms, and how the spectrum of narrative agency outlined earlier intersects with automatic content creation in both design and reception.

4. Dimensions of Narrative Agency: A Two-Dimensional Framework

The increasing involvement of automatic content generation in digital storytelling calls for new models that clarify how narrative form is shaped by both the source of narrative material and the degree of user participation. To address this need, this section introduces a two-dimensional framework for characterizing narrative systems. It is organized around two core axes: narrative origin, which reflects how narrative content is produced, and systemic narrative agency, which refers to the extent to which a system structurally enables the user to influence the unfolding of the narrative.

Systemic narrative agency is understood here as a design-level property, distinct from experiential or interpretive notions of agency. It describes how narrative interactivity is embedded within system logic, encompassing mechanisms such as choice structures, procedural branching, simulation rules, or generative responsiveness. This framing highlights the role of systemic constraints and affordances in shaping the player's narrative power.

The first axis of the model, Narrative Origin, describes the source and mechanism of narrative construction. It is divided into three categories: Fully Authored, where all content is written in advance by human creators; Procedural / Rule-Based, where content is assembled dynamically through formalized logic or systems; and Generative / AI-Assisted, where narrative elements are produced by machine learning models or other forms of automatic content generation. The second axis, Narrative Agency, captures the degree of influence that the user has over the unfolding of the story, ranging from passive reception to active co-creation.

This two-dimensional framework is represented in Table 1. In applying the framework, first identify the highest level of system-mediated interaction available to users, from reception to co-creation. Then determine the narrative origin as fully authored, procedural or rule-based, or generative or AI-assisted; the resulting pair locates the system in the matrix.

If multiple modes coexist, code the dominant user path or report a composite.

Together, these axes define a conceptual space in which diverse narrative systems can be situated. Each cell within the resulting matrix corresponds to a characteristic mode of narrative interaction, where the nature of user participation is shaped by the logic of the system generating the narrative. These modes are not continuous gradients but are instead defined by discrete thresholds: structural or functional transitions that qualitatively change the relationship between the system and the participant.

Such thresholds include, for example, the introduction of narrative branching, which transforms a linear story into a choice-driven system, or the shift from pre-authored variation to procedural generation, where outcomes are not selected from a predefined set but constructed dynamically according to rules. Another critical threshold occurs with the adoption of generative language models, which enable on-demand narrative synthesis beyond the limits of authored scripts or procedural grammars.

Although these distinctions are clear from a design perspective, they may not be fully apparent to the audience. Many systems intentionally blur or conceal their generative architecture, and the richness or polish of the narrative surface can mask the underlying logic. For example, a procedurally generated story may resemble a curated one if the generative rules are tightly constrained and stylistically coherent. Conversely, a branching narrative may feel less authored if the number of permutations becomes too large to track or comprehend. Despite such ambiguity in presentation, the underlying mechanics of narrative construction impose real constraints on authorship, interpretation, and user experience. By distinguishing between these dimensions, narrative origin and systemic narrative agency, the framework provides a map for navigating the evolving design space of computational storytelling.

It is worth noting that some combinations within the framework might not be feasible. In particular, systems that are fully authored, where all narrative content is fixed in advance, cannot meaningfully support co-creation or collaboration. These highest levels of narrative agency require the system to accommodate user-generated input, dynamic recomposition, or on-the-fly narrative construction, which fixed authored structures are not capable of providing.

Compared with Andreen (2017), which situates agency primarily in the player's lived experience, our framework adopts a design-centered lens. We treat agency as system-level interaction opportunities that creators specify and users can act upon. This shifts attention from how agency feels to how it is enabled by rules, interfaces, prompts, and generative constraints. Bódi (2023) proposes a higher-dimensional

Narrative Origin / Systemic Narrative Agency	**Fully Authored**	**Procedural / Rule-Based**	**Generative / AI-Assisted**
Passive Reception	Fixed narratives consumed without user input (e.g., films, novels)	Simulations without narrative influence (e.g., ambient environments)	AI-generated stories passively consumed, without prompting or customization
Exploratory Navigation	Hyperlinked or spatial narratives where users choose reading paths	Emergent paths based on environmental traversal or systemic behavior	Prompt-based exploration with minimal generative variation
Selection & Branching	Predefined story branches selected by the user (e.g., visual novels)	Rule-driven branching with outcomes determined by player choices	LLM-driven narratives with user decisions guiding direction
Intervention	Editable story environments with user-controlled elements	Dynamic narratives shaped by player manipulation of systems and states	Real-time narrative adaptation based on user input or evolving context
Creation	User authors full narrative using templates, editors, or scripting	New narrative content created within rule-based systems or simulations	Narrative authored by the user, with optional AI support for style or content
Co-Creation / Collaboration	(not feasible?)	Shared authorship through modding or collaborative simulation systems	Ongoing narrative construction in dialogue with AI agents or generative systems

