ACTING THE PART

Audience Participation in Performance

E. B. Hunter

Acting the Part

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For Alan, Lochran, and Parc
E.B.H

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Illustrations

Acknowledgments

The acknowledgments section of any book is an excellent counter to the myth of individual achievement. The achievement this book represents has its origin story in an enterprise that was resoundingly collaborative: Muse of Fire: Shakespeare at Sloss, the immersive theater project I ran at Sloss Furnaces National Historic Landmark in Birmingham, Alabama, from 2006 to 2010. To the scores of actors, crew, designers, musicians, dancers, and staff who contributed time, talent, and vision, to the legion of ticket-buyers who joined us under Number One Cast Shed and around the grounds whether the day was foul or fair, and to the young boy in our first audience who spontaneously enacted *conscript*, I can no other answer make but thanks, and thanks, and ever thanks.

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I join decades of theater and performance scholars in thanking LeAnn Fields, legendary editor at the University of Michigan Press, who saw this proj-

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Labor of Digital Humanities—a Note from the Trenches of Fabula(b) Theatre + New Media Lab," *TDR: The Drama Review* 68 (1): 117–31.

A note on the cover image: Since I was a graduate student kludging together my own event flyers, I have played with adding a spatial computing headset to the "Alas, poor Yorick" pose from Act 5, Scene 1, of William Shakespeare's *Hamlet*—a pose that is, for better or worse, broadly recognizable as synecdoche for theater. In my prior iterations, a person (me) wears the headset and holds a prop skull, with the photograph framed in profile. To evoke the participatory dynamic this book maps, I revised this framing such that the holder of the book enacts the archetype. And to experiment with the subject of my next book, AI, I test-drove an image generator. I began with the process I describe in chapter 4 of isolating the "semiotic constants" of my concept: skull, headset, extended forearm. After testing a mockup with colleagues for legibility (or at least enough intrigue to pick up the book), I created the final version by feeding these constants and a handful of others from the book (ancient Greek column, doe, ocean waves), into Shutterstock's "commercially safe" paid beta, which (per Shutterstock) was trained on their proprietary data and compensates creators whose content was used to train the model. Hilarity ensued, from wrists with three hands to a forearm tattoo of a very sexy doe wearing a robe and a headdress made out of a Doric pilaster. Dozens of revised prompts later, the infinite monkeys of AI spat out a version of my concept I quite liked, and the cover image was born. As AI evolves beyond distortions like the questionable thumb in this image, and especially as spatial computing gives it embodiment, it is my hope that our field's unparalleled abilities to create and understand representation and remediation will consider not only critiques of AI, but the opportunities it presents for performance practice and scholarship in the twenty-first century.

Elizabeth Hunter, St. Louis

Prologue

For nearly a century, the towering furnaces and rich orange blast stoves of Sloss Furnaces National Historic Landmark have anchored the skyline of Birmingham, Alabama.[1] Converted from a working site to a public attraction in the early 1980s, Sloss's twenty-acre campus of oversized buildings and machines from the industrial era bespeak the city's heritage of iron-making. In recent years, officials added a flashy visitors' center and tidied up the areas locals can rent for parties, but a roughness still dominates the site. Freight trains scream past a few yards away, visitors wander mostly unsupervised, and the Deep South's relentless foliage always seems days away from reclaiming the built environment with thorny vines and kudzu, which twine through the smallest gap in mortar, corrugated tin, or rusted rivet joints. Repeat visitors learn to wear closed-toe shoes, as most months find fire ants streaming from every crevice and copperheads haunting the sleepy creek that bisects the campus. Every year, Sloss's grand, crumbling structures sink a little further into the Alabama red clay dirt, a metaphor, perhaps, for the state politics that have paid too little attention to preserving the site.

Since 1983, Sloss has been used for concerts, weddings, and other events; the company I started in 2006, Muse of Fire, was the first to use it for theater.[2] I began this project in the format of an hour-long walking tour on a drizzly November weekend. On our first day, groups of twenty or so attendees, bundled up and provisioned with wine and snacks from a local chef, followed a guide along a predetermined path that wound past Sloss's skip hoists, slag pit, blowing engine room, and other relics. At certain locations along this path, the tour guide stopped the group to watch a scene from one of William Shake-

Fig. 1. The straightaway at Sloss Furnaces National Historic Landmark in Birmingham, Alabama. Photo by Hugh Hunter © 2024.

speare's plays. The midpoint was Act 3, Scene 1, from *Henry V*, King Henry's speech at the gates of Harfleur. In this rousing monologue, the king exhorts his bedraggled, outnumbered English army to charge "once more into the breach" and take the city, a victory that becomes the turning point in their war with the French. I set this scene in one of Sloss's most arresting vistas—a fifty-yard straightaway flanked by a row of red I-beam arches, a configuration that creates a vanishing point at the far end (fig. 1).

As the group assembled, King Henry, played by Sylvester Little Jr., leapt into their midst from a berm at stage right, clad in a green flight suit from the 1950s we'd been gifted and waving a forged iron staff from Sloss's metal artists. Just as Little Jr. began to speak, a freight train blasted past, fifteen feet up the berm. Using the train as an excuse to get closer, Little Jr. wove through the group with familiarity, putting his arm around a few of them and paying extra attention to the couple of children who had accompanied their parents. On his concluding "Cry God for Harry, England, and Saint George!" Little Jr. decided to sprint down the straightaway, howling a war cry, rather than hop back over the berm as we had discussed. This exit so inspired one of the young boys in attendance

that he ran after Little Jr., screaming "SAINT GEORGE!" at the top of his lungs, as if he too were in the English army and ready to take on the arrogant French. As if on cue, the rest of the group followed suit, shrieking and cheering as they ran to the next location.

At the post-show reception, several attendees were eager to tell me how invested they were in each scene, even feeling they were important to the story, although it was abundantly clear they had no agency to intervene in the unfolding action. What had we done to cultivate this dynamic? Was it Sloss, anchor of the town's industrial history? Was it Shakespeare, excerpted into bite-sized greatest hits? Was it the maze of blast stoves and boilers that needed exploring, and a straightaway with a vanishing point that begged a mad dash? Was it Little Jr. and the rest of the cast, inviting them in with sly looks and pats on the shoulder, and stealing a snack or two for comic effect? Most importantly, *was it something we could do again*? This book is the culmination of my journey to find out.

Introduction

> The floodlights have moved away from the actors who possess proper names and social blazons, turning first toward the chorus of secondary characters, then settling on the mass of the audience.
>
> —Michel de Certeau[1]

Enactivity in Participation

Audience participation happens in any theatrical production. Behaviors such as paying attention, laughing in the right spots, or clapping at the end are all part of how theater-makers expect (or hope) people will respond. The last quarter-century, however, has seen a steady rise in theatrical experiences that exceed this baseline, weaving participation into their interpretive and thematic design such that it becomes integral to the dramaturgy of the production. In such productions, attendees might be encouraged to perambulate a space, or they might encounter a performer who hands them a prop or invites them to speak.[2] This kind of participatory theater is the central focus of this book.[3] Once associated largely with experimental performance, productions that rely on participation have entered the theatrical mainstream.[4] In the years leading up to the Covid-19 pandemic, one in ten theater tickets sold in London each year belonged to the new Globe playhouse, the subject of my first chapter, where universal lighting and a yard filled with 700 standing groundlings foster an interactivity between performers and attendees that has become the house style.[5] Similarly, in New York City, roaming a warehouse in search of clues and performance vignettes proved so appealing to attendees that the subject of my second chapter, Punchdrunk's *Sleep No More*, hosted more than two million

attendees over its fourteen-year run, prompting the *New York Times*'s chief theater critic to credit it with inspiring an "ever-multiplying slew" of similar productions that redefined theater in the 2010s.[6]

Due in part to the lockdowns of the pandemic, participatory theater has even percolated into the rapidly expanding sector of spatial computing technologies, which add new layers to attendees' expectations for participating in live events and expand opportunities for practitioners to rethink performance in the future.[7] For example, the focus of my third chapter, social virtual reality (social VR), allows people in any geographic location to participate in an embodied way in a live event taking place in an entirely digitally rendered environment. And when theater-makers use the subject of my final chapter, augmented reality (AR), a technology that has been standard on most smartphones since the mid-2010s and now appears on consumer-facing headsets, they can invite attendees to personalize digitally rendered elements of a production's scenography.

When a production makes participation central to its dramaturgy in these ways, what is the subject position of its attendees? It is not the same positionality as someone expected only to watch, listen to, gasp at, and clap for a performance. Neither is this positionality that of a performer. Wandering warehouses or holding up smartphones does not transform attendees into the engines of an experience, responsible for moving it forward. They are still its recipients, still occupying the positionality of someone who learned about a production, procured a ticket, and turned up expecting a predetermined group of people to put on a show that has been planned in some way. If a production expects attendees to be more than observers and appreciators, but not to be performers, what part does the production need these people to play?

One way to identify this positionality is to consider the actions a production allows attendees to take and the impact these actions have on the production. Productions that permit only reactions such as laughing or applauding position their attendees within the pragmatic boundary of a show.[8] Such productions do not weave participation into their dramaturgical cohesion, i.e., the many structures working together in service of goals that are aesthetic, thematic, narrative, and interpretive. While approval or opprobrium from the house can certainly affect how performers feel, the impact of nondramaturgical participation on a show is largely practical. For example, in a conventional production of *Phantom of the Opera*, the longest-running Broadway musical, applause or booing might inspire a theater owner to extend or shorten the run,

or influence a critic's review and thereby affect ticket sales. However, the ways attendees can participate at *Phantom* do not impact the show's dramaturgical aim, which is to have preselected performers tell the story of a love triangle through the structures of dialogue, song, dance, and scenography that have been planned and rehearsed. In contrast, the productions with which I am concerned do rely on attendee participation to achieve their dramaturgical aims. A central proposition of *Sleep No More* is to present a sprawling yet discoverable mystery that plays out across dozens of rooms. Ontologically, a mystery requires someone in the subject position of a person who does not have all the information but wants it. If a mystery exists across multiple spaces, parties who are truly interested in solving it will visit those spaces. Consequently, this dramaturgical aim of *Sleep No More* needs the validation of throngs of attendees who participate by prowling the space, searching for clues. If all the attendees stood against the wall, never exploring, the performers in *Sleep No More* could proceed as planned, but the show would not achieve its dramaturgical goal of existing as a mystery.

Importantly, attendees' participation needs to stay within a production's expectations if it is to contribute productively to the dramaturgical cohesion of that show. People who invent their own modes of participating are likely to disrupt this cohesion. A *Sleep No More* attendee who tried to perform a monologue, for example, would have confused and distracted performers and other attendees, and probably caused their own ejection from the show. Further complicating the experience of a participatory attendee is that the subject positionalities that exist in a performed story are *characters*. But the principal characters in a story cannot be occupied by attendees. Such an invitation would be both impractical—How could they know the blocking? What if they have terrible enunciation?—and run the risk of derailing the course a production planned to follow. What if the person plucked from the crowd to play the principal role of Othello refuses to strangle Desdemona?

