

New technologies and geographies in performing art: A study on environments and relationships in some recent shows in Europe

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Abstract

Digitization has had a significant impact on live performance, specifically influencing the environments of representation and giving rise to new trends in performative language. Certain performances from the last fifteen years that have circulated in Europe are taken into consideration, experienced by audiences with various technological provisions (audio headphones, video conferencing, and 3D goggles) and outside traditional theater spaces. In light of certain theories about learning dynamics, a geo-relational approach is pursued to understand what potential formal evolutions could occur in the realm of performance with reference to the use of technologies, and in which cases the complexity of multisensory experience in traditional in-person theater has yet to be fully achieved.

Keywords: Performing Art, Geography, Digital Theater, Virtual Environment, Natural Environment

Articolo sottomesso: 30/08/2023, accettato: 15/11/2023

Pubblicato online: 29/12/2023

1. Representation as Environment

Theater is a habitat of the human being: a living ecosystem capable of defining and broadly modifying its own practices, having been the medium of human inhabitation for millennia. Representation has long taken place within a physical space, but also within the relationship between signs and individuals,

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Doi: 10.3280/ess2-2023oa16406

whose coexistence has been considered a fundamental element of the medium itself. The spatial element has been considered indicative of its ritualistic nature.

In the last century and a half, performative art has undergone structural changes due to its hybridization with other media: first those of the electric era and later digital ones. Never in the history of humanity have so many media been invented in such a short time, creating the conditions for the transition from multimedia to hypermedia. Defining the boundaries of each of these media, in their continuous “chewing over” or remediation (Bolter & Grusin, 1999), seems impossible; some even speculate about a kind of convergence (Jenkins, 2004) capable of altering the relationship between technologies, languages, and consumption. In this disruptive scenario, the roles of the actor and the audience undergo continuous changes in their status.

Rogers (2012) recalls how geographers have often used performative art to study how spaces are practiced and experienced through human presence. Performative arts, due to their creative and experimental approach, draw attention to the constitution of subjectivity within social forms, places, and new communicative modes.

McAuley (2000), in a work titled *Space in Performance*, focuses clearly on the distinctive feature of this geography, the co-presence of individuals within a space for artistic purposes, the ability to observe and establish direct relationships. The perception of space itself is the result of a combination of sensory functions through which the brain organizes a vast amount of information, provided by specific local stimuli. This sensory combination clearly distinguishes experiences in person from virtual ones, because the latter deprive the perceptual system of some fundamental elements for complete exploration and sifting of information from the surrounding environment.

If performance is characterized as a sensitive relational experience, it's intuitive to imagine how the advent of remote-enabling technologies is substantially changing the scenario.

In the following, we will attempt to:

- Collect and process information related to the change in creative trends and connected geographies due to new technological enhancements.
- Interpret and explain certain relationships between environments, technologies, and consumers.

How does the perception of the environment change and the system of relations when we use a technological device in representation?

2. New Technological Enhancements and Changes in the Theatrical Landscape

2.1. Headphones, Self-Theater and Participatory Theater

The relationship between live performances, spaces, and audience engagement in recent decades has been revolutionized by the portability of technological enhancements. After the advent of the first device that allowed radical changes in the geography of engagement, the audio headphones, the possibility of creating actions in places other than those typically designated for performance was introduced, giving birth to an early form of augmented sound reality.

Already in 2007, with *Etiquette*, an Anglo-Italian collective called Rotozaza had developed a unique adaptation for two spectators/actors of *A Doll's House* by Ibsen, referred to as a table version. Pairs of spectators seated in a bar would receive instructions through headphones regarding actions to perform and things to say. The stage space was the bar table, a geography of proximity capable of subverting theatrical rules defined for centuries, in one of the first and most effective experiments in “Self-Theater”.

Also significant was *Domini Pública* (2008) by the Catalan artist Roger Bernat. Participants were given the responsibility to perform through instructions provided via headphones, revealing themselves by changing positions to create temporary affiliations linked to social structure; those with high income on one side, those with low income on the other; those living downtown and those in the suburbs, etc. Not only were they outside a theatrical space, but the audience was also invited to move to create new connections between their presence in the performative environment and their identity within the social structure.

It is impossible not to mention *Remote X* (2013), one of the most successful projects by the international collective Rimini Protokoll. It involves a city journey with participants wearing audio headphones and receiving instructions from a robotic voice, which they follow by carrying out a series of actions individually and often in groups, transforming them into actors themselves.