Table 1. Two-Dimensional Design Space for Narrative Systems Based on Narrative Origin and Systemic Narrative Agency. Source: Author's own work.

taxonomy that blends experiential and structural facets. Our approach, by contrast, privileges parsimony and comparability by mapping systems along two media-general axes: user participation and narrative origin. Audience imagination and interpretation are acknowledged but bracketed, so that creator-side design decisions can be analyzed without conflation with reception.

These approaches are complementary rather than competitive. Andreen provides depth for reception-side analysis that our model leaves outside scope. Bódi offers granular categorization when a broader facet space is needed. Our framework supplies a simple backbone that can anchor both: a clear account of where interaction is afforded and whether outputs are authored in advance or generated at run time.

This framework is intended as both an analytical and a practical tool. It enables researchers to compare systems across different media and genres, and it allows designers to position their work within a broader landscape of narrative forms. Moreover, it highlights how shifts in technology, particularly the emergence of generative AI, extend narrative agency in new directions while also raising challenges related to control, authorship, and coherence. The six levels of agency, in particular, offer a structured vocabulary for describing how stories can be experienced, navigated, modified, or co-authored in interactive contexts.

The next section considers how this framework can be used to compare narrative practices across different domains, including games and journalism, and how it helps explain the challenges and opportunities of narrative design in the age of automatic content creation.

5. Applications and Case Domains

The conceptual framework outlined in the previous section offers a media-general model for analyzing narrative systems. In this section, we apply the framework to two domains: digital games and journalism. We develop the games analysis in more detail and the journalism subsection serves as a brief illustration to indicate how the framework can transfer to another field with different purposes, audience expectations, and narrative constraints. By examining agency in these two contexts, we demonstrate both the analytical utility and the cross-domain relevance of the model. With appropriate adjustments for medium-specific factors, the approach may also extend to film, literature, theatre, and emerging media.

5.1. Games as Sites of Expanding Narrative Agency

Digital games have long served as experimental sites for testing the boundaries of narrative form, agency, and authorship. Their capacity to incorporate interactivity, procedural logic, and now generative models makes them a uniquely fertile domain for understanding shifts in narrative practice. From the earliest text adventures to today's AI-augmented storytelling tools, games have continuously redefined what it means to participate in a story.

Foundational work by Janet Murray (1997) characterized digital environments as "procedural" and "participatory," enabling a form of narrative agency in which players could take meaningful action within simulated worlds. Her notion of agency, as the satisfying power to affect outcomes in a responsive narrative system, positioned the player as a central co-constructor of experience. Marie-Laure Ryan (2001) elaborated on this view by distinguishing between exploratory interactivity, where the player navigates pre-authored spaces, and constructive interactivity, in which the player contributes to the story's structure itself. This distinction provides a conceptual foundation for differentiating between authored branching narratives and systems that support emergent or player-driven storytelling.

Jesper Juul (2005) added another important distinction by contrasting fictional agency, the felt experience of making meaningful choices in a story, with real agency, which involves genuine manipulation of the game's underlying systems. This dichotomy becomes especially salient when evaluating games that simulate consequence without offering actual systemic variation. It also raises questions about how agency is communicated or performed, particularly in games that blend authored content with emergent behavior.

Markku Eskelinen (2001) famously argued that games should not be approached through a narrative lens at all, proposing instead that they be studied on their own ludological terms. However, his critique has been interpreted not as a rejection of narrative per se, but as a reminder that narrative is only one possible dimension of engagement. In the context of this article, Eskelinen's position helps justify the multidimensional model proposed in Section 4: narrative agency is a crucial, but not exclusive, vector through which games can be analyzed and designed.

These theoretical perspectives illuminate how games have served as both the proving ground and the generative engine for evolving forms of narrative agency. Historically, genres such as text adventures and point-and-click adventure games have emphasized branching narratives and puzzle-driven progression, offering players agency through predefined decision trees and interaction points. Titles like ***Zork*** (1980) or ***Monkey Island*** (1990) represent early examples of this model, where player input alters narrative traversal but remains within tightly authored structures. Visual novels such as ***Steins;Gate*** (2009) and ***Clannad*** (2004) exemplify constructive interactivity in Ryan's terms, where the player's decisions shape which version of the authored story is revealed. Similarly, role-playing games (RPGs) like Baldur's ***Gate II*** (2000) or ***Persona 5*** (2016) allow narrative customization through bran-

ching quests and character development, blending authored content with degrees of player influence.

