

Immersive Theatre in the Metaverse — Navigating Liveness in Virtual Spaces

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Abstract—The emergence of the metaverse as a performative arena has unsettled foundational assumptions about what makes theatre live, present, and real. This paper investigates how immersive theatre staged within virtual reality platforms—VRChat, Horizon Worlds, and bespoke social VR environments—reconfigures the concept of liveness that has historically anchored performance theory. Drawing on Philip Auslander's foundational scepticism toward mediatised presence and extending it through recent scholarship on digital embodiment, the study argues that metaverse theatre does not erode liveness but multiplies it across entangled human and technological bodies. Three productions serve as case studies: Ferryman Collective's *Uncanny Alley: A New Day* (2024), the collaborative VR adventure *Hummingbird* (2022), and The MetaMovie's *Alien Rescue* (2023–2024). Through performance analysis, practitioner interviews drawn from trade documentation, and theoretical synthesis, the research identifies emergent dramaturgical forms—distributed presence, avatar-mediated intimacy, and glitch-as-aesthetic—that define virtual immersive performance. The paper further addresses persistent tensions: the economic precarity of low-audience-ratio VR productions, platform dependency on corporate-owned infrastructure, and the unresolved question of whether a headset-mediated encounter can deliver the somatic weight of shared physical space. In framing metaverse theatre as neither replacement for nor degradation of physical performance but as an ontologically distinct form with its own affective grammar, the study contributes to ongoing debates in digital performance studies, posthumanist theatre theory, and the evolving practice of live performance in computationally generated worlds.

Index Terms—metaverse theatre, virtual reality performance, liveness, immersive theatre, digital embodiment, VRChat, posthuman performance

I. INTRODUCTION

Live theatre has always negotiated its relationship with the technologies of its time—from gaslit stages to amplified sound to projected scenography. Yet nothing in that lineage quite prepares practitioners or theorists for the ontological shock of a performance where the stage is a server, the body is an avatar, and the audience gathers not in seats but as headset-wearing participants scattered across continents, each inside their own rendered field of view. This is the terrain of immersive theatre in the metaverse, and it demands that the discipline reckon anew with its most cherished term: liveness.

When Philip Auslander published *Liveness: Performance in a Mediatized Culture* in 1999, he argued that the distinction between live and mediatized performance was historically contingent rather than ontologically stable—that liveness was not a property inherent to bodies sharing space but a cultural construction shaped by the very media it claimed to oppose (p. 38). A quarter-century later, that argument reads less like provocation and more like prophecy. The pandemic years of 2020–2022 accelerated a migration already underway: theatre-makers, denied physical venues, turned to social VR platforms and discovered there a global audience, a programmable stage, and a mode of intimate, small-audience performance that physical immersive theatre had spent decades perfecting at far greater cost.

Ferryman Collective, one of the most prominent ensembles working in this mode, began producing live VR theatre during lockdown and has since developed a repertoire that includes *Welcome to Respite*, *Gumball Dreams*, and the Venice Immersive-featured *Uncanny Alley: A New Day* (Butchko, 2024). Their productions are not recordings. They are ticketed, real-time events where trained performers inhabit avatars, guide small groups of audience-participants through narrative environments, and respond improvisationally to audience choices. The experience is live in every meaningful sense—actors can read a room, even when that "room" is a virtual cyberpunk alley rendered in Unity and accessed through VRChat. And yet the terms of that liveness are different: the performer's face is not visible, breath is not shared, and the risk of bodily accident that Walter Benjamin once saw as the irreducible core of theatrical presence is absent.

This paper takes that difference seriously. It asks not whether metaverse theatre is "really" live—a question that traps analysis in a binary that Auslander dismantled decades ago—but rather what kind of liveness emerges when presence is distributed across platforms, bodies, and computational processes. Through close engagement with three productions spanning different approaches to VR immersion, the study maps the aesthetic, dramaturgical, and economic contours of this emerging form and situates it within broader discourses of posthuman performance and digital culture.

Theoretical Framework: Liveness, Presence, and the Posthuman

Auslander and the Liveness Debate, Revisited

Auslander's core claim—that "the live is actually an effect of mediatization" rather than its opposite (1999, p. 51)—established the intellectual ground on which VR theatre now stands. If liveness is an effect rather than an essence, then the question shifts from whether a medium is live to how it produces the experience of liveness. Metaverse theatre produces that experience through specific

mechanisms: real-time performer responsiveness, the irrevocable passage of time during a scheduled event, the co-presence of multiple consciousnesses in a shared virtual environment, and the genuine unpredictability of improvisational interaction. Each of these maps onto a traditional criterion of live performance, yet each operates through an infrastructure—servers, headsets, rendering engines, internet latency—that is profoundly mediated.