Although some participatory productions invite attendees to step into the positionality of a character in the story, these shifts are typically brief, inconsequential, and limited to a few people. For example, at the new Globe, a few (delighted) groundlings often are singled out by the Porter in *Macbeth* in his soliloquy about the professions condemned to hell, or by Portia and Nerissa in *Merchant of Venice* in their review of unacceptable suitors. Likewise, the social VR production *Tempest* invited two attendees to mime brief scenes between Miranda and Ferdinand while the performer leading the experience explained

the plot points of the scene. While these moments can be satisfying, the roles they create for a participant are peripheral to the unfolding narrative: in *Macbeth*, "a farmer who hanged himself on th' expectation of plenty"; in *Merchant*, County Palatine, who "doth nothing but frown"; or in Tender Claws's streamlined version of *Tempest*, the lovers, who were incidental to the main goal of following Prospero around and executing whatever directions he gave. An attendee's ability or willingness to enact peripheral roles such as these does not affect a production's dramaturgy. Moreover, inconsequential roles are rarely numerous enough to communicate to all attendees that their participation exists within and is vital to the production's dramaturgical cohesion.

But when a production puts an attendee in the subject position of someone whose participation is necessary to the dramaturgical goals of a performed story, the sense of acting a role becomes part of what performance theorist Gareth White identifies as that production's "'horizon of participation,' in which attendees perceive the range of behaviours through which they are invited to participate in a performance."[9] I argue that when such invitations rise to the level of requiring attendees to participate in the dramaturgy of a production, attendees are cast in a role that is archetypal, and the contours of this archetype are visible in the behaviors a production encourages or discourages participants to enact. I call this aspect of participation "enactivity."[10] Across the following chapters, I use an interdisciplinary lens that centers theater and performance studies to undertake a theoretical and phenomenological exploration of the nature of enactivity and the primary conditions that foster it.[11]

Throughout this exploration, my use of "archetype" to describe these roles hews more to its application in dramatic and literary analysis than to the way psychotherapist Carl Jung's "primordial images" or Plato's *eidos* rely on this term to indicate predetermined, culturally universal roles.[12] I mean to invoke the more expansive sense of archetype, which denotes a "symbol . . . which recurs often enough in literature to be recognizable as an element of one's literary experience as a whole,"[13] or, as performance theorist Bert O. States defines the archetype, "a highly versatile model of an inevitable problem."[14] The indeterminacy of these latter usages is what interests me in identifying the roles a participatory production invites attendees to enact, because performance activates the archetype, converting it from a model to choices and actions. The multivalence "archetype" accommodates is also the reason I use this term rather than "stereotype" or "stock character." In addition to their negative connotations, the terms "stereotype" and "stock character" indicate an erasure of the

possibilities for variation that are a central concern of this book.[15] The concept of the archetype also illuminates the ways in which some characters, particularly from canonical dramas, can be both character and archetype. For example, the archetype of Juliet from Shakespeare's *Romeo and Juliet* contains a world of implied actions deriving from her long reception history. Any one enactment of Juliet draws on this archetype, reifying, extending, or disrupting it.

Considerable tension can arise in the conversion from model to action, because different people have different expectations for the behaviors that constitute an archetype. My enactment of the archetypal "doting mother," for example, might share some behaviors with the version of this archetype that would be enacted by my own mother or by my neighbor from a cultural background different from mine, but our versions are likely to diverge in important ways as well. When a participatory production incentivizes only some behaviors and disincentivizes others, any one attendee might read into the incentivized behaviors a call to enact different archetypes altogether. If a production incentivized asking lots of questions and monitoring social media accounts, for example, I might read these behaviors as the enactment of "doting mother," whereas my teenagers would be more likely to perceive them as the archetype of "federal investigator." Any one participatory production, then, can implicitly or explicitly invite the enactment of multiple archetypes.

To understand how productions communicate these options to attendees, each chapter in this book analyzes a different performance context, focusing on one of the more legible archetypal roles that context activates. Chapters 1 and 2 consider physical contexts: the new Globe playhouse, which encourages attendees to enact the archetype of "worshipper," and Punchdrunk's *Sleep No More*, where a primary archetype is that of "sleuth." The second half of the book turns to the digital contexts of social VR and AR. Chapter 3's analysis of pandemic-era productions in social VR focuses on Double Eye Studios's *Finding Pandora X* and Tender Claws's *Tempest*, both of which relied on attendees enacting the archetype of "patron at the vanguard," supporting theater in a crisis. In chapter 4, I contrast deployments of AR like The Builders Association's *Elements of Oz* and the Royal Shakespeare Company's *Seven Ages of Man*, which invited users to enact "cinematographer" and "film director," with those that allow users to enact the archetype of "protagonist." By way of example, I describe my own AR project, *Bitter Wind*, an adaptation of the ancient Greek mythos of Agamemnon, which invites users to enact "protagonist" by occupying the subject position of Clytemnestra. To demonstrate the stakes beyond the playhouse of

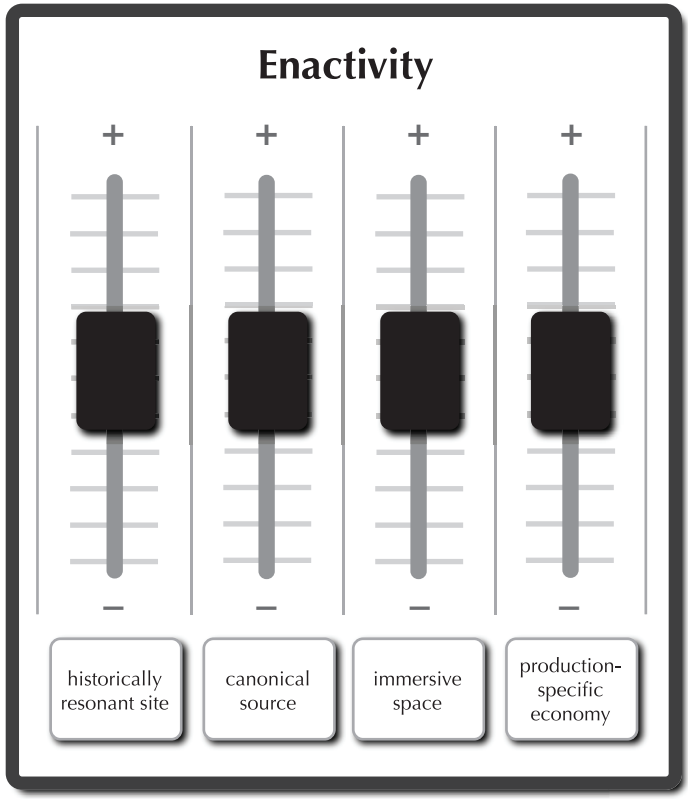


Fig. 2. Enactivity as a mixing board

understanding how enactivity can shape behavior toward prosocial or destructive ends, I conclude by musing on the archetypes invited by two scenarios outside of theater: the "superfan" of a sporting event and the "patriot" and "crusader" of the insurrection in Washington, DC, on January 6, 2021.

My focus on case studies in the twenty-first century is not an assertion or assumption that this dynamic is a product of the current moment.[16] Rather, twenty-first-century productions have attendees who have become so accustomed to participating as a condition of encountering cultural products that such invitations do not register as novel in the way they would have to a mainstream audience before the advent of Web 2.0.[17] The "relational ontology," as philosopher Don Ihde would have it, of twenty-first-century attendees is defined by a host of interactive digital technologies, from social media to selfies

to algorithms.[18] This technological landscape creates a condition performance theorist and director Matthew Causey calls "postdigital."[19] Characteristic of the postdigital condition is that people are surrounded by content that both responds to their specific presence and situates them in the subject position of a participant in that context. As performance theorist Sarah Bay-Cheng argues, an important outcome of this centering of the user (or the attendee) has been "to offer improved ways of looking at ourselves—little stages in which we can perform."[20] Twenty-first-century attendees expect these little stages, so the novelty of participating has long worn off as an adequate incentive for playing along as directed. Focusing on case studies with such attendees, then, allows me to surface production conditions that more consistently and durably foster the enactment of archetypes in support of a production's dramaturgical aims.

Across the following chapters, I consider four such conditions that, in combination, are particularly effective for intensifying the enactivity of participation: a site with historical resonance, the presence of a canonical source, a performance space that is immersive, and a production-specific economy. I think of these conditions as an audio mixing board, in that all four channels are present, and the choices that comprise a production slide each fader up or down, amplifying or dampening the volume of that condition. The resulting "mix" inflects the nature and intensity of the archetypal roles available to attendees within the dramaturgy of a production. My intent in focusing on only these four conditions is to establish a framework for parsing how the interplay of production choices inflects the dynamic of enactivity. This framework is intended to be expandable rather than exhaustive, and to spark consideration of additional channels that might inflect the quality of participation in any one show, as well as the production choices that would push its fader up or down.[21]

A Historically Resonant Site

Encouraging attendees to enact the behaviors a production wants is easier at a site with a historical resonance that is legible to those attendees.[22] At sites like the Great Wall of China or the 9/11 Memorial in New York City, the weight of antiquity or significant events is palpable and fosters an atmosphere of decorum and rule-following. This reverence encourages attendees to play along as directed rather than invent their own modes of participation. The tendency of historically resonant sites to post their expectations in multiple languages com-

pounds this sense of propriety, extending it from visitors whose heritage might be entwined with a site to those learning of the site's importance for the first time. Even acts of vandalism or disrespect that depart from a production's intended use of such a site would not counter the overtone of obedience that permeates historically resonant sites. Such acts would register as transgression, a quality that in turn reinforces the authority of the site transgressed.

Historical resonance encourages attendees to enact the behaviors a production wants because this quality reifies through architecture and geography that the unfolding experience is both sacrosanct and of a cultural significance that transcends the individual attendee. For example, at the new Globe, the historical resonance of Bankside vis-à-vis Shakespeare in performance was established long before twenty-first-century attendees showed up, and it will remain long after they leave. Consequently, an aura of significance attends seeing a production of one of Shakespeare's plays at the new Globe, and this aura encourages compliance with the expectations of the house. An attendee who, in view of others, performs participation that honors and preserves a historically resonant site signals that they possess what sociologist Pierre Bourdieu calls the forms of capital.[23] The form Bourdieu identifies as "cultural capital," for example, inheres in knowing why such a site is significant, and it can be increased by learning more about how the site became that way. Similarly, simply being at such sites can index a nontrivial "economic capital," as many attendees might have to travel a long distance to get there. Elevating one's capital in turn elevates what Bourdieu calls the "habitus," making it clear to others in attendance that one is the kind of person who can perform a proper homage on hallowed grounds.[24] The desire to cultivate or preserve such a habitus is a powerful incentive to participate according to the expectations a production outlines.

For a majority of mainstream attendees, discrepancies in historical accuracy that a scholar would notice do not invalidate this resonance. At the new Globe, for example, the fact that the yard is poured concrete, not dirt, and the playhouse's next-door neighbor is a Starbucks, not a bear-baiting pit, do not upend the "Shakespeary-ness" of the experience. As Shakespearean and performance theorist W. B. Worthen explains:

> Much as the entertainment at Disneyland and Disney World depends on a familiarity with "Disney" (you do not need to have seen the films, but you *do* have to know who Mickey and Donald and Bambi and Pocahontas are), performing at the Globe may depend on a similar acquaintance with "Shakespeare," not an intimate knowledge of his plays, theater, or society, but a sense that the

> bustling wooden O will generate a very different—more enjoyable, more involving, more historical, more authentic, more "Shakespearean"—experience than we usually have sitting in the dark through three hours of obsolescent versified drama.[25]

In other words, even a basic awareness of the new Globe's historical importance is enough to activate a sense that something about the site elevates the cultural capital one earns from seeing a production there.

