

# TRANSFORMING PERFORMANCE SUBJECTIVITY UNDER GENERATIVE AI: ON THE AUTHENTICITY AND SIMULACRA OF VIRTUAL PERFORMANCE

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## ABSTRACT

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**Received:** 16 July 2025  
**Revised:** 25 November 2025  
**Accepted:** 5 December 2025  
**Published:** 17 March 2026

**Citation:**  
Wang, H., & Power, P. N.  
(2026). *Transforming  
performance subjectivity  
under generative AI: On the  
authenticity and simulacra of  
virtual performance.*  
*Humanities, Arts and Social  
Sciences Studies*, 26(1),  
93–106. [https://doi.org/  
10.69598/hasss.26.1.277550](https://doi.org/10.69598/hasss.26.1.277550)

The continuous evolution of digital technology has driven a profound transformation in the performing arts. As a technology-driven artistic form, virtual performance is reshaping the logic of subjectivity and authenticity within performance practice. Drawing on Jean Baudrillard's Simulacra theory as its analytical framework, this article examines the problem of authenticity in virtual performance and the underlying logic that sustains it. By analyzing the stage-by-stage development of virtual performance, the study explores how it becomes detached from the physical body, reconstructs human emotions and behaviours through algorithms and symbolic systems, and challenges the authenticity paradigm of traditional performance. The findings indicate that the evolution of virtual performance has progressively shifted from mimetic representation to autonomous symbolic production. Its logic of authenticity no longer depends on physical reproduction; rather, it is constituted through a dynamic "two-way mapping relationship" enabled by technological re-encoding and the self-referential operation of symbolic systems. Although virtual performance expands the boundaries of artistic expression, excessive reliance on simulacral generation may result in the erosion of experiential reality and the hollowing out of artistic authenticity. Furthermore, while generative AI endows virtual performances with the capacity for 'self-programming', it simultaneously intensifies the tension between technological rationality and humanistic values. Accordingly, this study advocates the development of an interdisciplinary theoretical framework, the optimization of integrative pathways between technology and the humanities, and the reconstruction of an evaluative system for audience authenticity grounded in perceptual, cognitive, and affective dimensions. It emphasizes that the sustainable reconstruction of artistic authenticity can be achieved only through a critical balance between technological innovation and humanistic reflection.

**Keywords:** Virtual performance; authenticity; Jean Baudrillard; Simulacra; performance subject

## 1. INTRODUCTION

Currently, the effective integration and assimilation of digital technologies within institutional frameworks, and the consequent reshaping of performing art forms in a technology-driven cultural context, have become central issues in the innovation and development of contemporary theatre. This paper addresses the following key questions: What is the developmental trajectory of virtual performance reproduced through digital technology? How does this trajectory affect traditional artistic performance? Do these emergent forms of virtual performance substantiate Jean Baudrillard's theory of Simulacra? On this basis, how can performance design be optimized to construct virtual performances that convey a stronger sense of authenticity?

An exploration of these questions must begin with the new forms of virtual performance generated by digital technology. Prior to the intervention of digital technologies in the performing arts, the performing subject primarily depended on the physical presence of the human body. Ontological inquiries into performance likewise centered on human physicality, including physiological constraints, socio-cultural and ideological foundations, individual singularity, and other dimensions intrinsic to human existence. With the deepening integration of digital technology—particularly in video-based performance—an element increasingly detached from the human subject has emerged, gradually challenging and even attempting to displace the centrality of the live human performer in video performance (Lin, 2024). This transformation not only redefines the concept of the performing subject but also poses unprecedented challenges to the creative logic and aesthetic paradigms of traditional performing arts. For instance, in 2024, China's first fully AI-generated continuous narrative drama series, *Sanxingdui: The Future Apocalypse*, employed large-model AIGC technology throughout its production workflow—including script assistance, storyboard design, image-to-video generation, editing, and content enhancement—recreating iconic artefacts such as bronze masks and the bronze divine tree as highly detailed virtual objects (Zhang, 2024). Although many existing dehumanized performances based on digital technologies still bear visible traces of human intervention, ongoing technological advancements—particularly in AIGC-generated virtual performance—have enabled performances to formally detach from real human actors. In such cases, virtual performances centered on digital humans are generated through the autonomous processing of large-scale data systems. To some extent, this emergent form of the performing subject appears to confirm Jean Baudrillard's theoretical prediction of an impending era of “simulation” and “simulacra” (Chen & Zhong, 2023). According to Jean Baudrillard, as modern—especially digital—technologies penetrate ever more deeply into everyday life, all aspects of human existence become increasingly mediated by technological systems. Simultaneously, the logic of capital-driven consumption gradually becomes the primary driving force of social structures (Baudrillard, 1994). Within this context, through the implosive sequence of symbol-driven production and mechanisms of desire, the formation of the human subject begins to detach from the concrete physical world, manifesting instead in a mode of “simulation” and ultimately evolving into “simulacra.” Virtual performance appears to replicate the external real world and expand the boundaries of existence; however, it is in fact shaped by internal human desires. Its ultimate significance still revolves around notions of “truth” or “reality” within the cyclical structure of the ego, amounting to a complex reconstruction of authenticity.

This study takes the practical manifestations of virtual performance as its point of departure in order to analyze and discuss their developmental forms and characteristics. Although, within specific performance domains, virtual performance evolves from “simulation” to “simulacra,” interacting and partially merging with live performance, the construction of authenticity in each follows fundamentally different logical trajectories. This distinction provides a critical point of entry and an analytical framework for examining the unique ontology of virtual performance.

## 2. VIRTUAL PERFORMANCE

The primary focus of this study is virtual performance, a concept composed of the terms “virtual” and “performance.” It is therefore necessary to clarify the notion of real performance, which serves as the counterpart to virtual performance. This study defines real performance as a form of performance in which the performer's subject physically exists and manifests tangible corporeal presence.

