TWO MODELS OF HUMAN–AI COLLABORATION IN STORYTELLING

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Abstract

This practice-based article distinguishes two working models of human–AI collaboration in storytelling: AI as ghostwriter and AI as story architect. In the first, a generative system produces draft narrative material that a human creator then selects, edits or rejects; in the second, the system is prompted to act as a dramaturgical interlocutor whose questions and structural proposals support author-led development. The two models differ less in the quality of their outputs than in where creative decisions are

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made and who is accountable for them. Drawing on the authors' narrative-development practice and on the science-theatre production *Wonderspace future*, the article examines how artistic judgement, computational assistance and technical control are distributed in each case. The performance is analysed through established perspectives on embodied performance, digital mediation and multimodal meaning-making rather than through a newly coined semiotic concept. Three analytical propositions address AI-assisted fictional world-building, the human-coordinated digital environment as a functional scenic partner, and the interpretive possibilities of simultaneous physical and screen-based presence. The discussion distinguishes AI-generated imagery, prerecorded compositing, live video transmission and manually triggered cues, showing that none of them amounts to autonomous AI performance on stage. The article offers situated qualitative interpretation rather than experimental validation, and argues that in both models responsibility for meaning and for the finished work remains with the human creators.

Keywords: artificial intelligence, creativity, semiotics, storytelling, theatre

1. Introduction: generative media and structural shifts in creativity

Generative AI tools are increasingly used in artistic and narrative production, raising questions about creativity, authorship and the evaluation of machine-generated material. Rather than treating computational generation as equivalent to human intention, this article examines how artists direct, select and interpret AI-assisted outputs in specific storytelling and theatrical practices (Boden 1998; Reyes 2024). Digital performance scholarship also provides an established context for considering the relationship between live performers and mediated images (Dixon 2007).

Reyes (2024) characterizes generative media by their synthetic, dynamic, digital, combinatorial and agentic properties, and traces the development of computer-generated media from early computer art to contemporary generative systems. His account offers a media-semiotic vocabulary for discussing how interfaces shape creative decisions; it does not establish that every AI application has independent artistic agency.

This article examines how human creators organize AI-assisted storytelling, distinguishing direct generation followed by editing from author-led

questioning and structural development. The theatrical case is considered separately, as an example of digitally mediated performance rather than as evidence of real-time autonomous AI collaboration.

2. Theoretical framework and method

Creativity is commonly understood as the capacity to generate ideas or artefacts that are both novel and valuable (Runco & Jaeger 2012). This view has focused on three criteria: originality, structural value and relevance. The recent rise of generative artificial intelligence (AI) challenges this traditional view, since AI-generated products can appear to meet these criteria from the outside without requiring intuition, consciousness or emotion.

The analysis of creative results must be kept distinct from claims about intention. Boden (1998) describes computational creativity as a process, while Reyes (2024) describes the semiotic structure of generative media. Neither account can determine whether a system is conscious or human-like; the present article focuses instead on responsible human selection, interpretation and direction.

The article is written from the perspective of two artist-researchers. Dimitar Uzunov brings his experience of storytelling, dramaturgy, art–science collaboration and educational workshops; Hristijana Stoimenova brings her experience of acting, performance practice and cultural production. Neither author's practice is taken as representative of all creative work. The narrative-workshop examples and performance observations are reflective case material, not the results of a controlled experiment (Candy & Edmonds 2018). The practice-based material draws on narrative-development exercises, reflections on workshops and observations from the science-theatre production *Wonderspace future*. It provides a basis for considering two modes of human–AI collaboration in storytelling – AI as ghostwriter and AI as story architect – and how each affects the distribution of creative control and the authorial role.

Methodologically, the study integrates three perspectives. First, it draws on the authors' practical experience of working with large language models (LLMs) to develop their own narratives. Second, it draws on semiotic approaches to enunciation, agency and meaning-making to explore the relationship between human purpose and machine-generated material (Dondero, Alonso Aldama, and Leone 2025). Third, it anchors these practice-based observations in existing research on AI-driven creativity, digital performance and the reception of AI-generated art.