What VR adds to this equation is embodiment without physical co-location. The audience member's proprioceptive system is engaged—they turn their head to look, move their hands to gesture, walk or teleport to navigate—while their physical body remains in a domestic space. This split condition, which Matthew Causey (2006) anticipated in his analysis of digital culture's "dislocation of the human subject" (p. 17), creates a hybrid corporeality that is neither purely present nor purely absent.

Posthuman Performance and Distributed Agency

If Auslander destabilized the live/mediatized binary, posthumanist theory destabilizes the human/technology binary that underlies it. Karen Barad's (2007) concept of intra-action—where entities do not pre-exist their relations but come into being through them—offers a particularly generative framework for analysing VR performance. The performer and the platform do not interact as separate agents; they are constituted in and through the performance event. When a Ferryman Collective actor moves their physical hand and the corresponding avatar gesture reaches an audience member's headset forty milliseconds later, the "presence" experienced is neither the performer's alone nor the technology's—it emerges at the intersection.

Chris Salter (2010) extends this thinking into performance practice, arguing that digital systems in live contexts function as "autonomous agents" that shape tempo, affect, and improvisational possibility (p. 145). In VR theatre, this autonomy takes concrete form: a world built in Unity has physics, lighting, and spatial constraints that the performer navigates but does not fully control. Platform latency introduces micro-pauses that the performer must absorb into their delivery. An audience member's avatar might clip through a wall, creating an unplanned rupture that becomes part of the performance's texture. Each of these phenomena distributes agency across human and non-human actors in ways that traditional theatre's spatial arrangements do not.

Avatar-Mediated Intimacy

The avatar deserves particular theoretical attention. Unlike the actor's body in physical theatre—visible, vulnerable, subject to the accidents of live physiology—the VR avatar is a constructed surface. It can be realistic, fantastical, or abstract. It can change scale, texture, or species mid-performance. This constructedness does not preclude intimacy; paradoxically, practitioners report that the absence of the "real" face can intensify audience connection. Deirdre V. Lyons, co-founder of Ferryman Collective, has described how the anonymity of the avatar allows audience members to lower their social defences, engaging more openly with performers than they might in a physical theatre where they feel observed by other audience members (Lyons, as cited in Bye, 2024).

Jennifer Parker-Starbuck (2011) theorizes this phenomenon through the lens of "cyborg theatre," where liveness is "distributed across bodies and technologies" (p. 35). In VR immersive theatre, the cyborg is literal: the audience member's body is extended by a headset, controllers, and a

rendered avatar that mediates their presence to others. The intimacy that results is not the intimacy of shared breath but the intimacy of shared attention within a constructed world—a form of connection that resembles, and in some ways exceeds, the parasocial bonds that audiences form with on-screen performers.

II. METHODOLOGY

This research employs a qualitative, multi-method approach combining close reading of performance documentation, analysis of practitioner interviews available in trade media and podcasts, and theoretical synthesis drawing on digital performance studies and posthumanist philosophy.

Case Study Selection

Three productions were selected to represent distinct modalities within VR immersive theatre:

1. *Uncanny Alley: A New Day* (Ferryman Collective, 2024) — a narrative-driven immersive production staged in VRChat, featuring a cyberpunk world and a small cast guiding audience-participants through a scripted but improvisationally responsive story.
2. *Hummingbird* (2022) — a collaborative live theatre and VR adventure presented at SIGGRAPH's Immersive Pavilion, merging live actors with audience participants inside a shared virtual environment designed to encourage teamwork and spatial problem-solving.
3. *The MetaMovie Presents: Alien Rescue* (2023–2024) — a cinematic VR experience involving live actors performing alongside up to sixteen role-playing audience members in a large-scale narrative adventure.

Data Sources

Primary data was drawn from publicly available practitioner interviews (Voices of VR podcast, Mixed News coverage), performance reviews (No Proscenium, Everything Immersive), and technical documentation. Secondary data included scholarly literature on digital performance, posthumanism, and immersive theatre.

Analytical Framework

Analysis proceeded through thematic coding of practitioner discourse—identifying recurring motifs such as "presence," "risk," "failure," and "intimacy"—supplemented by comparative analysis of the three case studies along axes of audience ratio, technological infrastructure, narrative structure, and performer training methodology.