The development of simulation-based games and sandbox systems introduced a shift toward emergent narrative, where stories are not predefined but arise from player interaction with underlying mechanics. Games like *SimCity* (1989), *The Sims* (2000), or *Crusader Kings III* (2020) do not rely on prewritten story arcs but instead generate narrative meaning from the sequence of actions and systemic feedback produced by the player's choices. These forms of procedural authorship reposition the designer's role from storyteller to rule-maker, constructing conditions for narrative emergence rather than scripting specific outcomes. Narrative agency here manifests through experimentation, optimization, or world-shaping decisions, with players reflecting on the consequences of their own long-term systemic interactions rather than authored events.

This emphasis on systemic behavior over predefined narrative aligns with Gonzalo Frasca's (2003) distinction between simulation and narrative. Rather than conveying a sequence of authored events, simulation-based games allow meaning to emerge from player interaction with dynamic rule-based systems. In this context, narrative agency manifests through experimentation, improvisation, and adaptation, further decentering the author in favor of procedural expressivity.

Recent developments in user-generated content and AI-assisted narrative systems have introduced a further layer of collaborative authorship. Games like *Dreams* (2020) and *Roblox* (2006) provide players with creation tools that blur the line between designer and audience, enabling them to construct, share, and remix entire narrative worlds. Meanwhile, the integration of generative AI, seen in experimental platforms such as *AI Dungeon* (2019), allows for dynamic narrative generation based on textual prompts, offering a more conversational form of story co-creation. These systems mark a movement toward the higher end of the narrative agency axis, where the boundary between player, author, and system becomes increasingly fluid. Such hybrid models challenge traditional roles in game design and call for new frameworks to understand agency as an ongoing negotiation between authored intent and emergent expression.

Taken together, these developments suggest that game genres can be understood not only by mechanics or aesthetics, but by the kinds of narrative agency they afford. As proposed earlier, games can be situated along a spectrum from reception to collaboration, offering varying degrees of influence over story construction. By grounding this typology in established academic theory, we emphasize that narrative agency is not an abstract affordance but a historically and structurally situated phenomenon, shaped by design, technology, and cultural expectations.

5.2. Journalism and the Evolution of Serious Nonlinear Storytelling

Journalism can be defined as a communicative practice that reports events, issues, and developments of public relevance, typically governed by norms such as accuracy, balance, and verification. Unlike games, which are primarily entertainment-driven, journalism is concerned with factual representation. Nevertheless, both domains share a reliance on narrative techniques such as pacing, point of view, and selective emphasis to structure audience engagement. As journalism transitions into digital formats, the introduction of interactivity and modular structure increasingly positions the reader as an active participant, prompting renewed theoretical interest in narrative agency. Westlund (2013) identifies this shift as part of a broader transformation in news reporting practices, driven by the proliferation of internet access and mobile devices, which have enabled increasingly individualized and interactive forms of news consumption.

In traditional print journalism, narratives were presented in fixed linear form, with readers consuming stories from beginning to end as authored. This format afforded minimal agency beyond interpretation. However, with the emergence of digital platforms and web-based delivery, narrative structures have become increasingly modular, interactive, and nonlinear. As Bernhardt (1993) observed, digital texts are situationally embedded and navigable, characteristics that enable greater variability in how readers encounter content. Fredin (1997) proposed the concept of the metastory: a structure comprising multiple, interlinked story fragments and contextual elements that users can traverse selectively. This model anticipates frameworks from digital narratology, including Ryan's (2001) distinction between exploratory and constructive interactivity.

Digital journalism has since incorporated various interactive formats that extend reader agency beyond interpretation and navigation. Techniques such as scrollytelling, interactive infographics, embedded multimedia, and branching timelines allow users to engage with narrative elements in non-linear ways. In some cases, journalistic content is accompanied by data interfaces that permit direct interaction with the underlying evidence base. Weber et al. (2018) describe these evolving formats as "You-journalism," in which the reader participates in determining the form and depth of narrative engagement. This can be understood as a form of narrative agency situated between selection and intervention on the proposed continuum.

Additionally, formats such as newsgames have introduced simulation-based approaches to journalistic storytelling. These systems, while rooted in factual contexts, adopt mechanics and interaction models from game design to structure experience. Though they often employ fictionalized scenarios, their purpose remains informative, providing users

with constrained agency to explore plausible outcomes within a fact-based framework. This reflects a convergence of ludic and journalistic approaches to narrative construction, particularly in digital environments where design choices affect how stories are perceived and interpreted.