The term “reality” (Latin: *Realitas*) commonly refers to “things that exist objectively” or to “conditions that correspond to objective circumstances” (Institute of Linguistics, Chinese Academy of Social Sciences [CASS], 1995). Reality is defined in four senses: 1. the state of things as they actually exist, as opposed to an idealized or notional conception; 2. something that is actually experienced or perceived; 3. the quality of being lifelike; and 4. the state or quality of possessing existence or substance. More broadly, reality denotes the totality of all that exists, in contrast to what is purely imagined or fictional (Oxford University Press, 2005). The term is also used to describe the ontological status of things, including questions of existence and non-existence

(Oxford English Dictionary, n.d.). In a broad sense, “reality” encompasses all phenomena that can be observed or comprehended, potentially including both existence and non-existence as conceptual categories. In a narrower philosophical sense, it operates at multiple levels, including phenomena, facts, truth, and axioms.

In contrast, “virtual” is an abstract concept typically positioned in opposition to “reality.” The *Cambridge English Dictionary* defines “virtual” as “created by computer technology and appearing to exist, but not existing in the physical world.” It may also refer to something that exists, though not in a physically tangible manner, or to something imagined or conceptually constructed rather than materially real (Cambridge University Press, n.d.). Haraway (1999) observes that “the virtual is precisely not the real,” noting the attraction of the term “virtual reality” within postmodern discourse. By contrast, Deleuze (1990) conceptualizes the virtual as opposed not to the real but to the actual, arguing that the virtual is real in a philosophical sense, or at least real within the domain of perception. This distinction exposes a conceptual pitfall in describing virtual worlds as simply “unreal.” Shields (2005) characterizes this tension as a “crisis of boundaries” (p. 7), referring to the blurred interface between the material world and virtual environments. Chalmers (2018) further contends that virtual objects lack physical existence and are ontologically distinct from material bodies.

On this basis, this study defines “virtual” as a mode of existence that is real in effect but not physically embodied. It denotes a form of being that, through technological mediation and processing, obscures or displaces the physical materiality of its underlying referent.

With regard to “performance,” the term in this study specifically refers to performance within the performing arts. Performance denotes the use of skill or expertise by a performer to convey concrete events or abstract images for artistic or entertainment purposes. The *Modern Chinese Dictionary* identifies three conventional meanings of “performance” in the Chinese context: 1. staged artistic presentations such as drama, dance, or acrobatics, in which plots and techniques are displayed; 2. the demonstration of actions as an example; and 3. a metaphorical sense referring to deliberate pretense (Institute of Linguistics, Chinese Academy of Social Sciences [CASS], 2016). Dictionary.com (n.d.) defines performance as the act or process of staging or presenting entertainment, as well as the execution of a task or function.

The *Merriam-Webster* (n.d.) provides six definitions: 1. the execution of an action or completion of a task; 2. the fulfillment of a promise or obligation; 3. the enactment of a role in drama or presentation before an audience; 4. measurable achievement; 5. behavior in response to stimuli; and 6. verbal behavior, including linguistic competence. Wang (2012) conceptualizes performance as communicative acts or events that are artistically foregrounded and framed for presentation to an audience. Carlson (2013) emphasizes that performance art traditionally depends upon the physical presence of trained or skilled individuals whose embodied demonstration constitutes the performance itself. Schechner (2020) expands the concept to include artistic activities such as music, dance, drama, opera, film, television, acrobatics, poetry, and recitation, all of which fall within the domain of “performance.”

It can therefore be inferred that the primary meaning of “performance” refers to artistic forms such as drama, film, dance, spoken language, and acrobatics. It denotes activities that are distinguished from ordinary life and typically take place on a stage or in a stage-like environment.

Drawing upon the conceptual definitions of “virtual” and “performance,” this study defines virtual performance as an emergent form of performance enabled by digital technologies. Its defining feature lies in the realization of artistic expression through non-physical and non-human agents, in contrast to traditional performance forms grounded in the corporeality and material presence of human performers.