Related studies also offer context for understanding differences between creative fields. In an experimental study of short-story writing, Doshi and

Hauser (2024) found that access to ideas generated by AI improved evaluations of individual stories while making the stories more similar to one another – a finding that should not be generalized to all art forms. Bellaiche et al. (2023) and Horton, White, and Iyengar (2023) analyse how attribution to AI or to human creators influences the perception of visual art. Their findings raise questions of perceived authorship and aesthetic judgement, but they do not settle how audiences would respond to the production discussed here.

As the research is qualitative and interpretive, it is intended neither to establish causality nor to show the superiority of either collaborative model. The examples were not collected through a standardized procedure or comparison, and the study involved no analysis of prompt logs, no controlled audience experiment and no independent assessment of the performers' cognitive load. It offers instead a comparison based on the authors' own creative processes and a basis for further study.

3. Creativity, semiosis and synergy

Human creative work is shaped by culture, experience, artistic goals and the interpretive strategies that give meaning to the created object. Generative technology follows a different process of production: the system generates text or images according to learned patterns and user input, and the creator judges the relevance of the results to the situation at hand. The distinction concerns creative responsibility rather than an opposition between originality and repetition; the comparison illustrates tendencies of the generative tools discussed in this article, not universal properties of every human creator or AI system (Boden 1998; Runco & Jaeger 2012).

Boden (1998) discusses the relation between creativity and computing systems, distinguishing machine-generated from human-generated output. In this article, machine-generated output is treated as a source of candidate material that becomes theatrically relevant only when it is processed, selected and edited by humans. No claim about machine consciousness is required.

Seen in this way, the relationship is less a complementarity of equal partners than a division of operations. Humans provide the situation, interpret what is available and remain ultimately responsible for the final work, whereas generative systems can supply a range of variations. Runco and Jaeger (2012) define creativity as originality and effectiveness, but how this definition applies to an AI-assisted artwork remains an open question.

In discussing performance, the authors draw on established traditions of thought about embodied performance, digital mediation and multimodal

meaning-making. Multimodal meaning-making describes the way in which live performance, projected visuals, recorded sound and digitally created imagery come together in a theatrical event, allowing for interconnected interpretations. The term serves an analytical purpose and does not introduce a new theory (Dixon 2007; Fischer-Lichte 2008; Hayles 1999).

Three analytical propositions guide the discussion of the case:

> Proposition 1: AI-generated visuals can support the creation of fictional worlds while human artists retain responsibility for dramaturgy, direction and performance.
>
> Proposition 2: A digital scenic environment can act as a metaphorical or practical collaborator through pre-planned, human-operated audiovisual cues, without relying on autonomous AI responses.
>
> Proposition 3: The combination of live performance and digitally mediated visuals can offer audiences diverse interpretive perspectives on theatrical presence and fictional space.

Table 1: Comparative dimensions of human and computational creativity (conceptual synthesis by the authors)

Indicator / Dimension	**Human creative practice**	**Generative AI systems considered here**
Basis of production	Draws on lived experience, training, cultural context, and situated judgment.	Generates outputs from learned statistical patterns, system design, and user inputs.
Working process	Develops and revises ideas through interpretation, intention, and interaction with collaborators.	Produces candidate variations in response to prompts and computational constraints.
Originality	Can reframe conventions and assess the significance of departures from them.	Can produce unexpected combinations; their originality and value require contextual evaluation.
Interpretation and value	Creators and audiences interpret works within social and artistic contexts.	Does not independently establish the dramatic or ethical value of its outputs in this study.
Practical strengths	Situated dramaturgical judgment, performance, accountability, and collaboration.	Rapid drafting, variation, and exploration of possible textual or visual forms.

(continued)

Indicator / Dimension	Human creative practice	Generative AI systems considered here
Role in the two models	Sets goals, evaluates proposals, and takes responsibility for the final work.	Supplies drafts or prompts for inquiry, depending on the chosen workflow.

4. Two models of human–AI collaboration in storytelling

Practice-based work with large language models in narrative design requires a clear distinction between how communicative agency is distributed and how authorship is understood. Rather than offering an exhaustive taxonomy, the two collaborative models outlined here clarify the locus of enunciation and the semiotic boundaries between human intent and algorithmic generation (Candy & Edmonds 2018; Dondero, Alonso Aldama, and Leone 2025).