These developments suggest that narrative agency can be meaningfully extended beyond entertainment media. In journalism, the introduction of interactivity, modularity, and user-responsive design mechanisms has produced a range of formats that afford users greater participation in narrative construction. While constrained by factual veracity and editorial oversight, such systems nonetheless support varying degrees of agency, from navigation to limited co-construction. This affirms the broader claim that narrative agency, as conceptualized in this article, constitutes a media-general framework applicable to both fictional and non-fictional narrative systems.

6. Implications and Future Directions

The preceding sections have outlined a structured model of narrative agency and demonstrated its applicability across different media forms. As narrative systems increasingly incorporate algorithmic components and user-driven variability, new questions emerge concerning design practice, theoretical interpretation, and the evolving role of the author. This section considers the broader implications of the framework, identifying areas where it may inform future creative, theoretical, and methodological developments.

6.1. Design and Creative Practice

The proposed framework offers a structured way to think about narrative design in contexts where authorship is distributed across human and computational agents. For designers of games, journalistic platforms, and interactive media, this two-dimensional model can function as a heuristic for evaluating creative intent, system capabilities, and user experience. By situating a project along the axes of narrative agency and authorship, practitioners can make explicit decisions about where control is exercised, how much interpretive or constructive freedom is granted to the audience, and what technical mechanisms are required to support those choices.

From a practical standpoint, this framing helps clarify the trade-offs inherent in different narrative modes. A tightly authored story with minimal audience input may allow for greater thematic cohesion and polish, while systems that encourage user collaboration or rely on generative processes must address challenges related to coherence, pacing, and authorial voice. Designers working with procedural or AI-driven systems must carefully consider how constraints, feedback, and affordances shape the user's sense of agency. In this context, narrative design becomes less about scripting specific events and more about creating environments in which meaningful narrative activity can emerge.

Chris Crawford (2004) has emphasized that constraints should not be seen merely as limitations but as essential structures that support meaningful interactivity. In his view, features such as menu-based choices, structured decision points, and dramatic pruning are not signs of reductive design but rather necessary tools for maintaining coherence while enabling expressive engagement. This perspective reinforces the view advanced in this article: that constrained design spaces can still be generative, and that the careful narrowing of options often strengthens the user's sense of authorship and impact.

Crawford has also famously critiqued dominant paradigms of interactive storytelling such as adventure games, branching narratives, and emergent world simulations. He argues that these systems frequently conflate complexity with genuine narrative agency, while failing to support the kind of dramatic coherence that underpins a compelling story experience. This critique also aligns with the motivation behind the present framework, which encourages moving away from shallow forms of interaction that only simulate user influence, and instead promotes the deliberate design of narrative systems where limited choices still support meaningful participation and expressive outcomes. Notably, such design challenges are not confined to advanced systems. Even seemingly simple interactive scenarios can impose significant cognitive demands, requiring careful scaffolding to help novice designers manage branching complexity and avoid structural ambiguity (Letonsaari et al., 2019).

Finally, the framework may also inform new workflows in hybrid environments where authored components are dynamically combined with generative outputs. This is especially relevant for experimental uses of large language models, where designers may act less as storytellers and more as curators, prompt engineers, or constraint-setters. In such cases, the boundary between tool and collaborator becomes increasingly blurred, suggesting a broader shift in design roles and creative authorship. As narrative systems become more open-ended and autonomous, the challenge lies not only in determining what is told but also in shaping the conditions under which telling becomes possible.

6.2 .Redefining Authorship

The question of authorship has long occupied a central place in literary theory, philosophy, and aesthetics. Traditional understandings often locate the author as the intentional origin of meaning and structure, a position now increasingly challenged by algorithmic systems that operate semi-independently of human intent. Within the context of generative narratives, especially those enabled by procedural logic or large language models, the author no longer functions as the sole creative agent, but as one component in a distributed

system of influence that includes designers, algorithms, and readers or players.

Foundational critiques of authorship offer a useful backdrop for examining this shift. Roland Barthes (1967), in ***The Death of the Author***, argued that the author's authority over the meaning of a text should be rejected in favor of the reader's interpretive agency. Rather than seeking authorial intent, Barthes proposed that meaning emerges in the act of reading, rendering the identity of the author increasingly irrelevant. Michel Foucault (1969), in his essay ***What Is an Author?***, similarly questioned the stability of the author figure, characterizing it as a discursive function rather than a fixed identity. These positions find renewed relevance in environments where narrative is not composed in advance but generated in response to input, shaped by system dynamics or statistical inference. The author becomes not the originator of a fixed story, but the architect of potentialities.