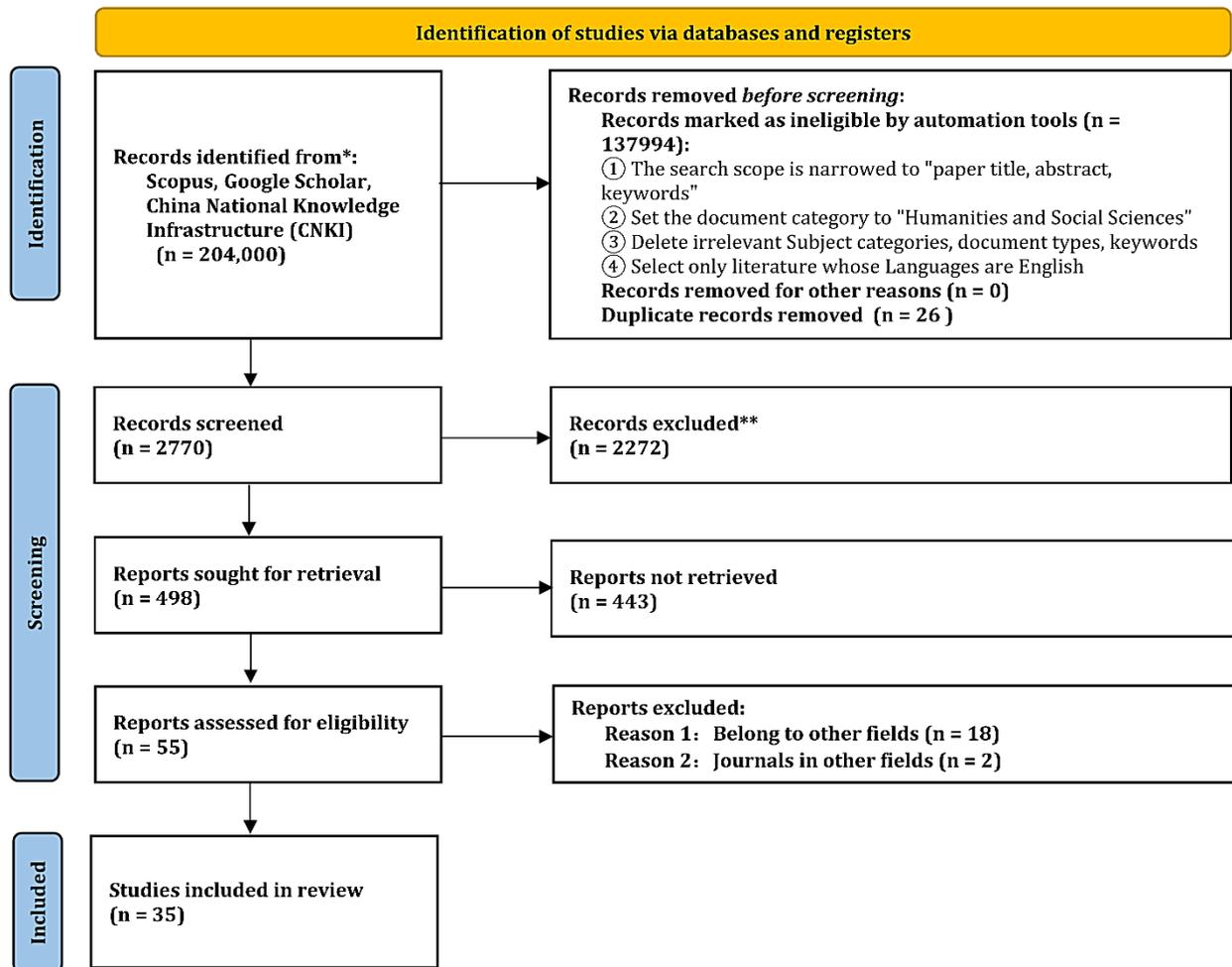
In a broad sense, virtual performance refers to new performance forms emerging within digital media environments, positioned in contrast to real performance. In a narrower sense, virtual performance exists primarily in image-based or screen-mediated formats and is defined by the nature of its performing subject. Unlike traditional performance, which depends on the physical presence of human actors, virtual performance employs virtual humans, digital avatars, motion capture, artificial intelligence, and computer-generated imagery (CGI) to simulate or generate performative acts.

The “subject” of virtual performance is the virtual performance character, a performer without a physically existing human body. Unlike traditional actors, such subjects do not possess material existence; in screen-based productions, any underlying human performer may be entirely concealed, becoming effectively invisible in the final representation. Correspondingly, the “object” of virtual performance refers to the works enacted or generated by these virtual subjects.

With the advancement of digital imaging technologies, virtual performances featuring fully automated lip-synchronization, facial simulation, and motion generation have been widely and systematically applied in the creation of virtual characters, including game avatars, virtual singers, virtual hosts, virtual teachers, and virtual tour guides.

### 3. RELATED WORK

This study employed the keywords “virtual performance,” “AIGC virtual performance,” and “virtual avatar performance” to conduct database searches in Scopus, Google Scholar, and the China National Knowledge Infrastructure (CNKI). A systematic review of the existing literature was conducted in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) screening protocol. Through this process, 35 highly relevant research articles were identified, and a PRISMA flow diagram was produced to illustrate the selection procedure (Figure 1). The results of the literature search indicate a steady increase in publications addressing “virtual performance” and the “virtual performance subject.” Existing scholarship primarily concentrates on AI-driven virtual technologies, virtual theatre practices, and the ethical implications associated with virtual performance subjects.



**Figure 1:** PRISMA (Page et al., 2021) flowchart formed by searching literature in multiple databases

In recent years, scholars have increasingly examined the question of authenticity in virtual performance. Core concerns include the expansion of mimesis theory, AIGC-driven virtual performance technologies, the reshaping of aesthetic values, socio-cultural implications, and emerging legal and ethical challenges. Overall, the trajectory of research has evolved from an early emphasis on technological innovation to more complex inquiries into the construction of authenticity in the performing subject, audience reception, and interdisciplinary convergence. Jean Baudrillard’s theory of Simulacra continues to serve as a foundational theoretical framework in this field. Particularly in the context of rapid developments in AIGC and immersive technologies, his concepts of the dissolution of image authenticity, mediated existence, and hyperreality have been further elaborated. Moreover, Dixon (2006), in his historical analysis of virtual reality performance, argues that the evolution of digital media has fundamentally transformed traditional modes of authenticity construction in the performing arts. This transformation involves not only changes in image production techniques but also shifts in audience perceptions of authenticity.

At the theoretical level, scholars have explored how authenticity is constructed within virtual performance. Yang (2024) investigates the impact of AI technologies on bodily expression in film performance, emphasizing that AI-generated characters increasingly surpass conventional forms of human acting. This shift produces a new performative logic in which the symbolization of the virtual body coexists with authenticity in a complex, interwoven relationship. Zhou (2024), in discussing the influence of AI-generated imagery on cinematic authenticity, contends that AI-driven image production dissolves traditional realist conceptions of representation, thereby prompting a redefinition of authenticity. Concepts such as “human–machine integration” and “technological aesthetics” are reshaping the authenticity logic of the performing subject, facilitating a transition from traditional “physical performance” to fully “virtual performance” (Sun & Yang, 2023). Hallinan and Reynolds (2021) examine how film audiences construct experiences of authenticity in contemporary media environments, arguing that digital distribution modes significantly shape perceptions of image authenticity. Their findings provide important insights into authenticity construction in the AIGC era. Similarly, Sun (2020) analyzes how digital technologies challenge traditional theatrical paradigms, asserting that the core issue in posthuman performance lies in technology’s erosion of theatre’s “singular reality.” The materiality of the stage is progressively supplanted by virtual spaces, a transformation that remains one of the most debated developments in twenty-first-century performing arts. In parallel, the theory of “Remediation” posits that the authenticity of virtual performance does not derive from mimetic fidelity to reality but from the technological reconfiguration of existing media forms, enabling screen-based performance to establish its own autonomous logic of authenticity (Bolter & Grusin, 2000). In *New Media: A Critical Introduction*, Lister et al. (2008) further argue that digital images transcend the temporal and spatial constraints of traditional performance, shifting the construction of the performing subject from “reproduction” to “encoding.” Collectively, these studies suggest that authenticity in virtual performance has moved beyond the embodied presentation characteristic of traditional stage performance and increasingly operates within a technological sign system structured by simulacra.