In various cities where the performance took place, the audience was scheduled for the initial meeting within a cemetery. There, they were handed audio headphones connected via Bluetooth and accompanied on an itinerary through the urban environment, guided by a robotic voice with a feminine tone.

These examples belong to a rather well-known and now widespread creative paradigm of immersive theater (Machon, 2017) or participatory theater (Pedullà, 2021), where the spectator simultaneously produces and consumes the art form. They modify their perspective from a mental engagement, adding

the function of performative re-interpretation, active and acted upon (real-time audience feedback). This allows for a more inclusive exchange of communication. This approach has also enabled the creation of numerous performances set entirely in natural spaces, like *Sussurrus* (2010) by David Leddy, a reimagining of *A Midsummer Night's Dream*, with its première at the Royal Botanic Garden in Edinburgh.

This trend continues even nowadays and headphone-based performances in natural environments are increasingly favored by the audience. In Italy, Leonardo Delogu, with his project DOM, has been creating pathways on the edge between the urban environment and the outskirts, or the natural geography near the city, for many years. He engages participants in walks that span several hours: reality and performativity blend in an indistinguishable scenario and the energy exchange between performers and the audience within the natural landscape contributes to the immersive nature of the experience.

2.2. Streaming and Videoconferencing in Performance

The overlap between real space and virtual space in performative art began to develop over twenty years ago with the initial experiments made possible by the use of the first webcams and the internet for live transmission.

One of the early proposals of webcam theater by the digital artist Giacomo Verde remains in Italy: it took place, going on stage and live on the web for the first time from the Museum of Contemporary Art in Prato, in May 2001. Spectators could watch the performance live and also interact in the virtual dimension both with each other and with the narrator-performer.

A similar project, titled *Desktop Theater*, was conducted (1997-2002) by Adriene Jenik and Lisa Brenneis with a series of online performances, later connected to online discussion rooms and chats among the audience to facilitate interaction.

In the evolution of media convergence, the last decade has been marked by the trend of streaming, especially due to the pandemic period. Theater has undergone a paradigm shift, with an acceleration in consumption through this modality. The physical space of the theater has almost disappeared.

Numerous experiments in theatricality have been conducted and recorded directly in domestic environments, live-streamed through various platforms including social media.

Italian theater director Michele Sinisi, for instance, during the first lockdown of 2020, began daily live streaming from his own kitchen. He recorded video-format surreal dialogues with his family, with an open refrigerator as the background. These videos were shared through platforms like Facebook and YouTube. Due to the numerous regulatory restrictions on

social interactions issued during that time, the artist titled this series *Decreto Quotidiano* (trad.: *Daily Decree*).

The paradigm shift regarding the co-presence of the actor and the spectator here changes the meaning entirely, as the encounter shifts entirely online.

What new aspects have therefore been introduced to the medium through the coexistence of virtual and real geographies, and what are the challenges in audience engagement?

According to the **Media Naturalness Theory - MNT** (Kock, 2005), the human brain has evolved over time to facilitate face-to-face communication. The more a mode of communication resembles face-to-face interaction, the more it is perceived as natural, requiring less cognitive effort to use.

Based on this theoretical approach, five key characteristics determining the naturalness of media can be identified:

- Co-location, where participants are physically present in a common space.
- Synchronicity, enabling immediate and spontaneous exchanges of communicative stimuli.
- The ability to observe and transmit facial expressions.
- The ability to observe and transmit body language.
- The ability to speak and/or listen to speech.

Several of these issues are relevant in *Prometheus* (2021) by the Spanish collective Agrupación Señor Serrano, designed for children aged 6 to 11 and delivered through video conferencing. In addition to the young viewers participating from their homes via webcam, a narrator was connected who acted on a small tabletop stage with Lego miniatures, broadcast via streaming. The performance was more engaging for mature audiences, while interactive participation was more challenging for children aged 6-8. Here, the theme of engagement and active presence in the online dimension is crucial.

Furthermore, studies suggest that the connection through remote meeting platforms lacks key characteristics of naturalness, making communication more cognitively demanding (Standaert *et al.*, 2016, 2020).

Attempts to overcome these challenges have been made in projects like *TM* (2022) by the Belgian group Ontroerend Goed. In this one-on-one experience, a participant and a performer meet in a web conference, interacting face to face. The exchange is more inclusive, and *TM* remains one of the successful attempts to create emotional connection and attention in web conferences, although many challenges still remain, regarding performativity in online or virtual environments.