The quality of historical resonance appears with varying intensity across the productions I consider. As chapter 1 describes, the fader of historical resonance is pushed to its limit at the new Globe, because the playhouse's location is a stone's throw from the site of its historical referent, the early modern Globe of which Shakespeare was part owner. In contrast, a faint historical resonance attends the social VR performances I analyze, invoked only through digitally rendered architectural details and descriptions on each production's website. Across my analysis, I rely on theater historian Una Chaudhuri's concept of "*polytopianism*," "the combination and layering, one on top of another, of many different places, many distinct orders of spatiality" to identify how the historical resonance of a site inflects the archetypal roles attendees enact.[26] According to Chaudhuri, not only do the fictional locations represented on a stage have an impact on reception, so too does the location of the playhouse. This layering of space further personalizes the archetype any one attendee might enact, inflecting their reception of relevant thematic notes in a production's dramaturgical landscape. As I describe in chapter 2, West 27th Street in New York City, site of *Sleep No More* from 2011 to 2025, had rather a seedy reputation before its gentrification in the late twentieth century. Attendees who are aware of this past may see in the production's many encouragements to enact specific behaviors an invitation to act the part of "risqué clubgoer" as much as or more than "sleuth." The impact of polytopianism on the enactivity a production fosters is further amplified when the fictional locations represented in performance are drawn from the next production condition I consider, the presence of a canonical source.

A Canonical Source

In much the same way that the historical resonance of a site encourages an atmosphere of playing along as directed, so does the presence of a canonical

source. That the narrative being staged or adapted is canonical establishes an experience as following a story that is both predetermined and well-known, rather than a devised piece attendees have the agency to change. Additionally, similar to the influence a site's historical resonance has on fostering enactivity, significant cultural capital attaches to the presence of a canonical source. Playing along as directed confers this capital onto participants, because such an action suggests they either knew the story well enough in advance of the production to participate according to its plot, or, by virtue of playing along as directed, now know more about this canonical source. Importantly, my analysis construes canonicity as an attribute that is relational, not universal, in that the measure of a work's canonicity depends on how likely a production's intended audience is to perceive this source as such. My use of "canonical" in this way draws on the notion of canon as utilized by fan studies, where "canon" is understood not as exclusive to one culture, but as any "selection of texts that represent the supposed essence or highest-quality examples of their form or phenomenon."[27] Understood thus, "canonical" can describe a story from any cultural tradition. To a mainstream audience in Japan, Nōh plays are likely to carry the aura of canonicity, while in India, the Nāṭya Śāstra is likely to register as commensurately authoritative. An illustrative example of a production wielding canonicity for this effect is *Sleep No More*, which opened a version of the production in Shanghai in 2016. Unlike the US-based iterations of the show, the Shanghai *Sleep No More* incorporates storylines from Chinese mythology, which are likely to register to its demographic as canonical.[28] However, if the target audience of a production is the mainstream, English-language, Global North demographic I focus on in this book, the sources most likely to invoke the most pronounced sense of canonicity are ancient Greek tragedies and the plays attributed to William Shakespeare.[29]

Although Shakespeare's oeuvre and ancient Greek drama are separated by millennia, culture, language, conventions of performance, discursive style, and structure, I consider them together here because they invoke a similar level of cultural authority for a mainstream twenty-first-century audience in the Global North. An in-depth analysis of the wider context at work in dictating this canon and reinforcing the continued assumed relevance of Shakespeare's plays and ancient Greek tragedy is beyond the scope of this book, but it is worth noting that key drivers, especially in the United States, include the curricula of sixth- through twelfth-grade English and language arts, often mandated by the state, as well as economies of survival in regional theater, where canonical dramas,

especially those by Shakespeare, have long been a more secure source of ticket revenue than have less recognizable plays.[30] In fact, it is the seeming inescapability of this albatross in the Global North's popular theater that makes ancient Greek tragedy and Shakespeare's plays very effective sources for illuminating the impact of canonicity on the dynamic of enactivity this book traces.[31] The clearer it is to attendees that the source of a production is canonical, the stronger the sense of cultural authority encouraging participation that plays along rather than that which attempts to change the story.

Much as the activation of a site's historical resonance does not require perfect accuracy or attendees' prior knowledge, neither is it necessary for attendees to have even a moderate knowledge of the canonical source being performed or adapted to activate this condition. Discrepancies a scholar would notice—in the 2023 production of *Macbeth* at the new Globe, for example, compressing Lennox and Ross into one character and eliminating Donalbain—are not likely to register to a popular audience in a way that undoes the cultural weight of 400 years of Shakespeare. In identifying how the presence of a canonical source inflects the archetypes attendees enact in each case study, I draw on Shakespearean Diana E. Henderson's concept of the "diachronic collaboration" that exists between contemporary theater-makers and Shakespeare in the adaptation or production of his plays. As Henderson describes, working with "an exceptional absent presence" is a process that is both "uneasy" and "celebratory."[32] My analysis extends Henderson's concept from Shakespeare to the "exceptional absent presence" of ancient Greek playwrights, and from makers to attendees. Across case studies, I consider how participating in a production or adaptation of a canonical source yields a "diachronic collaboration" not only with a canonical playwright, but with the long history of the subject positions taken by the many attendees of the source play, from its premiere in antiquity or early modern England through the twenty-first century.

This is not to say the presence of these canonical sources necessarily thrusts participatory attendees into enacting the archetype of "early modern playgoer" or "Athenian citizen at the Dionysia," although producers who push this and other faders high enough could have a fair shot at "the effort toward literality" performance theorist Rebecca Schneider traces in reenactment.[33] However, a measure of "touch[ing] time through the residue of the gesture or the cross-temporality of the post," as Schneider puts it, can intensify the dynamic of enactivity I trace.[34] In addition to serving as further inducement to play along as directed, the invitation to experience a canonical source through enactment

can open a window to the many people in the past who have participated in this story as well, affording present-day attendees resonant access to the phenomenological elements of a performance genealogy. In fact, this bridge to the phenomenology of past audiences that enactivity can create drove the design for *Bitter Wind*. As I describe in chapter 4, a key dramaturgical aim for this project was to put users in "touch," as Schneider phrases it, with the intimacy ancient attendees would have had with the mythoi that defined their lives. The extent to which enactivity creates a phenomenological connection to previous attendees of a canonical source depends in part on how producers leverage the affordances of the condition to which I now turn, an immersive space.

An Immersive Space

Production choices that create immersivity are an effective way to make clear to participants that their subject positionality is situated within the dramaturgical boundaries of a production, physically as well as conceptually. It is true that, much as a baseline of participation is constitutive of any live theatrical event, so too does a degree of immersivity obtain in any space where theater takes place. From proscenium theaters to redwood forests to town squares, the locations where theater happens invite people to be visually, aurally, even cognitively immersed in a shared experience that is removed from daily life. However, just as "participatory" now implies an experience that operationalizes participation as an aesthetic, so too has "immersive" come to carry a similar implication.[35] In theater and performance, immersive production choices are generally understood to be those that remove or attenuate the factors separating attendees from performers within what performance theorist Gay McAuley calls the "performance space . . . the divided yet nevertheless unitary space in which the two constitutive groups (performers and spectators) meet and work together to create the performance."[36] The attenuation of this divide is particularly visible in spaces attendees can perambulate at will, such as the limitless VR landscapes of *Finding Pandora X* and *Tempest* or *Sleep No More*'s maze of explorable rooms. Immersive spaces like these blur the physical and conceptual boundaries between audience, performer, and mimesis, enfolding attendees in the dramaturgy of a production.

To identify a production as immersive also implies that the multisensory nature of this enfolding becomes part of the show's interpretive frame. Obvi-

ously, no performance spaces can be experienced in a unisensory fashion—that sensory organs do not detach themselves from the body and set out to perceive the world individually is a truth contemporary performance theorist Helen Freshwater summarizes neatly: "[A]ttendees bring their whole bodies with them into the auditorium, not just their eyes."[37] What does fluctuate across productions, however, is the extent to which a human pays attention to the multisensory nature of a perceived experience. Sitting in a darkened house before a lit proscenium, it is easy to ignore the feel of the seat and the smell of the ambient air if both are as unobtrusive as such spaces usually intend. In contrast, in an immersive production, as performance theorist Josephine Machon argues, "awakening and engaging the fullness and diversity of sensory awareness is a central feature."[38] At the new Globe, for example, the warmth of the sun and the petrichor of a soaking rain in the open-air playhouse are integral to the echoes of early modern playgoing the site weaves into its brand of enactivity.

Across chapters, I use the concept of affordances to identify the options available in each performance space to create immersivity. Used widely in app and video game development, the concept of an affordance originated with environmental psychologist James Gibson. According to Gibson, the affordances of a thing are similar to its characteristics, in that both terms imply immutability. However, affordances also imply how the thing in question can be used: "The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill."[39] For example, AR headsets rest on the user's head and can be controlled by gestures. Consequently, one of their key affordances is freeing the user's hands to hold other things.[40] In contrast, the current generation of AR-enabled smartphones must be held or placed in a selfie stick, which must be held, so they do not have the affordance of freeing the user's hands.

Understanding something in terms of its affordances has been central to the field of human-computing interaction for decades; more recently, this concept has proven useful across disciplines.[41] Applying Gibson's concept to architecture, philosopher Mark L. Johnson explains, "What any object affords is the result of the nature of our bodies and brains . . . *as they interactively engage patterns and structures of our environments*. So, for a human being with fingers, hands, and arms, a ceramic cup affords pick-up-ability, whereas for an ant it might provide climb-up-ability."[42] As Johnson points out, affordances are defined not only by the unchangeable features of an environment, but by the unchangeable features of the creature using it. That affordances are necessarily

relational makes them an effective way to destabilize "usability" as a quality universal to all bodies, and thereby productively disrupt assumptions that all bodies can participate the same way in an activity. For example, using a critical lens of affordances to understand an AR-enabled smartphone first requires identifying whether the body in question can hold an object with their hands.

In theater and performance studies, Teemu Paavolainen borrows from affordance theory in his analysis of stage objects based on their "*intentional*, *immediate*, and *improvised* affordances."[43] As Paavolainen argues, understanding objects in this way counters the universalism of the classic semiotic pronouncement that "all that is on the stage is a sign," instead making space for the nuances of interpretation any one spectator might perceive.[44] Utilizing affordance theory in this way also enables an understanding of what Worthen calls "theater as technicity," or, attending to "the ongoing reinvention of theater as a technological apparatus, in which new instruments and new affordances for familiar instruments are constantly discovered and deployed *as* theater."[45] According to Worthen, the question to ask when a new technology emerges is not what novel theatrical form it creates, but how we can leverage its affordances to make theater.[46] Across chapters, I use affordances to parse the impacts of different technologies on multiple aspects of a theatrical experience without framing these impacts as foundational changes that make theater into some other medium. This approach is especially useful for analyzing digital technologies that seem to sprout new affordances daily, as do social VR and AR. A framework of affordances also illuminates the relationship between the relative immersivity of a production—how high this fader is pushed on the mixing board of enactivity—and the final condition of production I consider: a production-specific economy.