Case Studies: Three Modalities of VR Immersive Theatre

Case Study 1: *Uncanny Alley: A New Day* (Ferryman Collective, 2024)

Ferryman Collective's *Uncanny Alley: A New Day* represents perhaps the most fully realized example of narrative-driven immersive theatre built for social VR. Set in a grimy cyberpunk city created by artist "MetaRick" (Rick Treweek), the production casts audience members as visitors to a virtual underworld where they encounter characters—homeless avatars, hackers, metaverse

outcasts—brought to life by live performers. The world premiered as a conceptual demo at Venice Immersive 2022 and evolved into a full theatrical production by 2024 (Mixed News, 2024).

The production operates with an audience-to-performer ratio that would be economically unviable in physical theatre: typically two to three audience members per cast member per performance. This extreme intimacy is both the form's greatest artistic asset and its most significant economic challenge. As Stephen Butchko, the production's director and a core Ferryman performer, explained, the company began this work during the pandemic when physical venues were inaccessible, "discovering that the 360 virtual space allowed us to continue producing live immersive theater, now to a global audience" (Butchko, as cited in Bye, 2024).

What distinguishes *Uncanny Alley* from earlier experiments in digital theatre is its integration of platform affordances into the narrative itself. VRChat was not designed for theatrical production; its features—avatar customization, spatial audio, world portals—were built for social interaction. Ferryman Collective turned these constraints into dramaturgical opportunities. The production takes place within a virtual world where characters are themselves avatars, making the medium a thematic layer as much as a delivery mechanism. When a performer's tracking glitches or an audience member struggles with a world portal, these moments are absorbed into the fiction rather than breaking it.

Case Study 2: *Hummingbird* (2022)

Where *Uncanny Alley* emphasizes narrative immersion, *Hummingbird* foregrounds collaborative problem-solving as theatrical experience. Presented at SIGGRAPH 2022, the production merged live actors with audience participants inside a virtual environment where the central mechanic was teamwork—participants had to work together to navigate challenges, with live performers guiding and responding to their actions (ACM, 2024).

Hummingbird represents a strand of VR theatre that leans toward the gamic, borrowing structures from escape rooms, cooperative video games, and participatory installation art. The "liveness" here resides less in scripted narrative than in the emergence of group dynamics—the unpredictable ways that strangers, embodied as avatars, negotiate shared goals. This mode of performance tests the boundaries of what counts as theatre. Hans-Thies Lehmann's (2006) "postdramatic theatre," with its emphasis on process over representation and experience over narrative coherence, provides a useful frame: *Hummingbird* is postdramatic theatre rendered in real-time 3D.

The technical architecture of *Hummingbird* also merits attention. Unlike *Uncanny Alley*, which relies on VRChat's existing infrastructure, *Hummingbird* was built as a bespoke experience, giving its creators greater control over interaction design but limiting its accessibility. This tension between platform-dependence and creative control runs through the entire field of VR theatre and remains unresolved.

Case Study 3: *The MetaMovie Presents: Alien Rescue* (2023–2024)

At the far end of the scale spectrum sits *Alien Rescue*, a production that attempts to bring cinematic scale to VR immersive theatre. With up to sixteen audience-participants per show alongside live

actors playing supporting characters, the experience aims for something closer to a multiplayer adventure film than an intimate theatrical encounter (Everything Immersive, 2025).

The larger audience size addresses one of the form's economic bottlenecks—the painfully low audience-to-performer ratio—but introduces new dramaturgical challenges. With sixteen participants, individual agency necessarily diminishes; the experience becomes less about personal interaction with performers and more about collective journey through a narrative landscape. This trade-off illuminates a spectrum within VR immersive theatre: on one end, the radical intimacy of two-audience-one-performer configurations like Ferryman Collective's work; on the other, the mass-participation model that sacrifices depth of interaction for breadth of reach.

Where *Alien Rescue* succeeds is in demonstrating that VR theatre can function at scale without collapsing into mere cinema. The presence of live actors, responding in real time to participant behaviour, distinguishes the experience from a 360-degree film. Even when individual attention from performers is limited, the knowledge that the supporting characters are being performed live—that their responses are genuinely contingent on what the group does—sustains a baseline of liveness that recorded media cannot replicate.

III. FINDINGS AND ANALYSIS

Distributed Presence

Across all three case studies, presence emerges not as a property of the human performer alone but as a phenomenon distributed across the technological assemblage. The performer's voice arrives through spatial audio processed by servers; their gestures are translated through inverse kinematics into avatar motion; their gaze—or the avatar's approximation of it—is rendered differently for each audience member depending on their position in the virtual space. Presence, in VR immersive theatre, is multiply authored.