At the technological level, AIGC, AI-generated imagery, immersive performance, and virtual reality (VR) have emerged as focal areas of academic inquiry. Recent studies highlight advancements in AI-generated dance performance, noting that “generative AI can engage a dancer through surprise, inspiring a transformation from abstract to physical movements” (Wallace et al., 2024). Scholars have also introduced the concept of “new imagery” (Xu & Jin, 2024), arguing that AIGC establishes a novel image logic that no longer depends on conventional film and television production processes but instead constructs performance subjects through data-driven computer vision systems. Historically, avant-garde theatre experimented with mechanical devices and automated systems to transcend the bodily limitations of traditional performance (Kłeczek, 2024). This historical trajectory parallels the contemporary trend of “technology as subject” in AIGC-generated virtual performance, in which de-objectification and simulacral transformation allow performance subjects to be generated entirely through algorithms and computational systems, thereby eliminating the necessity of direct human participation. Slater et al. (2000) conducted experimental research on VR in performance training and found that virtual rehearsal environments significantly enhance actors’ sense of immersion and overall performance quality, suggesting that VR may become a vital tool in future training practices. In the domain of interactivity, the study “Human-AI Co-dancing” (Pataranutaporn et al., 2024) demonstrates how AI-driven virtual dancers can collaborate dynamically with human performers. This research indicates that AI not only generates performance subjects but also actively reshapes performance forms through interactive processes. Furthermore, performers operating within VR environments can reinforce perceptions of authenticity through simulacral bodily expression (Marouda et al., 2023). The technological foundation of virtual performance has thus evolved from simple digital compositing to AI-driven dynamic image generation. This shift has not only transformed production methodologies but has also fundamentally redefined the very concept of the performing subject.

At the aesthetic level, academic research primarily examines how virtual performance reshapes the audience’s experience of authenticity and generates new aesthetic paradigms. The concept of “Sora Image Narrative” (Zhang, 2025) proposes that the rhetorical structure of AIGC-generated imagery is transforming cinematic language, such that the construction of image authenticity no longer depends on physical referentiality but is instead realized through symbolic intertextuality and data recomposition within a data-driven logic. In *Emerging Media*, Thomas (2024) analyzes the impact of AI-generated imagery on the performing arts, emphasizing that synthetic images challenge established performance ethics while simultaneously fostering the emergence of new visual aesthetic forms. Furthermore, the notion of “seamless aesthetics” (Shi & Xie, 2024) suggests that the “particle simulacra” produced by AIGC dissolve the boundaries between the real and the virtual, rendering it increasingly difficult for audiences to distinguish between authentic and technologically generated images. Although virtual characters are detached from physical bodies, virtual performance retains a form of organic coherence, as it continues to rely on biological movement patterns

and performative rhythm to construct a sense of authenticity (Zhou, 2018). In the context of “face-swapping technology” in film and television, the perceived authenticity of AI-generated imagery depends not only on technical accuracy but also on psychological responses, particularly the “Uncanny Valley” effect, which may evoke discomfort among viewers (Feng, 2023). Consequently, the authenticity of virtual performance cannot be reduced to a purely technical issue; rather, it emerges from the interplay of aesthetics, narrative structures, and audience psychology.

At the socio-cultural and ethical levels, scholarly discussions focus on the social acceptance of virtual performance, regulatory and legal concerns, and its impact on traditional performance professions. The rise of digital actors has become deeply embedded in contemporary fan culture, with audiences’ attachment to virtual characters in some cases gradually supplanting their attention to human performers (Zhang, 2020). Within the framework of postmodern consumerism, a “simulacra idol economy” has emerged, in which the symbolic and commercial value of virtual figures may even surpass that of real individuals (Yu & Geng, 2020). The development of virtual performance is therefore not merely a matter of technological advancement; it necessitates engagement with sociology, ethics, and cultural studies to ensure that its evolution aligns with broader societal values rather than functioning solely as a technological product.

Overall, although existing scholarship has made preliminary progress in establishing a theoretical framework for the construction of authenticity in virtual performance, and has examined its technological, aesthetic, and ethical dimensions, several theoretical gaps remain.

First, most studies concentrate on a single domain—either technical analysis or artistic critique—without developing a systematic interdisciplinary framework.

Second, the ontological status of “virtual performance” remains insufficiently clarified: Is it a tool, a creative agent, or an autonomous performance subject?

Third, traditional performance theories (e.g., the Stanislavski system) are gradually losing explanatory power within digitally mediated contexts.

In conclusion, the construction of authenticity in virtual performance subjects remains a critical interdisciplinary issue. Future research should prioritize theoretical refinement, practical implementation, and cross-disciplinary integration in order to promote the comprehensive and sustainable development of this field.

## 4. RESULT AND DISCUSSION

### 4.1 From handcrafting to generation: The technological shift in virtual performance

For Jean Baudrillard, simulacra emerge as a condition in which reality is increasingly sought and constructed within visual media. He argues that images in modern society progress through four successive stages: Counterfeit (First Order), Production (Second Order), Simulation (Third Order), and Simulacra (Fourth Order) (Table 1) (Baudrillard, 1994). Virtual performance is a specialized form of performing arts, characterized as a virtual video that undergoes infinite replication and production based on existing image data. With the iteration of digital technology, we summarized virtual performance as having gone through three stages of development: the manual creation simulation stage (1.0), digital synthesis and performance capture stage (2.0), and fully virtual generation driven by generative artificial intelligence (3.0). The stages of development of virtual performance actually correspond to Baudrillard’s four sequences on the image.