A Production-Specific Economy

In most participatory productions, the condition I call a production-specific economy is less visible than a historically resonant site, a canonical source, and an immersive space, but in many ways, this condition has the greatest impact on the dynamic of enactivity. The model I propose of a production-specific economy relies on three components: tasks attendees must complete, rewards that have value within the world of the production, and narrativized intermediaries, who navigate between the world of the unfolding drama and the subject

position of attendees to demonstrate how the economy functions.[47] In simplest terms, any economy can be understood as a combination of the resources or things that have value and that belong to an entity and the structures controlling the production, distribution, and consumption of these resources.[48] Multiple models exist for identifying how, why, and according to whom resources are deemed valuable and then produced, distributed, and consumed. In a "free-market" economy, consumer demand determines what things have value and how much of them to produce, without regulation from a central authority. In contrast, a "command" economy does have a central authority, and this authority decides what things will have value and therefore constitute a resource, how much of this resource to produce, and how the resource will be distributed.[49]

The economies of most participatory productions are closer to the command model, in that a central authority—producers—determines which actions will have value within the performance.[50] Understanding which elements of a participatory performance operate like a command economy and which operate according to free-market principles can illuminate the entities, biases, assumptions, and ideologies incentivizing attendees to enact the archetypal role a production needs. An economic framework is also useful for surfacing the ableism that permeates many participatory performances. Identifying the rewards a production offers and the tasks required to collect those rewards necessarily illuminates which bodies cannot complete these tasks and therefore are excluded from participating in the economy. As I discuss in chapter 2's analysis of *Sleep No More*, attendees who could not run up and down flights of stairs or read in low light, or who had claustrophobia or panic disorders, could not collect many of the most valuable rewards in that production's economy.

As in any practical deployment of an economic model, cracks appear even in the most well-developed production-specific economy, where the free-market desires of an attendee can disrupt the producers' control over the distribution of rewards. As I describe in chapter 3, one afternoon's performance of *Finding Pandora X* was derailed a few times when the same attendee seized control of an action the production had marked as valuable: getting to answer a question aloud, in front of the group. Instead of answering the question posed by our guide, this attendee launched into a dull stand-up routine. Due to the affordances of social VR and the guide's desire not to alienate this attendee, these moments extended into an awkwardness that was at cross-purposes with the production's intended sequence. From the perspective of practice as well as theory, then, it can be beneficial to understand and anticipate how tasks,

rewards, and narrativized intermediaries drive the economy of a production, and thereby ensure this economy impacts participation in a way that supports a show's dramaturgical aims.

Tasks

Attending any theatrical event involves multiple tasks: procuring a ticket, arriving on time, sitting or standing within a designated area, obtaining refreshments, and so on. In a production where attendees sit quietly in the dark, these tasks exist within what I have described as the pragmatic boundary of the event. Such tasks are not informed by and do not affect the interpretive elements of a production—its dramaturgical cohesion. In a participatory production, however, the tasks of an economy are part of the show's dramaturgy. The entirety of *Sleep No More* could be framed as a list of these kinds of tasks. Attendees are prodded to open drawers, rifle through books, and stake out performers, all in service of finding clues to the grand narrative the production purports to have.

Importantly, the subject of a task is not what makes it part of a production-specific economy. Tasks become part of an economy when a production makes an attendee's execution of that task vital to the show's dramaturgical aims. Consider the task of buying a ticket. In a conventional production of *Phantom*, such a task serves a function that is purely pragmatic. The manner in which an attendee procures their ticket is immaterial to the dramaturgy of this musical, which will go on as rehearsed whether people bought tickets online, visited the TKTS booth in Times Square, or stole them from someone's purse. However, the task of buying a ticket in Tender Claws's production of *Tempest* did contribute to the show's dramaturgical aim of validating the emergent medium of social VR as theater. As I describe in chapter 3, *Tempest* required attendees to purchase a ticket by visiting the production's digitally rendered ticket booth in-headset, rather than by navigating via web browser to a preexisting service such as Eventbrite. Bringing this task into the dramaturgy of a production assigned it value within the production's economy and strengthened the invitation to enact the archetype *Tempest* needed of "patron of theater at the vanguard."

Rewards

In a production-specific economy, rewards incentivize attendees to participate by completing the tasks the production assigns, rather than by inventing their

own modes of participation. These rewards or incentives are different from the gratification of a pleasant aesthetic experience or the cultural or social capital of being seen at a play. The events I analyze generate these outcomes as well, but these intrinsic benefits are different from the rewards that drive a production-specific economy. Rewards, as I use the term here, are discrete, discernible to others, valueless outside the production, and within the purview of the production to bestow.[51] Across productions, the "scarcity principle of persuasion," as business psychologist Robert Cialdini puts it, functions much as it does in a financial economy: When the quantity of a reward is limited, attendees are likely to perceive that reward as having a higher value, and they are likely to work harder to earn it.[52] In the context of a participatory production, "working hard" manifests as the enactment of the archetypes a production encourages.

Among the many rewards a participatory production might devise, a common choice is attention from a performer—a reward necessarily limited by the ratio of performers to attendees in most productions, and therefore one many attendees perceive as extremely valuable. At the new Globe, only a few people in the crowd of 1,500 might get the reward of a performer singling them out to occupy one of the peripheral narrative roles I explained above. As I describe in chapter 1, considerable jockeying goes on among the groundlings for the most propitious locations for enacting the devout attentiveness of the archetypal worshipper, which is the key to earning this reward. Similarly, in *Sleep No More*, one-on-one encounters are few and far between. This scarcity frames them as rich rewards that surely must include extra clues for the sleuths dogged enough to pursue them. Keeping attendees focused on collecting the rewards a production marks as valuable is a vital part of that show's economy, because, as I have described, many postdigital attendees arrive primed with participatory impulses. Emphasizing the desirability of certain behaviors through the use of rewards directs these impulses to be in support of the show's dramaturgical aims. Ensuring attendees know how to direct these impulses appropriately requires the final element of a production-specific economy, the narrativized intermediary.

Narrativized Intermediaries

Attendees come to understand a show's tasks and rewards through a combination of observation and the instruction of narrativized intermediaries, who explain how the system works. These intermediaries frame the immersive storyworld as so fully formed and different from quotidian life as to require a

guide for new arrivals, thereby justifying the existence within the storyworld of a bespoke economy with rewards that have value only therein and that attendees should focus on pursuing as their primary mode of participation. The presence of these intermediaries can be minimal, as at the new Globe, where I studied expert groundlings to learn how to best position myself for the show's rewards, or they can be pronounced, as in *Finding Pandora X* and *Tempest*, as well as *Bitter Wind*, all of which needed guides to instruct new users in unfamiliar technologies as well as each production's economy. Some productions arrange for attendees to encounter these intermediaries in a designated location, which functions as a training ground where intermediaries can hint at or directly assign the dramaturgical function attendees will fulfill. Such locations also provide a place for intermediaries to lead their charges through what White would call a "warm-up" to more substantial interactivity, or what Shakespearean Gina Bloom identifies as "enskilling."[53] For example, when attendees first arrive to *Sleep No More*, they spend time in Manderley Bar, a themed speakeasy where a bevy of costumed staff greet them, hand out masks, and beseech them to cultivate a proactive, investigatory mindset. Including such a warm-up space amplifies the fader of a production-specific economy because it strengthens the positionality of intermediaries as a necessary bridge between the quotidian world from which attendees came and to which they will return and the dramatic event as a place with an internal currency worth pursuing.

Quantifying "Meaningful"

Together, tasks, rewards, and narrativized intermediaries encourage some actions from participants and discourage others, thereby defining what constitutes meaningfulness or value in the economy of a production. The framework of a production-specific economy therefore illuminates "meaningful" as a quality that is variable, socially constructed, and situation-specific. Understanding meaningfulness in this way is important because many analyses of performance dismiss playing along as directed as an "invalid" form of participation. However, such dismissals rarely quantify the specific behaviors that would constitute meaningfulness in the context in question or identify the entities empowered to adjudicate what would count as valid participation. Instead, the quality of "meaningful" or "valid" too often is framed as neutral, universal, and objective. Philosopher Jacques Rancière's highly influential model of the "emanci-

pated spectator," for example, calls for a theater of "spectators who are active interpreters, who render their own translation, who appropriate the story for themselves, and who ultimately make their own story out of it."[54] Although Rancière frames such an emancipation as prosocial, he describes it only in terms of a philosophical stance—an "intellectual emancipation"—without discussing the observable behaviors that would indicate the presence of this quality in a theatrical context or the replicable production conditions that might foster it.[55]

The assumption that the extent of an attendee's emancipation, or perhaps "agency," validates their participation also underlies performance theorist Richard Schechner's theoretical work. Schechner's treatise on participation, among the most influential in the field, derived from his praxis as the founder of the Performance Group, whose most well-known shows took place in the late 1960s in New York City and were notable for, in Schechner's terms, a "democratic model" of attendee participation.[56] According to Schechner,

> Participation is legitimate only if it influences the tone and possibly the outcomes of the performance; only if it changes the rhythms of the performance. Without this potential for change, participation is just one more ornamental, illusionistic device: a treachery perpetrated on the audience while disguised as being on behalf of the audience.[57]

By way of illustrating participation that is "legitimate," he describes moments from *Dionysus in '69*, the Group's adaptation of Euripides' *The Bacchae*, in which performers and attendees disrobed and had sexual encounters, as well as *Commune*, wherein attendees were chosen at random to play the roles of the Mỹ Lai villagers murdered by US soldiers during the Vietnam War. In *Dionysus in '69* one evening, a group of students from Queens College conspired to temporarily kidnap the actor playing Pentheus. Attendees also took matters into their own hands during one evening's performance of *Commune*, when several people cast as the villagers refused to assume these roles and the actors refused to choose substitutes. As a result of these attendee-led interventions, both productions ground to a halt for hours, an outcome Schechner recalls as making him "elated that something 'real' had happened."[58]

Underlying these and other analyses of participation that measure meaningfulness by how much agency an attendee has to change the story is an assumption that participatory performance leads to, as poet Jerome Rothen-

berg puts it, "an ultimate democratizing of the arts."[59] However, what a critical lens of enactivity illuminates about instances like those in the Group's productions is that multiple production conditions shaped the participation of attendees, including those who were disruptive. In the late 1960s, Manhattan's SoHo neighborhood—location of the Group's space, the Performing Garage—was known as the "art campus" of the counterculture movement.[60] This site-based resonance would have primed attendees with a sense of edgy experimentation. Also present in each Group production was a canonical source: In *Dionysus in '69*, an ancient Greek play, and in *Commune*, Mỹ Lai, an atrocity so publicized by the media that it became an immediate and lasting synecdoche for US abuses in Vietnam.[61] Each production took place in the immersive space of the Performing Garage, a warehouse converted into a "performance space," to return to McAuley, that featured no separation between performer and attendee. And each production was driven by an economy, with Group performers acting as intermediaries to instruct attendees in the tasks and rewards involved in joining an orgy or standing in as Vietnamese villagers. Together, these production conditions invited attendees to act the part of the archetypal "counterculture protestor." Disrupting an evening's performance, then, was less a democratic act than an enactment of the "protestor" these conditions invited, and each disruption fulfilled the production's dramaturgical aim of demonstrating the power of participatory performance to stage protest. Such a goal could not have been achieved with complacent attendees who always joined the orgy of *Dionysus in '69* or accepted their role as Mỹ Lai villagers without question. Reading instances like these with an understanding of the enactivity that obtains in participation expands the myopia of measuring meaningfulness only by how much agency attendees have to alter an experience, instead bringing into focus the entities who have decided attendees should participate in a story and whose version of that story their enactment supports.

