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Theatre and Technology

A future fantastic?

Teatro e Tecnologia

Um futuro fantástico?

ABSTRACT

This article discusses the place of technology in theatre, as a potential tool to address some of the questionable ecological practices inherent in traditional theatre making. With a focus on augmented and/or virtual reality (AR/VR), the article posits some potentials and pitfalls of embracing technologies as integral components of the narrative development and presentation of performance. The tensions between art and technology in their incorporation into creative theatrical practices are discussed, particularly in light of the tendency for technology to favour pre-recording in contrast to the necessary liveness of the theatrical, dramatic event.

Keywords: Performing arts; Ecoperformance; Embodiment; Virtual reality; AR/VR technology.

RESUMO

Este artigo discute o lugar da tecnologia no teatro como uma ferramenta potencial para abordar algumas das questionáveis práticas ecológicas inerentes ao fazer teatral tradicional. Com foco na realidade aumentada e/ou virtual (AR/VR), o artigo postula alguns potenciais e algumas armadilhas ao abraçar as tecnologias como componentes integrais do desenvolvimento narrativo e apresentação da performance. As tensões entre arte e tecnologia em sua incorporação às práticas teatrais criativas são discutidas, particularmente à luz da tendência da tecnologia em favorecer a pré-gravação em contraste com a vivacidade necessária do evento dramático teatral.

Palavras-Chave: Artes cênicas; Ecoperformance; *Embodiment*; Realidade virtual; Tecnologia AR/VR.

Theatre, as a live performance medium, has long been associated with questionable ecological practices and "has an impact: we create work that is inherently temporary; that makes use of raw materials, of heat, light and sound; that asks people to travel to a particular location at a particular time" (National Theatre, 2019). Within its 10-year investment strategy, the Arts Council England (2022) lists embedding new technology as a key factor in improving the environmental impact and sustainability of theatre. One way technology may work with the theatre to improve ecological outcomes, includes the use of augmented and/or virtual reality (AR/VR) technologies as part of the narrative development and performance. These technologies may facilitate digital collaborative environments that reduce the need for artists and audiences to expend environmental impacts through travel, as well as reduce the need for consumable physical resources, which can be replaced with low-energy-intensive reprogrammable digital versions of sets, stages and performance spaces. There are tensions, however, between art and technology in their incorporation into creative theatrical practices, not to mention that these kinds of technologies place their own pressures on the environment through their manufacture, use and inevitable disposable because of their inbuilt obsolescence. This discussion focuses on one element of the proposed use of technology to strengthen ecological practices within the theatre: the tensions
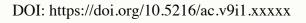
between the digital, generally recorded nature of AR/VR technology and the necessary liveness of the live, dramatic event.

Theatre – live, dramatic performance – is an embodied practice, which can generally be understood as the production of real (as opposed to virtual) bodies in real (not virtual) space presented in real (not virtual) time. It is an immediate artform, ephemeral at its core and no two performances are alike, the action on stage and the reactions of the audience unique to each iteration of a play and how it is acted by its performer(s) at any given time. John Brown writes:

> A theatre production is never "fixed" once and for all but will be made all over again at every performance and will be slightly different each time a new audience enters the theatre and shares what is happening onstage. Unlike a film, a stage production will not be exactly the same for every audience. Often it will have been made in the town in which it is performed and within the last very few weeks, so it is able to reflect its audience's particular mind-sets and concerns. Instinctively it will change overnight if some national disaster or celebration has occurred. Theatre is more local and topical, and more responsive to its audiences, than the cinema can ever be: it provides a meeting between play and spectators, a lively public occasion. (2013, part 1, para. 10)

While Brown's words may be contestable, it is undeniable that theatre's live iterations are inimitable, with recorded versions unable to replicate the impact and meaning of the original performance. This may be rendered a weakness, with ephemerality limiting the impact of a live theatrical work to an exclusive, single moment in time, whereas film may reach millions of viewers across the globe many

times over. How, then, with liveness and an embrace of the unpredictable and unfixed nature of reality can theatre work as a vehicle to effectively utilise augmented and virtual reality concepts, forms, and techniques in its making?