**Table 1:** Jean Baudrillard’s image sequences theory

Sequences	Name	Interpretation
1st Order	Counterfeit	It was the dominant model in the “classical” period from the Renaissance to the Industrial Revolution; exchange followed the “natural law of value”; it is the reflection of a profound reality;
2nd Order	Production	It is the dominant model of the industrial age; exchange follows the “law of market value”; it masks and denatures a profound reality;
3rd Order	Simulation	It is the dominant paradigm of the present age, dominated by symbols; exchange follows the “law of structural value.”; it masks the absence of a profound reality;
4th Order	Simulacra	It is a model for the dissemination and unlimited reproduction of any image symbol on the Internet in the era of the “Internet”; it has no relation to any reality whatsoever: it is its own pure simulacrum.

Stage 1.0: The Manual Creation Simulation Stage. Even prior to the advent of computer technology, early forms of virtual performance had already appeared. Creators produced virtual performances manually through hand-drawn animation or handcrafted models. A representative example is the American animated short series *Tom and Jerry*, first released in 1940, which was entirely hand-drawn and ultimately comprised 161 episodes. Another example is the 1966 Japanese television series *Ultraman*. Although performed by human actors, the final on-screen representation presented the audience with a distinctly virtual character—

“Ultraman.” Similarly, the 1980 Chinese color puppet film *Avanti’s Story* employed non-human puppets rather than live actors, thereby achieving a form of virtualized performance through puppetry. In this early stage, although production processes relied entirely on manual techniques, these works already exhibited prototypical features of virtual performance. Their defining characteristic was the use of non-human or non-physical forms to realize artistic expression. The audiovisual works of this period represent an early phase of image production. They function primarily as direct imitations or representations of reality; their source materials derive from lived experience and reflect concrete reality. In Baudrillard’s schema, this stage corresponds to the order of imitation or “counterfeit.” However, with the rise of industrial modernity, image production increasingly shifted toward mass reproduction, gradually obscuring or distorting underlying reality, thereby aligning more closely with the second order—“production.”

**Stage 2.0: Digital Synthesis and Performance Capture Stage.** With the rapid development and widespread adoption of digital technologies, virtual performance evolved from manual simulation to technologically mediated synthesis. Driven by advances in computer graphics and network technologies, virtual performance entered the 2.0 stage, characterized by the digitization of human performance through motion capture and digital compositing. In this phase, the bodily actions and expressions of live actors are translated into dynamic digital representations. This form of digital reproduction expands the expressive possibilities of the performing arts. For example, the film *Avatar* significantly enhanced the realism and emotional expressiveness of virtual characters by capturing actors’ facial expressions and bodily movements and transforming them into animated digital figures. Similarly, in the 2024 action game *Black Myth: Wukong*, the character Erlang Shen was created through detailed facial motion capture performed by a human actor. During production, the actor provided nearly sixty distinct facial expressions, resulting in a highly precise digital embodiment within the game. This technological transformation not only heightens visual realism and expressive intensity, further blurring the boundary between virtual and real performance (Sperb, 2012), but also establishes the technical foundation for the subsequent application of generative AI, opening new directions for the continued evolution of virtual performance. At this stage, virtual performance simulates human or other physical bodies through digital means, allowing the image to increasingly substitute for physical reality. As the distinction between the actual and the represented becomes progressively indistinct, audiences encounter growing uncertainty regarding the ontological status of the performing body. This condition signals a transition toward Baudrillard’s third order of images—simulation.

**Stage 3.0: Fully Virtual Generation Driven by Generative Artificial Intelligence.** With the rapid advancement of generative AI, virtual performance has entered stage 3.0. In this phase, users can generate virtual performance imagery directly from simple textual prompts. This stage is defined by a complete detachment from the physical performing subject, abandoning reliance on embodied presence and instead constructing quasi-autonomous, self-operating systems through algorithmic computation and data-driven processes to produce dynamic and seemingly intelligent virtual characters (Bafa Reis & Ashmore, 2022). Representative examples include virtual presenters, AI-driven virtual singers, and synthetic characters generated through technologies such as Generative Adversarial Networks (GANs). As illustrated in Table 2, a wide range of audiovisual works are now produced using generative AI technologies. The defining characteristic of these virtual performance subjects lies in their total separation from material embodiment. Within a purely virtual architecture, human desires, imagination, and cognition are rendered in figurative and visualized forms, while their actions unfold within preconfigured algorithmic frameworks. It is important to emphasize that the generation of such virtual performance imagery relies upon extensive pre-existing datasets, which themselves originate as mediated representations of reality and circulate exclusively within symbolic systems. In this respect, this form of performance subject corresponds more closely to Jean Baudrillard’s notion of “simulacra,” aligning with the fourth order of images—simulacra. It exemplifies how digital technologies radically reconfigure the boundaries between the real and the virtual (Walsh, 2021). At this stage, virtual performance subjects not only transcend the physical constraints of traditional performance but also begin to display a form of self-sustaining artistic agency, thereby progressively redefining the ontology of the performing arts.