In its emphasis on illuminating these entities, the framework of enactivity has much in common with recent scholarly investigations of subjecthood in what has been called the "post-democratic turn" of the twenty-first century.[62] Focusing on "well-established democracies in the economically affluent Global North," political theorists Ingolfur Blühdorn and Felix Butzlaff advocate a closer analysis of "the activating state and various other actors redefining political participation so as to mobilize citizens as a resource for agendas which no longer contribute to democratic subjectivation and empowerment in the traditional sense."[63] As they explain, this redefined political participation is partly

the result of the twenty-first century's digital infrastructure—the "postdigital" condition, as Causey puts it. Emblematic of this turn is that politicians, scientists, and other analysts can now use emergent technologies such as machine learning to discern the desires of a population without polling them directly, and to justify policy decisions based on these conclusions.[64] Such developments also have led to insights from behavioral economists into the "choice architecture" that has always influenced the participation of a citizenry without their consent or, often, even their awareness.[65]

Contrast the post-democratic, postdigital condition of the twenty-first century with the media landscape of the Group's temporal milieu. Within his treatise on participation, first drafted in 1971–72, Schechner observes that "in society in general, and in entertainment in particular, the movement is to self-contained, electronically processed, un-responsive systems—closed systems on which the individual can have little effect. Shout as you will at the TV set, Johnny Carson does not hear you."[66] When the Group was bringing environmental theater to life in lower Manhattan, the media landscape was characterized by one-way transmission and limited content. Most homes that owned a television had only one, and because network television still dominated the medium, that one TV set probably showed only thirteen stations, and only from 6 a.m. until midnight.[67] The studio system in Hollywood ended just twenty years before the Group came together; the first Walkman would be introduced eleven years after the premiere of *Dionysus in '69*.[68] In the many decades since a group of students from Queens College kidnapped Pentheus, the media landscape has become saturated in systems defined by responsiveness. In today's "participatory culture," to borrow a term from new media theorist and cultural critic Henry Jenkins, consumers expect their Johnny Carsons not just to hear them shouting, but to respond or risk getting canceled.[69]

I do not suggest that participation in theater has become less democratic because of the postdigital, post-democratic condition. Rather, I argue that current conditions make it easier to see that it has always been the case that any agency an attendee has within a theatrical context conceived of, scripted, directed, and produced by someone else is mediated by incentives to support the version of the experience its producers envisioned. What my call to attend to the nature of enactivity shares with the post-democratic turn, then, is an investment in identifying the many power structures and positionalities that, even as they lionize increased participation, deploy a range of strategies to shape it toward ends that serve the producers in question.

Understanding the conditions that foster this dynamic is important because, as a quality, enactivity is value-neutral. But in practice, enacting an archetype can generate outcomes that are prosocial or outcomes that are problematic. In the full-sensory context of performance, playing a role that registers as dramaturgically meaningful can be a mode of connection and a validation that attendees matter in the stories that matter to communities and cultures. This dynamic relies on and acknowledges the individual in order to activate the archetypal roles it invites, but by making the individual's enactment of these roles vital to the dramaturgical cohesion of a production, this quality transcends the individual, opening a pathway to *communitas* with other attendees and performers. This quality can reaffirm the self as a part of a whole—it can be a way to say, in community and visible to one another, "we know this story is ours, because we are in it." However, problems can arise when productions are not mindful about the roles into which they cast attendees. Writing on participatory performances where attendees "have no means to author or control," performance theorist Keren Zaiontz notes the possibility of "narcissistic spectatorship," wherein "self-absorption serves as a primary mode of experience for audiences."[70] As Zaiontz observes, "the act of producing your own experiential reception can provoke a competitive stance in audiences."[71] As I describe in chapter 3, I spent several minutes in my experience of *Tempest* envying the attendees who were chosen to mime scenes, the main reward that production offered, when I had not been tapped. So much for *communitas*.

Also contributing to the possibility of problematic enactivity is that the people in the subject positionality of participant need only procure a ticket to have access to the experience. They are not necessarily vetted for their understanding of or willingness to abide by standards for acceptable actions. In *Dionysus in '69*, for example, multiple production choices suggested attendees should enact not only the archetype of "counterculture protestor" but also that of "libertine." That performers regularly disrobed during the show and invited touch was a signal to many attendees to enact a version of "libertine" that, as Schechner euphemizes, included "more ardor than a performer bargained for," i.e., sexual assault.[72] Several decades of changing cultural norms have not fixed this problem. As chapter 2 describes, similar mixed signals from *Sleep No More*'s production choices created problems for its performers. Requiring attendees to wear a mask—which many have pointed out strongly evokes the 2006 film *Eyes Wide Shut*—repeating exhortations to be "bold," and staging one-on-one interludes where performers touched and even kissed attendees

spawned multiple allegations of sexual misconduct, as attendees enacted the archetype of "underground clubgoer" with, to borrow Schechner, "more ardor" than was precisely legal.[73]

Fortunately, more theoretical and pragmatic attention is turning to the regulation or at least recognition of the behaviors that should fall under the "horizon of participation" for attendees, as White puts it. Machon, for example, finds in responsible participatory performances the presence of a "contract for participation," explicit or implied, which is "central to the safety of both the audience-participant and the artists."[74] In my view, the inherent enactivity of participation means such contracts must be predicated on an awareness of the archetypes a production's choices invite attendees to enact. Thinking about participation as the enactment of an archetype draws attention to the behaviors an attendee might associate with that role, and provides a pathway to responsible management of this important quality of participation.

Chapter Summaries

To analyze the intensity and duration of a production's invitation to attendees to enact an archetype, each chapter focuses on a performance context with a different "mix" of the four conditions I argue are especially effective for fostering this dynamic: a historically resonant site, a canonical source, an immersive space, and a production-specific economy. The case studies here are only a sample of the ways these "faders" can combine with varying intensity to encourage attendees to act the parts a production needs. Although my analysis of each case study examines how all four faders contribute to that production's mix of enactivity, the focus of each chapter is on the one or two faders that are pushed highest in their channels. This variation in analytical structure allows for an in-depth examination of each production condition through a close reading of a case study where that condition makes the most impact.

I begin at the new Globe in London, where the fader of historical resonance is amplified by the geography of the site and a design-and-build process devoted to achieving authenticity through historicized materiality. As this chapter describes, the new Globe's historical resonance remains powerful decades after the playhouse's opening, despite changes wrought by gentrification and the climate crisis. In combination with the loud presence of a canonical source—text-forward Shakespeare—the mix of enactivity at the new Globe casts attendees in

the archetypal role of "worshipper." Chapter 2 turns to the New York City installation of *Sleep No More*, Punchdrunk's witchy, noir adaptation of Shakespeare's *Macbeth* as "open-world" theater. With the fader of immersivity pushed to its multisensorial limit and a robust production-specific economy that frames rewards as clues to a mystery, one of the most visible archetypes *Sleep No More* incentivized attendees to enact was that of the "sleuth." Through their willingness to chase the rewards the production devised, *Sleep No More*'s sleuths affirmed the show's mysterious grand narrative existed and was discoverable—two qualities this chapter concludes were not as stable as the show implied.

In the second half of the book, I shift focus from physical to digital contexts. Chapter 3 describes two of the more successful productions in social VR to come out of the era of pandemic lockdowns: *Finding Pandora X*, Double Eye Studios's adaptation of the ancient Greek mythos of Pandora, and Tender Claws's *Tempest*, which adapted Shakespeare's play *The Tempest*. Here, the fader of a canonical source does the heavy lifting of casting social VR attendees as the archetype of "patrons at the vanguard," whose enthusiastic support would validate new modes of playgoing in a crisis. And in chapter 4, I explore how the unique immersivity of AR invites attendees—here, users—to enact the archetype of "film director" in ways not possible with other technologies. After an analysis of the Royal Shakespeare Company's *Seven Ages of Man* and The Builders Association's *Elements of Oz*, discussion shifts to my own AR project, *Bitter Wind*, which adapts the ancient Greek mythos of Agamemnon for Microsoft's HoloLens headset. As this section explains, the HoloLens allowed my team to turn the user's everyday space into the palace at Argos and to cast the user as Clytemnestra, the protagonist of Aeschylus' take on the mythos. I include an examination of one of my lab's projects alongside the other case studies of this book to add to the few analyses that exist in theater and performance studies of the design processes that drive digital humanities work in the field.[75] Given the number of programs that have combined theater and performance with media arts as part of a larger institutional interest in integrating arts and technology in recent years, it has become urgent to more deeply understand the processes behind digital humanities work like *Bitter Wind*.[76]

I conclude with a brief consideration of two nontheatrical scenarios that demonstrate the stakes of understanding enactivity beyond theater and performance: live sporting events, where enacting the archetype of "superfan" can generate prosocial outcomes that resonate outside the arena, and the events of January 6, 2021, in Washington, DC, where incitements to enact "patriot" and

"crusader" contributed to an attempted coup of the United States government. As I have argued, this quality of participation, enactivity, is both neutral and unavoidable. Producers who ask attendees to participate can leverage this dynamic toward problematic or beneficial ends. Against a backdrop of daily life that is increasingly more recorded and remote, storytelling that is embodied and communal has a multisensory immersion that amplifies its content, especially when that content is a version of a canonical story that might be contested, and attendees are deputized to take part in its retelling. And in a live performance, the outcomes of interactivity play out on bodies, not bytes. It is therefore vital to encourage a critical eye in contexts where participation in a story feels familiar, important, and validating. To understand how live encounters remain foundational sites for deciding which stories count as significant and who has authority over their retellings, the field's theoretical frameworks must expand to account for the multiple ways in which participatory performances define meaningfulness. The project of *Acting the Part* is this expansion.

CHAPTER 1

Worshipper

The New Globe Theatre in London

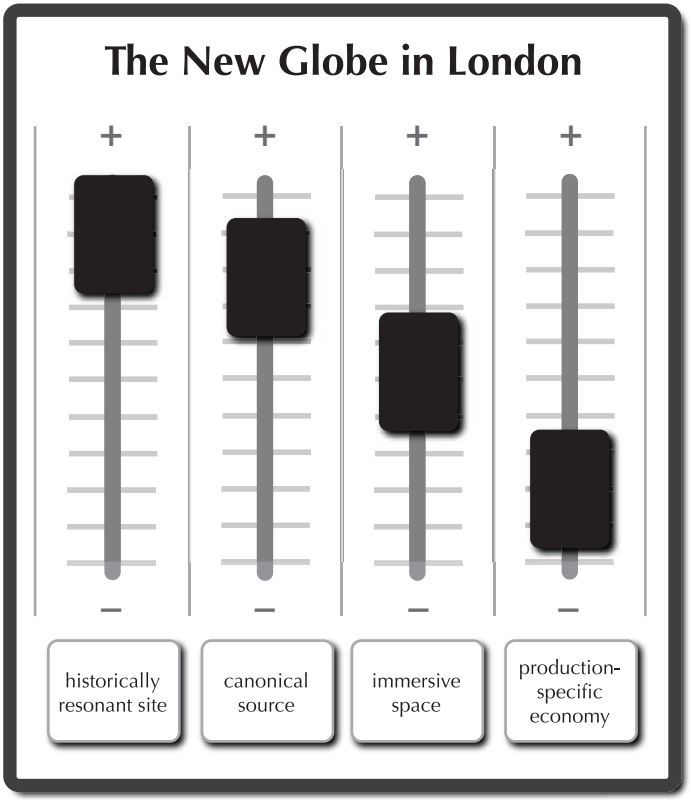


Fig. 3. The mixing board of enactivity at the new Globe in London

The new Globe Theatre in London offers the opportunity to closely examine the impact on enactivity of pushing the fader of historical resonance to its limit. Much of this chapter focuses on the ways that "authenticity" at the new Globe flexes in and around two enduring features of the site to amplify its historical resonance: geography (Bankside) and materiality (the playhouse). Identifying how a performance context deploys claims of authenticity to amplify the historical resonance of its site is important because "authenticity" often masquerades as a quality that is neutral, objective, and achievable. Through an analysis of archival correspondence from the new Globe's build process as well as my experience attending their production of *Macbeth* in August 2023, the first half of this chapter demonstrates how authenticity is contingent on and representative of the needs of the stakeholders invoking its presence, and it is mutable over time.[1] The remainder of the chapter situates the intensity of the new Globe's historical resonance alongside the other three faders of enactivity—an immersive space, a canonical source, and a production-specific economy that incentivizes specific behaviors—to map how the ensuing mix encourages attendees to enact the archetype of "worshipper."