4.1. AI as ghostwriter

In the *ghostwriter model*, a human creator asks a generative system to produce initial narrative material, such as premises, outlines, plot alternatives, scenes, character sketches or dialogue. The human creator then evaluates, edits, combines or rejects these drafts. This workflow can accelerate the production of alternatives, but speed alone does not establish their artistic quality, originality or suitability for a particular project. The distinction is one of workflow and decision-making: generation is delegated, whereas responsibility for dramatic coherence and for the finished work remains human.

The ghostwriter model can supply draft premises, dialogue and narrative outlines quickly, but the quality and distinctiveness of any particular output must be evaluated rather than presumed. Doshi and Hauser (2024) provide experimental evidence that AI assistance can affect both the evaluation of individual stories and the diversity of outputs in a specific short-story task. This supports a cautious account of benefits and trade-offs, not a universal claim that AI-generated writing is emotionally shallow or necessarily predictable.

4.2. AI as story architect

The second model introduces a more dialogic and artistically reflexive configuration, in which AI functions not primarily as a surrogate producer of text but as a *story architect*. In this arrangement, the system acts as a dramaturgical interlocutor, supporting narrative development through

targeted questions, structural reframing, alternative plot options and non-linear associative pathways. Methodologically, the approach relies on role-assignment prompts that guide and constrain the model's behaviour. Rather than requesting autonomous text generation, the user positions the model as an external critical coach that prompts reflection without assuming the authorial role (Fig. 1).

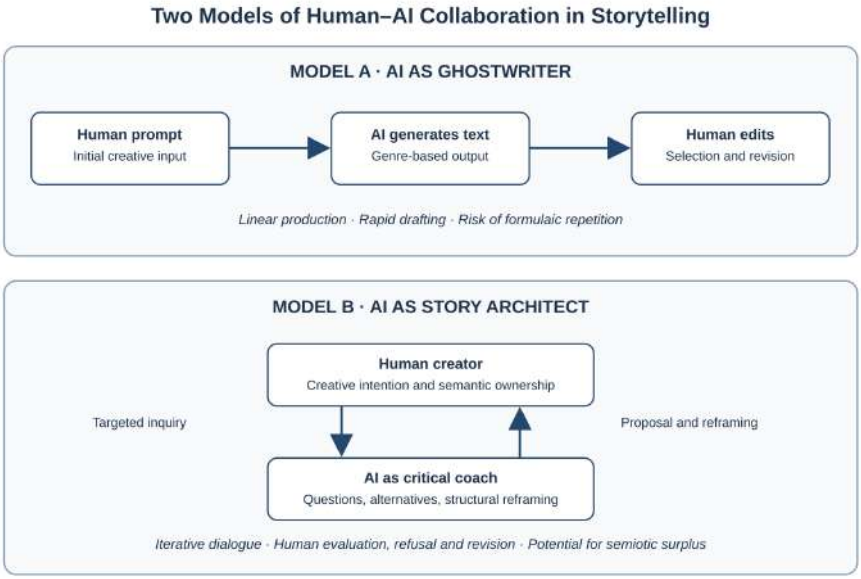

Figure 1: Two models of human–AI collaboration in storytelling: linear delegation (ghostwriter) and iterative questioning (story architect). Diagram by the authors

The authors have used this dialogic approach in complex art–science collaborations, including the development of theatrical works that explore astrobiology by integrating scientific data from biology and astrophysics. By asking the model to guide structural development through sequenced, systematic questioning, the human creator externalizes the logic of inquiry without surrendering semantic ownership.

From a semiotic perspective, the story-architect model redistributes communicative agency across a decentralized human–machine network while retaining the human locus of meaning-making (Dondero, Alonso Aldama, and Leone 2025). The machine operates as an enunciative device that stimulates interpretation and supports human invention, while the work remains grounded in the creator's situated cultural context.

4.3. Metaphor and cultural memory

Reyes (2024) examines the semiotic implications of generative-media interfaces and their capacity to produce and reorganize textual and visual material. In narrative practice, suggested metaphors or intertextual connections may become useful when an author interprets them in relation to the intended dramatic situation. This describes a possible creative workflow; it does not demonstrate that a model accurately retrieves or understands a complete cultural archive.