**Table 2:** Generative artificial intelligence video works

Work (year)	Director/creator	Duration	Generation tool
“Dumb Punk” (2021)	Glenn Marshall	3’52	Story2/Hallucination
“The Raven” (2021)	Glenn Marshall	3	Clip
“Salt” (2023)	Fabian Stelzer	59-second trailer/clip	Stable/ALL-E 2/Midjourney
“The Frost” (2023)	Josh Rubin	13	Dall -E 2/D-ID
“Barbenheimer” (2023)	Curious Refuge	2’ 20	Midjourney/Gen-2
“Synthetic Summer” (2023)	Chris Boyle	30s	Gen-2

**Table 2:** Generative artificial intelligence video works (continued)

Work (year)	Director/creator	Duration	Generation tool
"Italian Sausage Station" (2023)	Pizza Later	30s	ChatGPT 4/Midjourney/Gen-2
"The Universe Itself" (2023)	Christopher Manzione	4' 55	ChatGPT 4/Midjourney/Gen-2
"To Dear Me" (2024)	Gisele Tong	5	Midjourney/ComfyUI/LoRA/ComfyUI
"Sanxingdui: Future Revelation" (2024)	Bo yue	4/Each episode	Keling AI

#### 4.2 From reality to symbols: The simulacral transformation of virtual performance

The emergence and rapid advancement of new technologies have propelled virtual performance from the 1.0 and 2.0 stages into the 3.0 era, attracting widespread societal attention and accelerating industry development. However, the speed of technological iteration has outpaced corresponding theoretical and methodological reflection, resulting in a degree of conceptual lag and, in some cases, distortions in digitally generated content. Within this process, algorithm-dependent virtual simulacra inevitably reshape the mechanisms of artistic production. Artistic creation becomes progressively detached from the artist's individual emotional depth and critical insight, shifting instead toward what Baudrillard describes as a system governed by operational "modes." In this configuration, artistic production is increasingly structured by technological logic, with digital systems functioning as the primary generative force.

In virtual performances grounded in motion capture and facial capture technologies, real performers are embodied through "performance capture," whereby human movement serves as the initial source material and is subsequently reshaped through digital compositing to realize an idealized virtual representation. This process establishes a new mode of constructing performative subjects. Conceptually, it corresponds to the transitional phase between simulation and simulacra within Baudrillard's sequence of images. A representative example is the 2022 virtual concert ABBA Voyage, in which members of the Swedish pop group ABBA appeared on stage in digitally reconstructed youthful forms. Although the performers were approximately 75 years old at the time of production, motion-capture technology enabled the presentation of their younger likenesses, complete with expressive gestures and facial movements.

With further advancements in artificial intelligence and virtual reality technologies, virtual avatars have evolved into symbolic bodies capable of interacting with real human participants. These virtual bodies are highly customizable and can map embodied symbolic features derived either from lived experience or from imaginative construction. In this sense, they increasingly function as simulacra. As early as 2018, China's Xinhua News Agency introduced the world's first AI-generated news anchor, known as the "Xinhua AI Anchor." This virtual presenter operates continuously, responds rapidly to breaking news, and broadcasts in both English and Chinese (Figure 2) (Chen et al., 2018). In such cases, the broadcast environment becomes a fully virtual setting detached from physical reality, and the performance is no longer anchored in the actor's material body. Gestures, facial expressions, and vocal output are generated automatically through algorithmic systems. Similarly, in early 2023, the Detroit-based production company Waymark released *The Frost*, widely described as the first fully AI-generated film. In August 2024, China's first AAA action role-playing game, *Black Myth: Wukong*, was launched. Although all humanoid characters were created through motion and facial capture performed by human actors, their on-screen presence existed entirely within a digitally constructed world. The game attracted nearly 30 million players worldwide and propelled its motion-capture actors to sudden prominence as celebrities within virtual media culture (Liu & Zhou, 2024). At the 2025 China Online Spring Festival Gala, the classical-style performance *Yan Guichao* (Return of the Swallows), supported by augmented reality (AR) and AIGC technologies, digitally reunited the historically fragmented painting *Dwelling in the Fuchun Mountains*, which had previously been divided into two sections. The Yuan-dynasty painter Huang Gongwang was virtually reconstructed and presented on stage alongside a live singer, enacting a symbolic dialogue across historical time. During production, the creative team consulted statues and portrait depictions of Huang Gongwang as well as Yuan-dynasty costume references. AI tools were used to generate his visual likeness, which was then converted into a three-dimensional model through inverse generative techniques. Subsequent processes—including rigging, mesh repair, retopology, facial binding, and texture refinement—resulted in the creation of a lifelike 3D CG digital human (Guo, 2025).

In the Virtual Performance 3.0 era, the most notable work is *Sanxingdui: Future Revelation*, widely recognized as China's first AIGC-generated, continuous narrative sci-fi micro-series (Figure 3). Directed under the guidance of the Beijing Municipal Radio and Television Bureau and produced by Bona Film Group in collaboration with Douyin and the Jimeng AI platform, the series premiered on Douyin in July 2024, consisting of thirteen episodes of three to four minutes each (Zhang, 2024). The production team employed large-model AIGC technology across nearly every stage of the workflow, including script assistance, storyboard design, image and video generation, editing, and media content enhancement (Lv, 2024). A particularly noteworthy example is the AI actor "Wu Xingyan," who underwent a meticulously structured character development

process. The production team first defined her personality traits, which were then encoded into the AI system to generate a large array of candidate images. After successive rounds of selection, the final visual representation was chosen. Beyond her narrative role, “Wu Xingyan” possesses her own social media accounts, positioning her as a potential celebrity and brand spokesperson for Bona Film Group. Within a month of release, the series amassed over 140 million views, including 135 million on Douyin in China, ranking among the platform’s top five short-form dramas (Zhang, 2024), and was selected for several international film festivals (Yu, 2024). From the perspective of virtual performance authenticity, *Sanxingdui: Future Revelation* exemplifies a fully code-based Virtual Performance 3.0 configuration. Perceptual presence is no longer anchored to physical bodies or tangible sets; instead, it emerges from the cinematic realism of AIGC-generated environments and the dynamic movements of AI-controlled characters. Indexical authenticity—understood as the trace of the material world—persists only in the form of digitized cultural relics and museum exhibits, which serve as source material for the AI system. In contrast, simulacral authenticity takes precedence: the “truth” of the performance is embedded in the internal coherence of the sci-fi universe, the plausibility of the reconstructed Sanxingdui civilization, and the emotional resonance evoked by the narrative of civilizational crisis and rescue. The series demonstrates how AI-generated imagery can transform cultural heritage into a symbolic space where history is not merely represented but algorithmically reimagined. This raises significant questions regarding how audiences perceive and negotiate authenticity when historical and cultural narratives are primarily mediated through AI-generated images and storytelling.