A Historically Resonant Site

It's early in the evening on June 12, 1997, and scores of theatergoers are arriving to Bankside, a riverfront neighborhood in the London Borough of Southwark. The patrons, well-heeled even by the conventions of a London playhouse, are at odds with the grubby streets and abandoned warehouses on this side of the Thames. The exception to Southwark's "somber clutter," as BBC journalist Alistair Cooke described it, and the reason for the theatergoers' presence, sits directly on the riverwalk: the new Globe playhouse, which opens formally on this evening.[2] After decades of delay from budget overruns, fights over permits, and disagreements among the creative team, the new Globe is about to receive an honor its founder, Sam Wanamaker, would not live to see.[3] In a few moments, the Royal Barge will dock and discharge Her Majesty Queen Elizabeth II, still spry in a gold brocade dress suit and flawless silver coiffe, to open the theater to the public.[4] After 350 years, the Globe has returned to the South Bank.

Although it is the most visible, the new Globe in London is only one of many replicas of the 1599/1614 Globe theater. These replicas can be found as far from London as Tokyo, where the Globe-za (est. 1988) hosts productions of

Shakespeare's plays from companies around the world, and as far in the past as 1790, when the scholar Edmond Malone combed through Philip Henslowe's papers to assemble the first treatise speculating on the Globe's playing conditions.[5] Driving the creation and programming of these and other Globe replicas is a hypothesis Shakespearean and performance theorist W. B. Worthen has described as "a performative and historical privilege, as though the framing structure will release the behaviors that originally made the plays 'work' from their captivity in the text and their inaccessibility to the trends of modern theater."[6] As Worthen notes, this hypothesis posits that production choices such as proscenium arches, complex scenery, and audiences who sit in the dark watching a well-lit stage are post-Shakespearean staging conventions that obscure authoritative dramaturgical truths about Shakespeare's plays, but these truths can be revealed by recreating early modern performance practices.

The new Globe's design team set out to prove this hypothesis with more rigor and budget than has attended any replica playhouse, before or since. From the thatch roof of the galleries, to the ornate *frons scenae*, to the heavens looming over the stage on hand-carved, solid oak pillars, every architectural feature of the new Globe was created to approximate as closely as possible the form its early modern precursor might have had, with the goal of divining its function in and for performance. Initiating and overseeing this process was the new Globe's indomitable founder, Sam Wanamaker, an American actor whose relentless enthusiasm for Shakespeare kept the project afloat over its lengthy incubation and construction.[7] For more than thirty years, Wanamaker implored, cajoled, even dragooned the new Globe's team of scholars, practitioners, and artisan builders into an unprecedented integration of theoretical and practical expertise. With the edict to "keep it AUTHENTIC!" at all times, Wanamaker focused his team on recreating enough performance conditions of an early modern playing space to determine, conclusively and at last, essential truths about Shakespeare's plays.[8]

The new Globe was built in the style of the early modern Globe Theatre, which was erected in 1599, rebuilt in 1614 after a catastrophic fire, and demolished permanently in 1644.[9] A twenty-sided polygon of white plaster and heavy timbers, the new Globe is located on the Thames riverfront in the Bankside neighborhood of London's Borough of Southwark, 750 feet from the footings of its antecedent. Inside the polygon are three-story galleries that offer bench seating for 870 patrons, as well as a large yard that accommodates about 700 standing "groundlings," who surround a three-quarter thrust stage (figures 4 and 5).

Fig. 4. The new Globe playhouse in Bankside, London, March 2023. The crane in the background is one of many signs of the area's rapid gentrification since the new Globe opened in 1997.

Fig. 5. The galleries, stage, and yard at the new Globe in Bankside. Photo by Pete Le May. Courtesy of Shakespeare's Globe © 2018.

In the years since its opening, the new Globe has become an exemplar of organizational expansion, public impact, and endurance. Despite receiving no regular government subsidy, a project that started as a seasonal open-air theater is now a year-round tourist destination and performing arts complex with a library, research archives, a gift shop, production offices, and a second, indoor venue, the Sam Wanamaker Playhouse.[10] Before the coronavirus pandemic shuttered theaters worldwide in March 2020, the new Globe generated £25m in revenue annually from the 1.25 million people a year who came to its productions, educational programs, workshops, lectures, and tours—figures that represented 10 percent of the theatergoing audience in the theater capital of the world, London.[11] The new Globe has even withstood the disastrous long-term effect of the pandemic on theaters worldwide. During the lockdowns, the organization emphasized its online presence via an in-house streaming service as well as "Globe 360," a proprietary mobile app that gives users a 360-degree tour of the complex.[12] As of this writing, the new Globe has not only returned to pre-pandemic income levels, it has exceeded them by 27 percent.[13]

Although many debates have ensued over how successful the new Globe's experiment was in answering the research question of its founders, more germane to this book is the lingering impact their outsized efforts still have on attendees. The rigor with which the new Globe strove to "keep it AUTHENTIC!" yielded an outcome whose impact on reception can be understood through the concept of "specific iconic identity," or, a specific object, person, or place related to a play performing as itself in that play.[14] This phenomenon can be seen every summer in Denmark at Elsinore Castle, which stages productions of Shakespeare's *Hamlet*, the plot of which finds the eponymous melancholy Dane moping around Elsinore Castle for four hours being cryptic.[15]

Instances of specific iconic identity are charged, phenomenologically as well as semiotically, particularly when they relate to the historical past. As theater historian and performance theorist Marvin Carlson notes, such instances serve the double function of bringing the audience "into closer imaginative contact" with a sign's referent, even as they are "an index, pointing to the absent and distanced historic reality which interests the spectator."[16] Through this push and pull, historically resonant instances of objects or places performing as themselves disrupt the linearity of time, inviting the "interaction or inter(in) animation of one time with another time" performance theorist Rebecca Schneider finds in mimesis and theatricality.[17] At the new Globe in London, the specific iconic identity of a playhouse performing as the original Globe (or

close enough) in its actual location (or close enough) invites what Shakespearean Diana E. Henderson would call a "diachronic collaboration" between a twenty-first-century attendee and an early modern playgoer.[18] Through such a collaboration, the new Globe's attendees can access hints of the phenomenological experience early modern playgoers might have had. Complicating this simpatico, however, are the playhouse's material elements, the overt historicity of which emphasizes how different the new Globe is from conventional twenty-first-century performance contexts. The result is *polytopianism*, to use theater historian Una Chaudhuri's term, where one's status as a present-day visitor is layered with an awareness of inhabiting a historical site and a building designed to emulate a culturally significant historical antecedent.[19] The unique polytopianism of the new Globe amplifies its historical resonance such that it takes on a religious tone, encouraging attendees to act the part of worshipper.

Location, Location, Location

What are the three most important factors in buying real estate? Location, location, location. Driven by this industry mantra, Wanamaker refused to settle for any site but the one viable piece of property within a 250-yard radius of the 1599/1614 Globe's footings: a parking lot for garbage trucks.[20] As Andrew Gurr, Shakespearean and the project's lead historian, recalls, Wanamaker's insistence on siting the new Globe in Bankside as close to the old Globes as local leaders would permit bestowed on the project "an automatic priority over any other reconstruction."[21] Wanamaker's perseverance meant that no other Globe replica, extant or future, would be able to amplify its own historical resonance through geography louder than the new Globe in London.

Reflecting on the similarity between historically engaged tourism and acts of pilgrimage, Carlson observes that "[i]n many respects, the modern tourist may be considered the direct descendent of the medieval pilgrim."[22] The sense of pilgrimage Carlson says is inherent in modern tourism reinforces an enactment of the archetypal worshipper at the new Globe. This characterization has attended the project since its earliest days, with the local news describing Wanamaker's planned site as "the most historic theatrical area in the Western World—the Holy Grail of drama on the South Bank of the River Thames."[23] Further compounding the sense of pilgrimage inherent in traveling to a historical site is that, relative to other cultural hotspots in London, getting to the new Globe is and always has been a struggle. The closest tube station to the new

Globe is a half-mile walk across the Thames, the nearest bus stop is a quarter-mile away (ironically, directly in front of the site of the 1599/1614 Globes), the playhouse is at the end of a one-block dead-end street that is difficult for cars to turn around in (creating a log jam of people waiting to get out of cabs), and parking within a several-block radius is scant even by London standards.[24] In short, for locals and tourists alike, this little corner of the sceptered isle is an area one has to try to visit. Consequently, in today's age of ease and convenience, finally making one's way into the lobby of the new Globe brings a palpable relief that, however subtly, frames the experience about to unfold as a reward for virtuous suffering.

In the early modern years, this distance from the city center was an asset for the louche pastimes Bankside cultivated. Sitting outside the jurisdiction of London city authorities, Bankside could host not just playhouses but a range of businesses trading in indecorousness, such as animal-fighting pits, gambling, and bawdy houses.[25] Alas, by the time plans for the new Globe became publicly visible nearly 400 years later, the Bankside Wanamaker would have toured was, by Gurr's description, "a derelict wasteland looking for a new role," its early modern liveliness having faded into what one reporter described as "post-industrial squalor."[26] Although daily life for attendees of the new Globe's first few seasons would hardly have resembled that of their early modern counterparts—i.e., no plague, Galenic medicine, sumptuary laws, lingering feudalism, or an earnest belief in the power of curses—Bankside after World War II did remain infamous for evoking a sense of "taking life into your own hands" when walking its streets.[27] For playgoers of the new Globe in the late 1990s, the thrill of danger from braving Bankside's seediness would have created a phenomenological link to their early modern forbears—a plus for a project deeply invested in claiming historical authenticity.

In the decades since the Queen formally opened the new Globe, little has changed about the hassle of traveling to the playhouse's doorstep; similarly, no new evidence has arisen to unseat Bankside as the origin site for many of Shakespeare's plays. What has changed radically is the way Bankside evokes its early modern antecedent. Gentrification has taken over the area, three (and counting) digital revolutions have taken place, the Covid-19 pandemic locked down much of the world for many months, and the Anthropocene kicked into high gear. In the mid-twenty-first century, the neighborhood of the new Globe is unrecognizable from the "derelict wasteland" attendees in the late 1990s would have traveled through to see a production. Although the foundations of

today's arts and culture scene in the larger South London radius were laid as early as the 1950s, gentrification of the area immediately surrounding the new Globe did not escalate until the years following the theater's opening in 1997.[28] Fifteen months after the new Globe opened, Borough Market, a ten-minute walk east, held its first-ever Food Lovers' Fair, rescuing the Market from near ruin with an overnight transformation into the most famous artisanal food market in the country.[29] The year after that, the new Globe's neighbor to the west, the looming Bankside Power Station, became the new home of the Tate museum's modern collection.[30] The following year, Millennium Bridge opened, creating a direct (-ish) walking path across the Thames from St. Paul's Cathedral in the City Center to the side door of the new Globe.[31] Over the next several years, more than a dozen upscale restaurants filled in the empty spots around the new Globe, exponentially increasing the foot traffic in the theater's immediate vicinity.