Considering AR/VR technology's connections with film and photography, finding its realisation through developments in cameras and optical devices beginning as early as Sir Charles Wheatstone's "stereoscope," there is a clear lineage driving the development of augmented and virtual reality techniques that, in the minds of most, pairs its methods of creativity with photography and film arts and, by extension, computer gaming (for a concise history of VR, see: Kurland, 2017). This preconceived notion, that augmented and virtual reality are best expressed through film and devices that demand lenses and screens, denies humanity's ancient desire to replicate their realities through a diversity of virtual worlds, such as the attempts at immersion offered by panoramic paintings from the 1700s. Indeed, some may argue the very first cave paintings are an expression of the need for surrounding oneself with replications of reality in a creative form, sharing stories with one another and pairing technology with creativity as a most ancient and basic human desire. There is a clear connection between the very human want to, quite literally, surround yourself with imagined worlds and creatively embellished stories that is represented in all artforms throughout human history, and the

fundamental goal of AR/VR to create such immersions sits clearly alongside this.

If the aim of virtual and augmented realities is immersion, then live theatre and AR/VR production stand to greatly benefit one another. John Bucher (2018) describes in detail the relationship between AR/VR and immersive storytelling with a focus on recorded media such as film, yet further reinforces the form's strong connections with theatre, suggesting experimentations with the placement of the theatre audience within the action/scene/narrative, and the performative aspect of stage acting itself, have been rudimentary expressions of augmented and virtual reality techniques of storytelling demonstrated throughout theatre's long history. He further references Antonin Artaud and his comments on the props and characters of a play in *Theatre and the Plague* as confirmation these theatrical components are the original virtual realities in storytelling. Bucher also suggests Augusto Boal's heavily influential theatrical form, Theater of the Oppressed, is a precursor to immersive theatre, a type of live theatre that lends itself most generously to the incorporation of AR/VR techniques. The virtues and characteristics of "Playback Theatre" have also been discussed as useful in the synthesis of traditional theatre with AR/VR augmented live performance experiences (Murrell, 2021).

It is within the tensions between Brown's unfixed nature of live dramatic performance and the potentiality of Bucher's immersive
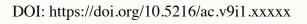
worlds rendered by AR/VR technology, that the greatest frictions are located. It is the requirement for pre-determined replicability demanded by AR/VR technology that sits most awkwardly against the ephemerality of live theatrical performances. The requirement for pre-designed virtual renderings of character and setting and pre-determined programming through projection mapping and animation, for example, required to deploy AR/VR technologies has the potential to frustrate the fundamental, unfixed processes of theatre and performance and work counterintuitively against the form's liveness. Practitioner academics are exploring this phenomena, unpacking the shifting narratives as the world increasingly explores digital connections and how these change our behaviours, notions, and understandings of the digital space and its interactions with the live/real (Pike, Neideck, and Kelly, 2020). Furthermore, it is the liminal space between live and digitally rendered that also presents the greatest potential for these two modes of storytelling to combine. If theatre can lend its immediacy and reflexivity and opportunities for world-making to the possibilities for reality-enhancement/manipulation offered by AR/VR storytelling practices, and vice versa, then a most powerful narrative form is the result.

The theatre is no stranger to incorporating new technologies that enhance its creative impact and spectacle; from the first electric lamps that heralded the possibility of evening performances after the sun had set, to the advent of intermedial performance that has now

become a staple of the live theatrical form (see: Chapple and Kattenbelt 2006; Arfara, Mancewicz, and Remshardt, 2018), AR/VR is set to become the next evolutionary step in the development of live theatre and performance. Comparing the emergence of VR in documentary film making, Kate Nash explains: "as a medium, VR may have more in common with theatre than it does with documentary's primary history as an audio-visual practice." (2018) Indeed, reflecting on a workshop for writers and narrative experts hosted by the BBC in 2018, the Station's head of VR content commissioning declared "VR is now ready for the creativity of writers who have learnt their craft in other worlds, including theatre." (Goldbart, 2018) Likely, this technology will become an increasingly intertwined component of live performances and the role of an AR/VR designer/technician/realiser will become an integral collaborator on the creative team, just as the set designer, lighting designer and AV designer have become over time.
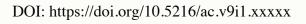
Immersive experiences are a hallmark of AR/VR and theatre collaborations, with the technology's gaming and role-play background evident in live theatrical interpretations utilising the form. Where theatre and performance can enhance AR/VR is through the literal way in which it tells stories, with VR confirmed by Sita Popat as more of an experiential medium than it is a storytelling medium (2016). Along these lines, for Amanda Fromell (2018) the possibilities afforded to the theatre by AR/VR are threefold and include the