Figure 2: Xinhua AI Anchor



Figure 3: *Sanxingdui: Future Revelation*

On the one hand, the full digitalization of virtual performance, from 2.0 to 3.0, expands the boundaries of artistic expression while simultaneously blurring the distinction between the real and the virtual, prompting a reconsideration of authenticity and artistic subjectivity. On the other hand, the highly algorithmic production processes of AIGC-driven virtual performance are steering the performing arts toward a technological aesthetic paradigm, reflecting a shift from “human–machine collaboration” to “human–machine integration.”

In the past, people have tended to view metamorphoses and symbolic abstractions about the human body as manifestations of the alienation of the body by commodification and technology, and have tended to draw on Baudrillard’s theory of simulacra or Guy Debord’s theory of the “society of the spectacle” as a passive, consumed and inauthentic existence. However, with the rapid advancement of digital technologies, virtual representations have gradually transcended mere abstraction, increasingly embodying emotionality, corporeality, and participatory dynamics. This evolution renders virtual performance highly compatible with human cognitive and affective processes. The pervasive integration of digital culture into both social production and spiritual life has further motivated academics to reconceptualize virtual imagery and investigate it through fresh theoretical lenses.

From this perspective, virtually synthesized performance simulacra cannot be reduced to straightforward reproductions of reality or pure products of imagination, nor can they be entirely classified as hyperreal images. Their distinctiveness lies in manifesting a complex, bidirectional mapping between physical bodies and digital images. In this dynamic process, virtual performance not only demonstrates technology’s capacity to reconfigure bodily representation but also expands the interactive boundaries between the real and the virtual. Before the deep integration of virtual reality and AI technologies, attempts to simulate or reproduce the human body through images or symbolic forms were often limited and one-dimensional. Such processes frequently omitted critical information, resulting in simplified or even alienated representations of real-world activities. This loss of complexity and authenticity validates Baudrillard’s critique of traditional simulacra, wherein reproduction obscures a deeper understanding of reality and exposes the limitations and challenges inherent in technological mediation (Zurbrugg, 1993). AI-driven video generation platforms such as Sora, Runway, Synthesia, and Pictory exemplify the ongoing process of simulacra creation. For instance, Sora—a deep

learning-powered video platform—can generate highly realistic and customizable video content based on user prompts (Wang et al., 2024). Using digital technology, these platforms simulate reality and generate vast quantities of imagery, which are subsequently recomposed according to user instructions, producing the virtual performance content observed today. In Baudrillard’s framework, this marks a progression from the third sequence of images (simulation) to the fourth—simulacra. Such platforms can produce video content in which avatars speak, display emotions, and perform actions, enabling applications ranging from virtual news anchors to educational content and interactive media (Kuo & Lee, 2024). Runway, another generative AI-powered video tool, allows non-professional users to produce short video clips from simple textual inputs, dramatically lowering the barriers to creative production (Kusiak, 2025). This technology has dramatically lowered the barriers to the creation of performative works and has led to hundreds of new creators entering the field daily.

However, the proliferation of virtual video production also exposes significant challenges. Generative AI remains in an early, rapidly evolving stage, introducing both innovation and the risk of errors or distortions in representations of reality. As illustrated in Figure 4, when a system is tasked with generating an image of a human hand, the resulting fingers may appear unnatural or unrealistic—a common artifact in outputs from generative AI systems. While these technological limitations present risks, they also underscore the importance of retaining critical judgment in artistic innovation. This perspective aligns with Baudrillard’s argument that the emergence of a simulacra society is an inevitable outcome of consumer society reaching its zenith, ultimately producing a fully simulacral world (Baudrillard, 1994).



**Figure 4:** The “hand” of AI creation

Baudrillard (1994) contends that as technology advances, images gradually detach from their grounding in reality. Their trajectory moves from initially reflecting reality to obscuring it, and ultimately to complete disconnection. In this process, images lose all external reference, transforming into autonomous entities—pure simulacra. The same logic applies to AI-generated virtual performance imagery. Such virtual images not only possess the potential to fabricate or modify reality but also to distort and reconstruct the fundamental principles of media dissemination. Rootless simulacra progressively supplant authentic imagery, creating an entirely new communication environment predicated on symbols and simulation. This shift profoundly affects both the perceived authenticity of images and societal cognition. Put simply, the fictional movies and television programs we consume immerse us in the world of virtual performance, prompting us to lose awareness of the real environment and ultimately resulting in reality being “obscured.” Consequently, creators must carefully distinguish between reality and the virtual, as well as between simulation and simulacra, from the perspectives of realism and humanistic values. If virtual performance becomes entirely detached from reality, it risks falling into the type of simulacra Baudrillard critiques, producing a scenario in which humans may lose control over AI.

#### **4.3 A theoretical model of authenticity in AI-generated virtual performance**

Building on the preceding discussion, this article proposes a theoretical model of authenticity in virtual performance that integrates technological evolution, simulacral logic, and audience experience. Rather than treating authenticity as a single, fixed attribute, the model conceptualizes it as a dynamic configuration produced by the interaction among performance media (stage, screen, and code), orders of simulacra, and viewers’ perceptual, cognitive, and affective responses. In this framework, AI-generated virtual performance does not merely weaken or negate authenticity; instead, it redistributes and rearticulates what counts as “authentic” within an increasingly code-based symbolic environment.