A generated allusion or metaphor is not automatically meaningful within a particular story. Its relevance depends on human assessment of its context, dramatic function and likely interpretation by the audience. The story-architect model therefore describes a practice in which prompts structure inquiry, while the human author retains responsibility for accepting, modifying or rejecting the resulting proposals.

5. Performance and presence: the actor–AI assemblage

Digitally mediated performance may combine embodied acting, projected images, prerecorded sequences and live audiovisual transmission. Auslander (2008), Dixon (2007) and Causey (2006) offer complementary approaches to liveness, mediated performance and virtual scenic space. These perspectives do not, however, imply that the audiovisual system in this production operates autonomously.

In the production examined here, cues are predetermined and activated by a human operator. Their timing nevertheless requires performers to remain attentive both to their live partners and to the mediated scenic environment. Any claim about the effects of this coordination on cognitive load would require independent measurement.

5.1. Embodied performance and mediated presence

The performers' task involves the simultaneous demands of embodied characterization and attention to technical cues. Fischer-Lichte (2008) emphasizes the relational character of performance, while Auslander (2008) challenges simple oppositions between live and mediated presence. These sources offer a more direct framework for the present case than the claim that digital cueing necessarily combines two specific schools of acting.

Projected or prerecorded content does not inherently disrupt emotional engagement. In this production, performers rehearse the timing of predetermined media cues and integrate them into the dramatic action. Any account of heightened attention is therefore a reflective observation drawn from practice rather than a measured psychological effect.

The media elements in *Wonderspace future* are activated by a human technician in response to predetermined lines or phrases. They neither interpret spoken dialogue independently nor generate stochastic responses during the performance. The actors respond to the timing and meaning of a coordinated scenic event rather than negotiating in real time with an autonomous algorithm.

Through this coordination, the digital environment functions as a scenic partner in a limited, metaphorical sense: its images and sounds provide material towards which performers orient their actions. The expression denotes dramaturgical integration, not agency, intention or authorship on the part of the audiovisual system.

5.2. Hyper-presence and ethical questions

The phrase "120% concentration" is used here solely as a practitioner's metaphor for sustaining characterization while monitoring partners, timing and audiovisual cues. It does not denote a measured increase in cognitive load. Barba and Savarese (2005) offer a perspective on the performer's trained presence but do not empirically validate this metaphor.

Because the media cues in this case are predetermined and human-operated, the actor's work involves rehearsal, attentiveness and coordination rather than spontaneous adaptation to an independently generative system. This observation is grounded in the production's practice and is not presented as a general finding about all AI-assisted theatre.

The use of generative media also raises questions of attribution, provenance and permission to reuse material. Although these are important ethical considerations, the present case does not establish the licensing practices of any specific model provider. The article therefore avoids claims of universally unauthorized use of training data and confines its argument to transparency about the production process and responsibility for the finished work.

Studies of the evaluation of visual art indicate that identifying an artwork as human- or AI-created can affect audience judgements (Bellaiche et al. 2023; Horton, White, and Iyengar 2023). These findings apply to the conditions examined in those studies; they neither demonstrate a uniform bias among theatre audiences nor establish that actors must compensate through increased virtuosity. Their relevance to theatre is proposed as a question for future research.

For acting pedagogy, the production suggests the practical value of rehearsing with precisely timed audiovisual cues while preserving dramatic intention and ensemble awareness. This remains an interpretive implication

of the case rather than an experimentally validated training recommendation.

5.3. Practice-based illustration: *Wonderspace future*

The case can be interpreted in the light of research on digital performance, embodiment and liveness (Dixon 2007; Fischer-Lichte 2008; Hayles 1999). These perspectives help to distinguish physical performance from its mediated representation without treating technology as an independent performer.

The science-theatre production *Wonderspace future* was written and directed by Dimitar Uzunov and Andrea Brunello. Hristijana Stoimenova plays Mira, the first child born and raised in space. The case is examined through the complementary perspectives of Uzunov's dramaturgical and directorial work and Stoimenova's embodied performance. Two distinct technical configurations are central to the discussion.