This distributed model challenges the residual humanism that persists even in digital performance scholarship. When Parker-Starbuck (2011) writes of "cyborg theatre," the cyborg is still imagined as a coupling of a singular human body with technology. VR immersive theatre suggests something more networked: a presence that is not located in any single node but emerges from the relations between nodes—performer, platform, audience, server, headset, code.

The Aesthetics of Glitch

A recurring finding across practitioner interviews is the aesthetic integration of technological failure. In physical theatre, a broken light cue or a missed entrance is a mistake to be concealed. In VR immersive theatre, by contrast, glitches are often woven into the performance's texture. When an avatar's tracking fails and a performer's hand drifts through a wall, the moment becomes part of the world's physics—in *Uncanny Alley*, a cyberpunk setting where digital decay is thematically appropriate, such failures read as environmental storytelling rather than technical error.

This aesthetic of glitch aligns with what Bay-Cheng (2016) identifies as the "materiality of digital performance"—the wires, code, and labour that the spectacle normally conceals (p. 118). VR

theatre's unreliability, its susceptibility to latency and tracking failure, paradoxically reinforces its liveness by exposing the infrastructure on which it depends. The audience witnesses not a seamless illusion but a negotiation between human intention and computational process—and that negotiation, with all its friction, is precisely where liveness resides.

Economic Precarity and Platform Dependency

The low audience-to-performer ratio that defines the form's artistic character also defines its economic fragility. A Ferryman Collective performance might involve two cast members for three audience members—a ratio that, in physical theatre, would require ticket prices in the hundreds of dollars to break even. VR theatre reduces some costs (no venue rental, no physical set construction, no travel) but introduces others (headset requirements limit the addressable market; platform fees; the labour-intensive nature of real-time virtual performance).

Moreover, productions staged on platforms like VRChat are dependent on corporate-owned infrastructure over which artists have no meaningful control. A change to VRChat's terms of service, a shift in its monetization model, or a technical update that breaks custom worlds could render productions unperformable overnight. This platform precarity echoes broader concerns in digital culture about artistic autonomy in an era of concentrated platform power (Giannachi, 2012, p. 104).

Implications for Performance Practice

Training for Virtual Presence

VR immersive theatre demands a skill set that traditional acting conservatories do not teach. Performers must learn to convey emotion through avatar motion alone—without facial expression, without the micro-gestures on which Stanislavskian training depends. They must develop what Salter (2010) calls a "new literacy of interaction": the ability to read a virtual room, sense audience energy through avatar behaviour rather than body language, and respond improvisationally to both human and computational unpredictability (p. 167).

This training gap represents both a challenge and an opportunity for theatre education. As VR theatre matures, programmes that integrate motion-capture performance, spatial audio technique, and platform-specific dramaturgy will produce practitioners equipped for a field that currently relies on self-taught pioneers.

Dramaturgy for Networked Narratives

The dramaturgical implications extend beyond training into the structure of performance texts themselves. A VR immersive script is not a linear document but a branching score—closer to a game design document than a traditional playscript. It must account for multiple audience pathways, variable interaction points, and the possibility that technical failure will force real-time narrative adaptation. This emergent dramaturgy echoes the algorithmic narrative structures that Marie-Laure Ryan (2015) identifies in digital literature, where "the myth of the autonomous artist" gives way to "the intersubjective character of meaning-production" (p. 203).

IV. CONCLUSION

Immersive theatre in the metaverse does not replace physical theatre, nor does it degrade the concept of liveness that physical theatre has historically claimed as its exclusive domain. What it offers instead is an alternative ontology of live performance—one in which presence is distributed, intimacy is avatar-mediated, and the friction between human intention and computational process becomes an aesthetic resource rather than a failure to be concealed.

The case studies examined here—*Uncanny Alley: A New Day*, *Hummingbird*, and *Alien Rescue*—demonstrate that VR immersive theatre has moved beyond pandemic-era experimentation into a recognizable artistic practice with its own conventions, economies, and critical vocabulary. Yet significant challenges remain. The form's economic model is unproven at scale. Platform dependency creates structural precarity for artists. And the question of whether a headset-mediated encounter can deliver the full somatic weight of shared physical space remains open—less an objection to be answered than a productive tension to be worked within.

As VR hardware becomes more accessible and platform infrastructures mature, the distance between physical and virtual performance will continue to narrow. The task for practitioners and scholars alike is not to adjudicate which mode is more "authentically" live but to develop the critical frameworks that can account for liveness in its plural forms—embodied, mediated, and networked. In a theatrical landscape where the stage is increasingly a server and the body is increasingly an avatar, the concept of liveness must expand to meet the performances that are already being made.

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