The model identifies three experiential dimensions of authenticity in virtual performance. Perceptual presence refers to the sensory immediacy and liveness of the event, encompassing bodily co-presence, spatial

depth, and real-time interaction. Cognitive coherence pertains to the internal logic, narrative consistency, and world-building of the performance—whether what is presented “makes sense” within its own diegetic universe. Affective resonance addresses the intensity and persistence of emotional engagement, including empathy, identification, and shared moods. In stage-based performance, authenticity is traditionally anchored in perceptual presence: The living body on stage serves as the ontological foundation upon which cognitive and affective dimensions are constructed.

The model also distinguishes between indexical authenticity and simulacral authenticity. Indexical authenticity is grounded in a direct or trace-like relation to a physical referent—the performer’s body, a recorded event, or a documentary situation. Simulacral authenticity, by contrast, emerges when legitimacy derives not from an external referent but from the internal consistency and affective efficacy of a symbolic system. In AI-generated virtual performance, the “truth” of the image increasingly depends less on correspondence with empirical reality and more on its ability to sustain a coherent, self-consistent world and generate meaningful experiences for audiences within that world.

By mapping these dimensions and layers onto the three developmental stages of virtual performance, the model clarifies how authenticity is reconfigured across the transition from stage to screen to code. In the stage-centered phase (virtual performance 1.0), indexical authenticity and perceptual presence dominate: the live body functions as the privileged anchor of reality. In the screen-mediated phase (virtual performance 2.0), audio-visual recording and post-production partially detach the image from the here-and-now, redistributing authenticity toward cognitive coherence through editing, montage, and narrative design, while still relying on traces of physical performance. In the code-based phase (virtual performance 3.0), characteristic of contemporary AIGC practices, the image may have no direct indexical relation to a real performer. Here, authenticity becomes primarily simulacral: It is assessed by the plausibility of algorithmically generated worlds and the strength of affective resonance they elicit, even when audiences recognize that what they see is “synthetic.”

The proposed model frames authenticity in AI-generated virtual performance as a multi-dimensional, media-dependent configuration rather than a binary opposition between true and false, real and fake. It demonstrates how AI and generative algorithms shift the locus of authenticity from bodily presence and indexical reference toward symbolic self-consistency and affective impact. This shift does not signify the disappearance of reality but rather the emergence of a new condition in which the “realness” of performance is increasingly negotiated within simulacral environments.

## 5. CONCLUSION AND RECOMMENDATIONS

The development of virtual performance highlights both the transformative impact and the vast potential of digital technology within the performing arts. By tracing the stage-by-stage evolution of the virtual performance subject and examining its logic of authenticity reconstruction, this study demonstrates how digital technology is driving a paradigm shift in performance practice. Drawing on Baudrillard’s theory of Simulacra, the study finds that virtual performance subjects evolve from manual simulation (1.0), to digital synthesis and motion capture (2.0), and finally to generative AI-driven full virtual generation (3.0). With each stage, the performance subject becomes increasingly detached from physical entities. In many cases, virtual performance operates within the fourth order of simulacra, and at times appears to transcend it entirely. This evolution expands the boundaries of artistic expression while simultaneously prompting a fundamental rethinking of how authenticity is constructed.

The proposed model conceptualizes authenticity in AI-generated virtual performance as multi-dimensional. It moves beyond a binary “real versus fake” distinction to a dynamic configuration shaped by three experiential dimensions—perceptual presence, cognitive coherence, and affective resonance—and by the interplay between indexical authenticity (rooted in traces of the physical world) and simulacral authenticity (derived from the internal consistency and emotional force of symbolic systems). Within this framework, generative AI virtual performance reconstructs human emotions and behaviors through algorithmic processing and symbolic representation. Yet, when simulacral transformation is pushed to extremes, it risks eroding the sense of reality and hollowing out artistic authenticity.

The study further demonstrates that generative AI virtual performance is not a simple imitation of reality. Its performances emerge through the re-encoding of technological media and the semi-autonomous operation of symbolic systems, creating a dynamic “two-way mapping” between humans and code, and between reality and virtuality. This process challenges traditional performance theories while offering new theoretical entry points for interdisciplinary research. In response, the following considerations are proposed for the reconstruction of authenticity in virtual performance subjects:

Establish a Systematic Interdisciplinary Theoretical Framework. We propose integrating philosophy,

sociology, cognitive science, and related disciplines to develop a comprehensive model encompassing technological logic, semiotics, and ethics.

Optimize the Integration Pathway Between Technology and Humanism. We suggest that authenticity construction should go beyond a purely “technology-driven” approach and embed humanistic values. This can be achieved by incorporating principles from affective computing and embodied cognition into algorithm design. Simultaneously, vigilance is required against excessive simulacral tendencies in virtual imagery, which may detach performance from reality. The goal is to achieve a symbiotic balance between the virtual and the real.

Reconstruct the Evaluation System for Audience Authenticity Experience. Traditional realist aesthetic standards are insufficient for evaluating the symbolic and algorithmic nature of virtual performance. A new evaluation model should incorporate the three dimensions of perception, cognition, and emotion, combining neuroaesthetic experiments with audience behavior analysis to quantify immersion, empathy, and meaning-generation efficacy.

The evolution of the performing subject reflects both the technological revolution and humanity’s evolving self-conception. As an emerging art form in the context of digital culture, virtual performance embodies dual attributes: technological innovation and artistic expression. Only by balancing technological advancement with humanistic critique—rather than merely simulating reality or generating images entirely detached from society—can artistic authenticity be sustainably reconstructed.

## DECLARATION

### 1. Conflict of interest

The authors declare that there are no conflicts of interest related to this research.

### 2. Generative AI and AI-assisted technologies in the writing process

No generative AI or AI-assisted technologies were used in the writing process of this manuscript.

### 3. Data availability statement

Data supporting the findings of this study are available from the corresponding author upon reasonable request.

### 4. Ethics statement

This research did not involve any human or animal samples. Ethical approval was not required for this study.

### 5. Funding

No funding was received for the research and development of this study.

### 6. Contributor Role Taxonomy (CRediT)

Hui Wang: Conceptualization, Methodology, Writing – original draft, Writing – review & editing

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