First, Stoimenova performs live while her image is simultaneously transmitted to a screen in the auditorium via Network Device Interface (NDI), a video-transmission technology rather than an AI system (Fig. 2). Second, the extraterrestrial characters Flip and Flop, played by Stoimenova and Uzunov, were recorded in advance against a green screen and composited into an entirely AI-generated visual environment depicting a spacecraft (Fig. 3). The resulting videos are prerecorded; they are not produced by an autonomous generative system during the show.

A technician in the control booth triggers predetermined videos, sounds and images in response to rehearsed lines and cues. The performers coordinate their timing and actions with these elements, allowing them to function as a scenic partner in a limited dramaturgical sense. The system neither interprets speech independently nor generates new responses during the performance.

The juxtaposition of Mira's embodied presence with her live screen image, alongside the recorded performances of Flip and Flop within the AI-generated spacecraft, offers distinct ways of presenting fictional space and theatrical presence. These possibilities remain interpretive propositions, as audience responses were not measured. Likewise, the need to monitor cues is a practitioner's observation, not evidence of a quantified cognitive effect.

Future research could investigate rehearsal records, the reliability of cues, performer attention and audience interpretation through documented observation and interviews.



Figure 2: Scene from the science-theatre performance *Wonderspace future*: Mira's live performance and her image transmitted to the screen. Photograph: Antoniy Hristov. Reproduced with permission of Arte Urbana Collectif



Figure 3: Scene from *Wonderspace future*: Flip and Flop, prerecorded and composited into the AI-generated spacecraft. Photograph: Antoniy Hristov. Reproduced with permission of Arte Urbana Collectif

6. Augmentation, homogenization and ethics

Research on AI-assisted storytelling and on the evaluation of AI-labelled visual art raises distinct questions rather than demonstrating a single general effect. Doshi and Hauser (2024) examine short-story outcomes under specified experimental conditions, while Bellaiche et al. (2023) and Horton, White, and Iyengar (2023) investigate judgements of visual artworks. These studies offer relevant points of comparison, but none directly examines the theatrical case discussed here.

The story-architect model is proposed as a way to keep human judgement visible throughout narrative development. Authors can use model-generated questions to explore alternatives without delegating final narrative decisions. The model is an analytical distinction grounded in the authors' practice, not an intervention proven to prevent homogenization across creative work.

Studies of AI-labelled visual art suggest that attribution may influence judgements of creative work (Bellaiche et al. 2023; Horton, White, and Iyengar 2023). The authors therefore recommend describing transparently how generative tools were used, while acknowledging that findings about judgements of visual art cannot be applied directly to live theatre. Ethical responsibility for the published work remains with its human creators.

7. Conclusion and future research

The article has proposed two working models of AI-assisted storytelling: the ghostwriter, in which generated drafts are edited by humans, and the story architect, in which AI-assisted questioning supports author-directed structural exploration. The distinction concerns the organization of creative decisions; it does not constitute a validated ranking of the two approaches.

The production *Wonderspace future* illustrates how generative imagery can be incorporated into a performance whose live and prerecorded media remain coordinated by human artists and technicians. The case underscores the importance of distinguishing visual generation from live transmission and manual cueing when discussing AI agency on stage.

Together, the narrative and theatrical cases support a practice-based account of human responsibility in digitally mediated creative work. The main contributions of the article can be summarized as follows:

– Two working models are distinguished by the locus of authorial decision-making: direct generation followed by human editing (ghostwriter), and iterative questioning with author-led reframing (story architect).

– A conceptual interpretation of performance combines emotional engagement with critical monitoring of mediated cues; the proposed notion of hyper-presence remains a metaphor that requires empirical investigation.

– The *Wonderspace future* case distinguishes prerecorded AI-generated imagery, human-operated cueing and live NDI transmission, none of which amounts to autonomous generative AI responding during the performance.

– Established concepts of embodied performance, digital mediation and multimodal meaning-making are applied to three analytical propositions concerning fictional world-building, human-operated scenic coordination and physical/digital co-presence; audience effects remain untested.

Further studies drawing on documented prompts, rehearsal observations, cue sheets and audience research could test these three propositions more systematically.

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