2.3. VR Headsets in Performing Arts: Between Geography and Perception

Virtual reality (VR) headsets have become relevant not only in the

performative field but also in gaming, with many industries seeing this as the near-future development of hypermedia.

Choreographer Blanca Li used VR in the critically acclaimed *Le Bal de Paris*, which was awarded the best VR experience at the 78th International Venice Film Festival in 2021. In a confined area of about thirty square meters, participants are equipped with sophisticated software capable of detecting movement, along with a VR headset. The experience is a journey into fantastical environments obtained with a cartoon-like effect. Each participant, once wearing the headset, chooses a virtual avatar in the form of an animal mask and elegant clothing, losing awareness of their previous surrounding identities, which are now also masked. The creation has the characteristic of involving participants physically, adding a tactile experience. The sensory experience shifts gradually towards the virtual geography, gradually losing the sense of reality.

However, some limitations remain. The sense of smell is excluded, leading to a disconnect between the immersive environment and the participant's perception. The coherent sensory experience in space is a fundamental element of human perception.

The concept of presence and self-perception in the digital environment is a complex issue. The shift to virtual environments raises questions about interaction, participation, and sensory engagement. Just as in traditional theater, the need for an introductory environment, a virtual foyer, is necessary in digital and virtual performance spaces. The issue of meaningful engagement and active presence remains crucial in the digital realm. The sensory coherence in spatiality is a key factor in human experience. As technology advances, it impacts sensory processes, having both intentional and unintentional effects on the central nervous system. Virtual experiences, whether in videoconferencing or VR, highlight the importance of multisensory coherence and the challenges of true presence in digital and virtual environments.

In this creation, the senses of taste and smell are excluded from sensory stimulation. A particularly significant example is the illusion of smell in the enchanted garden, where participants are invited to smell fake flowers, leading to a sense of unreality when they do not perceive any specific scent: this triggers a sort of alert of falseness in the stimulation, even though other aspects like movement and spatial perception seem realistic.

The theme of olfactory idiosyncrasy also emerges in a creation by the T.H.E Dance Company of Singapore titled *PheNoumenon*. This project involves a 3D stereoscopic video recording of a dance performance, intended to be viewed using a headset. This performance aims to simulate the presence in a live venue, and while it offers the virtual viewer the ability to choose a comfortable viewing position, there is a moment when a dancer brings a container of smoke onto the

stage, triggering an awareness of virtual presence in a different place from what is shown in the video.

The sensory dissociation linked to smell risks disrupting engagement, leaving only the audiovisual aspect. Sensory coherence in spatial perception is thus a foundational element of human perception. Technological advancements in sensorimotor processes can have both intentional and unintentional effects on the central nervous system, and short-term exposure to virtual sensory discrepancies can lead to aftereffects beyond the immediate period of consumption.

This echoes the objection raised by Standaert *et al.* (2016) regarding the experience of video conferencing, as it represents an inadequate approximation of reality. It lacks life-sized visualization within a shared space, as well as the transmission of tactile, olfactory, and gustatory signals.

Conclusions: Presence and Self-Perception in the Performing Environment

While the theme of physical presence in augmented reality revolves around the combination of converging stimuli from two inhabited dimensions that merge into a real environmental system, video conferencing performances, and even more so, those in virtual reality (VR), place a specific emphasis on the concepts of participation and presence, given that the meeting place of participants is virtual.

Online and virtual interactions with strangers, where it's impossible to grasp the full spectrum of information related to non-verbal communication and the body's signaling system, create emotional distance. This is true for both adults and even more so for children, often resulting in hindrances to engaging within the limited timeframe of a performance, ultimately becoming distracting.

In the digital and virtual realm as well, similar to traditional theater, there arises a need to consider the importance of an introductory environment, a virtual foyer, which is typically lacking. Participants are mostly educated on technical matters regarding the technological devices and their functioning, yet without encompassing any pre-socialization or genuine audience acclimatization.

The plural virtual assembly, due to the same critical issues raised by advocates of the naturalness of the medium, if unable to generate genuine engagement, discourages participation instead of fostering it. The specificity of the performative necessitates a concrete synesthetic engagement, capable of imbuing the traversal of different media with a characteristic of naturalness. Moreover, it requires a coherence of sensory stimuli that allows the entire

sensory system to belong to the specific ecosystem where the representation takes place. Meanwhile, common-use technology still needs to overcome constraints on the freedom of action and expression, enabling a true and complete presence.

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