In 2016, the Tate Modern cemented this half-mile stretch as a cornerstone of London's cultural geography by adding a ten-story, twisted brick pyramid to the original Power Station, doubling its own footprint. By the time I saw the new Globe's production of *Macbeth* in 2023, what Cooke described in 1980 as the "somber clutter of Southwark"[32] had become "buzzy Bankside,"[33] "engulfed . . . by real estate mania"[34] and overfull with "prestigious galleries, bustling markets, chic museums, cosy pubs and so much food that you'll have to roll yourself out of there when you're finally done."[35] Each day I was in town, I stopped for coffee on the street behind the theater at a shop on the ground floor of a newly constructed luxury mixed-use tower, where a two-bedroom, 1,175 square-foot condominium on the sixteenth floor was listed for £2.87 million.[36] With the "derelict wasteland" Gurr remembers no longer surrounding ticket-buyers as part of their pilgrimage, the connection to early modern playgoers created by a shared grittiness has evaporated.

The last several years have also seen the evaporation of another location-based aspect of early modern life that could have been counted on more reliably in 1997 than today: the weather. Reflecting on the superior historical authenticity the new Globe's Bankside location could access in performance compared to other Globe reconstructions, Gurr quips, "to say the least, we had the original weather as an element in our design."[37] Although this was not quite the case, as the effects of human-induced climate change were already being felt by the year of the new Globe's opening, it is *really* not the case today, because the rate of human-induced climate change has doubled since 1997.[38] In London, for exam-

ple, summers that were once reliably gloomy and chilly are now measurably hotter and drier, and projected to be 3°C hotter and 20 percent drier by 2050.[39] With hottest years on record and catastrophic weather events escalating significantly since the new Globe's first seasons, it has become obvious that not even the weather can be counted on as a durable evocation of early modern playgoing.[40]

While these threads of lived experience connecting 1990s Bankside with early modern Bankside may have frayed, the geography of the new Globe still contributes to an amplification of historical resonance at the site. New threads of lived experience connect today's playgoers with their early modern forbears. Instead of sharing the adrenaline rush of possibly getting mugged and the near-guarantee of gloomy weather, attendees of the new Globe in the Anthropocene get to experience many aspects of daily life in early modernity that attendees in the 1990s would not have encountered. Lockdowns from the Covid-19 plague are barely in the rearview mirror, wealth distribution becomes more feudal by the year, the internet is rife with science-free health advice, and a range of entities believe the invocations of cancel culture have the power to ruin their lives. At least we've held on to our right to dress like the Queen. Understanding these changes in the geographic location of the new Globe in London illuminates how the qualities of historical resonance and "authenticity" are not fixed or objective, but changeable and contingent, temporally as well as culturally. A similar flexibility characterizes the other enduring feature of the new Globe that amplifies the site's historical resonance: the historicized materiality of the playhouse.

A House of Worship

Even more than the geography of Bankside, the playhouse itself amplifies the site's historical resonance, because it materializes this quality into a permanent structure attendees can see, touch, walk through, and maybe taste, if they are weird. Some people might not be aware of Bankside's relevance to the history of Shakespeare in performance, but it is hard to imagine anyone overlooking the historicity of the new Globe's architecture. Each component of the playhouse has been crafted to emulate an early modern aesthetic with such attention to detail that it seems to have sprung fully formed through a wormhole into present-day Bankside. Reinforcing the obviousness of this historicity is that the new Globe is surrounded by a great deal of architecture with far more recent

aesthetics. During World War II, the Blitz damaged or destroyed many of the blocks near the new Globe. Bankside never was celebrated for its glorious historic architecture, however, so when it came time to rebuild, efforts focused less on restoration and more on reinvention.[41] Since the turn of the millennium, rapid gentrification has intensified the neighborhood's contemporary look.

Amid so much newness, the solo note of the new Globe's historicized aesthetic makes arriving at the playhouse a jarring way to experience history as actualized through architecture. As architect Julani Pallasmaa explains, a key effect of architecture vis-à-vis the past is that it "scales endless time down to the limits of human experience; the mere memorized image of the Egyptian pyramids concretizes the distance of four thousand years in our consciousness."[42] According to Pallasmaa, historic buildings are an effective way to bridge the conceptual gap between past and present. It may be impossible to have a phenomenological grasp of 4,000 years (or in the case of early modernity, 400 years), but it is quite possible to walk through a historic building, smell its aromas, touch its ancient walls, and imagine carrying out daily tasks or trysts or stabbings in its hallways. When such a building sits with others in a historic district, the time travel architecture concretizes is more evenly distributed across the multiple contiguous spaces a visitor can see, touch, smell, perambulate through, purchase souvenirs from, take selfies out front of, etc. But when a historic or historicized building stands in sharp contrast to its mostly nonhistoric neighbors, all the energy of conceptually time-traveling across centuries is concentrated into the moment a visitor arrives to the front door.

The struggle that, as I have described, is required for attendees to arrive at the new Globe's squatty Tudor silhouette makes it impossible to avoid an embodied engagement with the surrounding neighborhood, where the architecture is dominated by the glossy molded copper alloy and glass of the Triptych high rise, the monstrous neobrutalist brick facade of the Tate Modern's Blavatnik Building, and the undulating spinal column of Millennium Bridge, rendered in chic aluminum and cable across the Thames River. When attendees arrive to the new Globe, the work of spanning the conceptual gap between the twenty-first century and the years when Shakespeare walked these streets lies almost entirely with the playhouse. By way of contrast, consider the site of the 1599/1614 Globes, a few minutes' walk east of the new Globe. At this site, even more resonant than the new Globe by the standards of strict historical authenticity, the only visible evidence of the location's relevance to Shakespeare in

performance is a commemorative plaque. The impact of this rectangular, text-based flatness is didactic; on this site, visitors are responsible for ginning up their own sense of pilgrimage or historical resonance. At the new Globe, however, the playhouse generates this resonance by inviting visitors into an imagined experience of early modern London that is not only in situ but embodied, walk-around-able, inhabitable, and durational.

As an architectural entity, the playhouse of the new Globe amplifies the pilgrimage that obtains in Bankside's geography by giving pilgrims a destination built with the kind of intention, planning, care, and singular aesthetic that characterizes houses of worship across religious traditions. The playhouse's construction suggests a level of detail and engineering even a nonspecialist can discern, inspiring, as early modernist Penelope Woods has described, "a kind of wonder" in attendees as they arrive.[43] Whether one is destined for the yard or the gallery seating, the act of entering the playhouse is dominated by gazing upward—the eye follows the towering pillars up to the coffered heavens and pentice roof they support, across to the ornate Gentlemen's Rooms flanking the *frons scenae*, up again to the novelty of the thatch roof, now mossy and often bearing a bird or two, and finally to the sky, framed by the playhouse's circular, open-air design (fig. 6). Any one of these features might inspire the note of wonder Woods identifies. How heavy are these giant timbers? Who let them use thatch in London? How long did it take to paint all that trompe l'oeil? How did they make everything look so *old*? That this sense of wonder is shared, and visibly so, communalizes the archetype of worshipper, converting each attendee from the solo pilgrim who finally made it to Bankside into the congregant who has arrived to a house of god.

At the new Globe, that god is Shakespeare (obviously), the mode of worship is performance, and the process by which the playhouse was designed and built was an assertion of authority over the right way to conduct this worship.[44] To justify this authority, the design team relied on and regularly invoked the pursuit of historical authenticity. Exemplifying this pursuit is a 1995 fax from historian John Orrell to the advisory board regarding a protracted, heated disagreement between scholars and practitioners over the placement of the twenty-eight-foot pillars designed to hold up the canopy over the stage, or "heavens." This disagreement arose in the summer of 1995, when the team tested the placement of the pillars. They built a mock-up of the stage on site, based on historical evidence Orrell and Gurr had provided, and invited a handful of famous practitioners to stage scenes. By and large, the practitioners hated

Fig. 6. The pillars, heavens, *frons scenae*, and thrust stage at the new Globe in London. Behind the stage left column (*center*), two of the Gentlemen's Rooms are visible. They are distinguished from the other galleries by copious trompe l'oeil paintings. Photo by Pete Le May. Courtesy of Shakespeare's Globe © 2018.

the mock-up, feeling the pillars were too thick and too far downstage and the heavens too large and looming.[45]

Responding to this maelstrom, Orrell's communique to the board reminds the group that the point of the new Globe's experiment is not to stage Shakespeare's plays in a way that feels harmonious to late-twentieth-century practitioners. It is to recreate playing conditions that existed in early modern London and find out how these conditions shape performance in ways a late-twentieth-century sensibility could never have guessed. To make this point, Orrell invokes the project's touchstone of historical authenticity, insisting that "difficult questions have arisen when the prime evidence clearly shows something that won't, on the face of it, work. . . . we must accept Sam's repeated instruction: Keep it AUTHENTIC! Even when we think that leads us towards nonsense."[46] A similar invocation of authenticity as the authorizing force for design choices appears in Gurr's description of "the 'best guess' technique."[47] To determine which design choices would qualify as historically authentic, the group made a "best guess" by triangulating the expertise of collabora-

tors from across subject areas with fragmentary evidence. According to Gurr, "Confidence in the final design comes above all from the consistency with which the concept of authenticity is maintained."[48]

What is important about the team assigning so much authority to historical authenticity is that they frame this quality as objective—a neutral truth that can be discovered, or approximated, or at least guessed at responsibly with enough research. But authenticity is not a preexisting condition. Much like religious texts are cherry-picked to suit an agenda, historical evidence is shuffled and sifted into a claim of authenticity that is contingent on the values and needs of the stakeholders making the claim. And, as a closer look at the design-and-build process of the new Globe reveals, authenticity can be quite flexible, especially when evidence about early modernity comes up against the pragmatics of making things at the turn of the millennium.

One such disjuncture between pragmatics and evidence arose in 2000 over finishing the pentice roof of the heavens. Two and a half years after its opening, the project had reached another of its many budget overruns, leading some of the design team to advocate for finishing the roof with lead, which was the most economical choice by far in the year 2000. However, neither early modern Globe had a lead roof on either the pentice or the galleries. The 1599 Globe used thatch (the infamous cause of its catastrophic fire) and for the 1614 rebuild, the King's Men splashed out with a showy (and fireproof) tile. Writing to Gurr, Orrell acknowledges this historical evidence but strongly advocates using lead to finish the new Globe anyway, citing its affordability and technical benefits, such as more easily directing rainwater away from the actors on stage. By way of justifying lead as a choice that would count as historically authentic, he cites several other early modern theaters that did have a lead roof, and provides a lengthy comparative analysis of the cost of materials from the period, the estimated revenue of the other lead-roof theaters, and the estimated revenue of the 1599/1614 Globe. Arguing that the early modern Globe could have afforded a lead roof if they had wanted one, Orrell concludes, "In view of this evidence of comparative costs, the use of lead at the theaters, and the great technical benefit to be had, I urge that lead should be employed to cover the so-called 'pentice' roof at the new Globe."[49] As these contortions reveal, when faced with the existential pressure of a budget overrun, definitions of authenticity can become so capacious as to accommodate the use of historical metrics to evaluate design options and improve on the choice that was actually made by the antecedent being replicated.