Barthes's and Foucault's critiques destabilize 'authorship' as a reliable unit of analysis: meaning is not secured by an originating subject but distributed across discourse, apparatus, and reception. In response, our framework draws a methodological boundary between (i) system-level control, the design mechanisms that structure possible outputs, and (ii) audience reception, the interpretive practices through which meaning is realized. This separation does not deny their interaction; rather, it prevents us from reifying 'the author' and allows agency to be analyzed in terms of concrete mechanisms (rules, interfaces, generative constraints) on the one hand and interpretive practices on the other.

From a different angle, Walter Benjamin's ***The Work of Art in the Age of Mechanical Reproduction*** (1935) anticipated some of the broader implications of technical mediation in cultural production. He argued that mechanization erodes the "aura" of the original work by enabling infinite copies, challenging notions of uniqueness and authorship. Generative systems extend this logic further, creating not merely reproductions but new content without a singular, human author. In this context, authorship is not only decentered but also multiplied, blurred, or abstracted.

Nelson Goodman's distinction between autographic and allographic works in ***Languages of Art*** (1968) further illuminates the challenge. In Goodman's view, autographic works (such as paintings) cannot be replicated without losing their identity, while allographic works (such as musical scores) can be instantiated repeatedly without compromising authorship. Generative narratives, especially those created through procedural or AI-driven means, trouble this boundary. Their outputs may not be tied to a singular instantiation or even a stable compositional structure, but rather unfold differently in each execution, raising questions about whether such works are allographic, autographic, or belong to a new category entirely.

In the narrative design space proposed in this article, authorship becomes not a fixed role but a parameter that can be distributed and reconfigured. At one end of the spectrum, the author remains dominant, determining every narrative element in advance. At the other, authorship is shared with or even ceded to algorithmic systems and audience input. Rather than displacing the author entirely, this transformation invites a redefinition: the author becomes a curator of systems, a designer of constraints, or a partner in collaboration with machines and users. Classical theories thus remain relevant not as obsolete models but as starting points for conceptualizing a new, more fluid landscape of narrative production.

This reconceptualization of authorship aligns directly with the framework of narrative agency and authorship introduced in Section 4. As the axis of authorship shifts from fully authored to fully algorithmic, the role of the creator becomes increasingly procedural, system-oriented, and distributed. Similarly, as narrative agency expands from reception to collaboration, the audience assumes a more active and co-creative position. The intersection of these axes defines a design space in which traditional authorial roles are reconfigured, and agency is no longer a binary property but a negotiated quality shaped by system design, user interaction, and algorithmic mediation. By positioning classical theories of authorship within this matrix, we not only account for the evolving dynamics of narrative creation but also offer a structured vocabulary for describing how control, meaning, and authorship circulate in emergent forms of digital storytelling.

6.3. Future Research and Methodologies

One immediate avenue for future research involves the systematic mapping of existing narrative artifacts, including games, journalistic platforms, and emerging forms of digital storytelling, onto the two-dimensional design space proposed in this article. This comparative effort could help clarify how different media distribute authorship and afford narrative agency, and to what extent the framework can serve as an analytical tool across genres and formats. Such mapping may be pursued through case studies, interface analysis, and longitudinal comparisons of narrative experiences across authored, procedural, and generative systems.

In addition to more established domains, the model could be applied to new media art, which often foregrounds experimental forms of narrative structure, audience participation, and algorithmic collaboration. Installations that incorporate real-time data, sensor input, or machine-generated content frequently operate near the algorithmic and collaborative end of the design space, challenging conventional distinctions between author, system, and observer. These works

may not always conform to familiar narrative goals, but their capacity to explore edge cases such as ambient storytelling, fragmented agency, or reactive environments makes them valuable testbeds for extending and challenging the model.

A second line of inquiry concerns the operationalization of narrative agency. While the six levels proposed here are conceptually defined, their practical identification in real-world systems may require qualitative and quantitative instruments, including audience reception studies, player interviews, and system behavior analysis. Investigating how users perceive and exercise agency under varying technical and design conditions would further illuminate the lived experience of co-constructed narratives and support more nuanced design guidelines.

Finally, the model may serve as a foundation for critical discourse in computational creativity, human-computer interaction, and digital humanities. Its emphasis on the shifting boundaries between authorship, system, and audience invites collaboration between scholars in narratology, AI ethics, design research, and cultural studies. As narrative systems continue to evolve, a shared vocabulary and analytical structure will be crucial for understanding their implications, particularly in areas where narrative intersects with identity, ideology, or socio-political communication.

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