potential for what is termed a "branching" narrative, where the audience/participant may choose the narrative storyline they follow, dependent on the character they choose to focus on within the virtual world. The second is the placement of the audience inside the environment, not simply in front of it as they would be in a traditional theatre setting; and the third is the interactive potential afforded by AR/VR dramaturgical design. The potentialities for multi-perspective storytelling within the AR/VR framework that can be expanded through a theatrical performance are exciting, and examples of this and the ethical considerations of agency and choice from an audience perspective are increasingly explored (Smith, 2019).
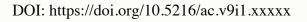
The shifting practices of story creation considering the emergence of AR/VR knowledges in live performance are fundamentally influencing developments in storytelling, particularly how one may provide alternative methods for scriptwriting. For example, the way in which a devised theatrical play may be scripted and blocked/staged simultaneously as part of the writing process, a practice foreign to scripting for film/TV and games, may work to push the limits of the virtual reality world-creation and encourage new ways of imagining and design AR/VR rich immersive worlds (Dooley, 2018). However, the adoption of AR/VR technologies by the dramatic stage is not without risk, notably how the technology may influence or diminish the impact and desirability of the live theatre experience. James Martin Charlton and Magnus Moar discuss some of these risk

factors, not least if which is a recommendation uncovered from a gaming advice group, recommending audience exposure to AR/VR games should be time-limited to 45 minutes with 5-10 minute breaks (2018). Such a schedule would require the reconsideration of the live theatre experience, cutting down the run time of many professional shows.
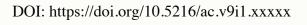
There is also the consideration of the requirement for wearable devices, which are currently the most common method used for audiences/participants to experience AR/VR worlds. The impact of closing-off an audience member from their fellow theatre goers by donning a pair of enclosed goggles or holding up a mobile screen as their focus, completely alters our understanding of the theatrical experience as a communal event and disrupts the collective atmosphere that signifies a live performance. Furthermore, transplanting digitally rendered, pre-programmed characters and environments into the theatrical space has the potential to disrupt the very foundations of the dramatic experience. Placing digital augmentations alongside embodied, live actors and sets raises the possibility of a disconnect between the real and the virtual, where one is not seen as a natural extension or enhancement of the other but two separate worlds that sit alongside disjointedly, creating a perception of simple novelty or the gamification of an experience, diminishing the creative and cultural impact of a performance and devolving it from an artistic experience into a gimmick or novelty.

Immersive theatre company, Punchdrunk, are often used as the preeminent example of an interactive theatre experience, with their contemporaries, Gob Squad, cited closely behind. However, under the forced pivots of Covid-19, it seems most live performance companies were obliged to adopt some form of immersive theatre practice into their repertoire to translate their works into an online space. Examples include the Tender Claws and Piehole collaboration *The Under Presents*, perhaps one of the most successful Covid-induced AR theatre works recently in circulation, which purposefully reimagines theatre for a game space (Todd, 2020). The question always remains, though, in the gamification of theatre where does the theatre end and the game begin, and what is the difference between theatre and performance in contrast to gaming? Rebekka Sofie Bohse Meyer presents a possible way these forms may enhance each other, as opposed to one simply "gamifying" the other. Bohse Meyer (2020) envisions the potential of AR/VR to enhance the theatrical experience particularly through scenographic considerations, suggesting these two forms can achieve their fullest potential by virtue of considered performance writing and the development of double scenography, where both the virtual and real worlds of the performance are designed in cognisance of each other, in contrast to each being developed separately and one layered atop the other.

A hallmark of the theatrical form is its penchant for hybridity and its ability to adopt – or co-opt – the techniques of other artforms,
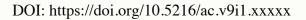
integrating new technologies into its practices and adopting different forms of creative expression to supplement and enhance its own. In many ways, the success, or otherwise, of integrating AR/VR into live performance depends on how the technology used to achieve the augmentations is imbedded within the live theatrical artifact, including the consideration of double scenography and careful consideration of virtual designs from the very outset of the creative process (Rixon, Brumpton, and O'Neill, 2021). The use of digital technologies as part of live performance and the inevitable employment of "screen" in staged dramatic works has a very real impact on both the development and success of live performance (Neideck *et al.*, 2021). As Janet H Murray confirms, "The future of VR is not an inevitable and delusional metaverse but a medium of representation that will always require our active creation of belief." (2020)

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