This foray into the weeds of the new Globe's design choices is more than nitpicking. Examples of historical authenticity behaving flexibly do the important work of destabilizing this attribute as objective, revealing that it is constructed. When examples of this flexibility come from contexts as visibly invested in scholarly rigor as was the construction of the new Globe, the unsettling of authenticity as objective registers with greater force. Such disruption remains necessary because, in contexts far beyond Bankside in the late 1990s, the fantasy persists of historical authenticity that can be determined definitively, if only those pursuing it could conduct enough research.[50] As the fantasy goes, such historical authenticity would be neutral and true because it is the one correct answer. This neutrality would absolve people of responsibility and bias in making choices, provided these choices align with the objective truths the research sanctions as authentic.

When authenticity is claimed through material reconstruction, as at the new Globe, the durability of the objects being reconstructed overwrites aspects of human life that are neither material nor recoverable, such as behaviors and sociocultural context. And these nonmaterial, unrecoverable aspects of life in early modern London were instrumental in shaping Shakespeare's plays and playgoing. In the late sixteenth and early seventeenth centuries, a public playhouse was less a venue to stage a play than a place for playgoers to engage in their own performances of yelling, throwing things, hissing, stamping their feet, and battling cut-purses.[51] None of these authentic early modern behaviors are present at the new Globe. Thanks to the new Globe's longevity and popularity, the organization eventually entrained late twentieth- and early twenty-first-century playgoers in a mode of participation more interactive than that which takes place in a darkened, seated house. But even with this scaffolding, the interactivity generated by attendees at the new Globe does not come close to the chaos generated or tolerated by their early modern forbears. Although patrons of the new Globe might abide (or roll their eyes at) a rowdy groundling or two, it seems unlikely they would put up with having their pockets picked as a condition of attendance.

An early modern atmosphere even more difficult to reconstruct is the one that would have been outside the playhouse. As I have described, Bankside's playhouses were characterized not only by chaos but by their proximity to bawdy houses, gaming establishments, and bloodsport such as bear-baiting and cockfighting. The extent to which early modern Bankside's extratheatrical activities defined playgoing and the plays themselves is the basis of Shakespear-

ean Terry Hawkes's pointed critique of the new Globe's emphasis on pursuing authenticity through materiality:

> [P]laying and bear-baiting occupied the same frame of reference on the Bankside, so that the "original" Globe was part of an *ensemble* of places of entertainment whose constituent parts are difficult, if not impossible, to unpick. We have to accept that the audience which responded intelligently and with sensitivity to, say *A Midsummer Night's Dream*, or *Hamlet* or *King Lear*, and which thus made those creations possible, was also an audience which liked to see a blind and screaming Harry Hunks whipped until he bled.[52]

According to Hawkes, because the new Globe could never reconstruct early modern Bankside's equally famous bear-baiting (among other pastimes), the project to uncover authoritative meaning in Shakespeare's plays through historically authentic material reconstruction necessarily "obscure[d] the implications of an astonishing and disturbing relationship that goes to the heart of Shakespeare's plays."[53] As Hawkes points out, material elements of a playhouse cannot be detached from the lived experience of its original patrons.

This is not to suggest that reconstructing material elements of the early modern Globe was without merit. This focus yielded multiple insights, scholarly and practice-oriented, into a range of subjects, including acoustics, fireproofing of thatch, and the history of the dress. Less certain is how much definitive insight into Shakespeare's plays these experiments generated. Reconstruction of goat-hair plaster walls in the correct size and polygonal arrangement might provide insights into the acoustics of early modern playhouses, but there is no way to know whether these acoustics had as significant an impact on Shakespeare's plays and playgoing as did the screams of tortured animals next door—and, blessedly, there is no way to reconstruct these nonmaterial conditions to find out. Even the design team acknowledged that the new Globe's experiment would be incomplete because of the impossibility of reconstructing early modern social and cultural conditions.[54] Despite this disclaimer, the extent to which they privileged material reconstruction anyway erroneously framed this attribute as the primary dimension of early modern life that, when reconstructed, could generate insights into Shakespeare's plays.[55]

What does this jeremiad about materiality, authenticity, and truth have to do with enacting the archetype of worshipper? When performed with the intensity demonstrated by the founders of the new Globe, imbuing material culture with

the authority to convey authenticity implicates attendees in a self-reinforcing loop that runs on faith, a dynamic reminiscent of many world religions. In this dynamic, leaders make a claim in a live performance about the authority a material object has to convey truth because of its authenticity, and followers endorse this claim by performing veneration for the object. This loop is especially visible in cathedrals, where a preoccupation with materiality manifests as the elaborate staging of historically important objects, such as reliquaries—ornate boxes created to store, as claimed by the stewards of the boxes, the physical remains of a holy site or holy person. These claims of authenticity confer on reliquaries the authority to act as conduits for transferring the correct interpretation of the Word out of the book and into the faithful, whose souls are improved by knowing this truth. This effect is disrupted, of course, if the faithful start asking questions about the contents of the box. Consequently, from cathedrals to reconstructed playhouses, live performance contexts that emphasize material culture as the authorizing force for authenticity, and authenticity as the authorizing force for truth, inspire the enactment of worship.

The authority the new Globe locates in historical authenticity as expressed through the materiality of the playhouse continues to generate such a tone of sanctity that attempts to interrupt this historicity can register as defilement. One such disruption took place in the 2023 production of *Macbeth*, the design of which included masking the pillars and *frons scenae* with bolts and bolts of wrinkled gray cloth for the duration of the show (fig. 7). Although the program note made no mention of this choice, the production's realistic aesthetic suggested the masking was intended to neutralize the historicity of the Globe's stage area—perhaps to create a blank visual backdrop for the actors, who wore black SWAT uniforms and twenty-first-century upper-middle-class business attire, and the few props they brought on stage, such as stainless steel gurneys, an iPad, and a working blender.

Rather than disappearing the new Globe's immersive historicity, however, these homogenous swaths were in sharp contrast to the visual interest that remained in the uncovered elements of the playhouse: half of the heavens and all of the Gentlemen's Rooms, pentice roof, thatch roof, and the twenty-sided polygon of Tudor walls enclosing the space. The masking also amplified the practical challenges the pillars have always created for sightlines at the new Globe. As the actor Sir Peter Hall has noted (acidly), the placement of the pillars makes it difficult for a large portion of the house to see a large portion of the action on stage, particularly when actors stay in one location for too long.[56]

Fig. 7. In the 2023 production of *Macbeth* at the new Globe Theatre in London, gray masking only accentuated the pragmatic challenges of the pillars and the historicity of the playhouse.

The blocking for the 2023 *Macbeth* fell into this trap, with scene partners regularly planting their feet for the majority of their exchange. In these moments, the masking meant that the pillars were not only in the way, but drab and in the way. The aesthetic result of a production choice so out of joint with its immersive surroundings was that of defacement—one that, through its transgression, reinforced the attendee as worshipper at the new Globe.

Importantly, although the actors and movable set pieces also were resoundingly not early modern, they created little sense of sacrilege, in part because the new Globe's ethos has long since expanded beyond revealing the one true Shakespeare through historically authentic performance. More relevant is that people, their clothes, and the objects they carry are the ephemera of performance. Attendees expect a show to end its run, whereupon these elements of the scenography will go back to storage, on to the next role, or into the dumpster. The playhouse, however, remains. And at the new Globe, the power materiality has to index historicity has only increased in the twenty-first century.

This amplification is due in large part to a cultural condition performance theorist and director Matthew Causey identifies as "postdigital."[57] As the introduction discusses in more detail, Causey describes the digital landscape of the late 1990s and early 2000s as characterized by binaries that set digital against nondigital scenarios. According to Causey, these binaries are now obsolete, because digital technologies have become so pervasive in daily life that any possibility of compartmentalizing or excluding digital culture has been eliminated. What this postdigital condition means for mid-twenty-first-century attendees in Bankside is that their media landscape has primed them for a sensorial relationship with materiality quite different from the relationship a 1990s media landscape would have established for its denizens.

At the heart of this difference is a shift in the bodily sense an attendee is likely to trust. Although producers have long used all manner of technologies to manipulate seeing and hearing, the recent avalanche of virtual reality, deepfake software, and AI-generated content has sapped sight and sound of their authority as sensorial determinants of "the real." Moreover, the advent of spatial computing technologies like augmented reality and holographic projections means that digitally manipulated images and sounds can now appear outside the confines of a screen and in a user's physical space. But material elements like those at the new Globe can be touched, smelled, and tasted, in addition to being seen and heard. So in an age when seeing and hearing are suspect, the materiality of a thatch roof or an oak pillar lends them new authority as expressions of historical authenticity. In the open-air temple of the playhouse, under the ever-warming skies of Bankside, materiality amplifies the new Globe's historical resonance so loud worshippers can feel it.

An Immersive Space

As the introduction describes in more detail, the relative immersivity of a performance space fosters enactivity by creating a sense of the production being in its own world, with its own rules and rewards, where the presence and contributions of attendees are vital to the production's dramaturgy. One way to identify the production choices that amplify or dampen immersivity is to consider the affordances of the performance space. The affordances of any thing—a room, an object, a software language, a creature—are similar to its characteristics, but with the addition of indicating how the thing can be used. For most

use-cases of a red plastic cup, for example, "redness" is a characteristic, whereas "plastic" is an affordance that allows the user to hold water without leaking. However, "redness" would become an affordance in a use-case that involved a color sensor detecting all the red items in a pile. At the new Globe, two of the more pronounced affordances that foster immersivity are the seating configuration of the playhouse and universal lighting.

Seating

Groundling tickets are open seating (or "standing"). Patrons who arrive first generally rush to the front so they can lean against the elevated stage, which is sometimes left in its permanent three-quarter thrust, and other times enlarged with semicircle or mini-thrust attachments (fig. 8). In the three-level galleries, attendees have assigned seats on benches, which are priced according to how obstructed the view is by the on-stage pillars and the timbers holding up the galleries. The geometry of this seating configuration amplifies the new Globe as a physically and conceptually immersive space. The perimeter of the playhouse's outer walls traces the layout of the benches in the galleries, enfolding these seated patrons in a polygonal embrace of timber and plaster. A similar roundness of embrace describes the galleries' arrangement around the patrons in the yard, who in turn surround the performers on the thrust stage at the center of the new Globe's "Wooden O." The concentricity of this nesting creates a sense of being embraced by a shared space, adding a layer of sanctuary to the many other cathedral-like aspects of the playhouse and reinforcing the invitation to view oneself as a worshipper.

Universal Light

The new Globe uses only universal light, which is a general wash of naturalistic illumination, rather than, say, light cues that punctuate dramatic moments by switching colors or flashing. The new Globe's commitment to universal lighting is so strong that it was the published reason for the Board's dismissal of the organization's third artistic director, Emma Rice, after only two years.[58] In the open-air playhouse, most of the universal lighting is provided by the sun (such as it is in London) during daytime performances, which go on in all but the most severe weather conditions from late April to early October. The early modern Globes did not hold evening performances, but the new Globe does, as

Fig. 8. The concentric circles of the new Globe. Visible at upper right is the lead pentice roof described earlier, which generated much debate among the design team over historical authenticity. Photo by Pete Le May. Courtesy of Shakespeare's Globe © 2018.

the loss of more than half of the season's ticket revenue would be unsustainable.[59] To create universal light for night performances, the galleries, yard, and stage are lit by dozens of lighting instruments that approximate an average daytime performance. This lighting stays at one level, rather than mimicking the moving shadows clouds create during daytime performances.

Universal light contributes to immersivity at the new Globe by attenuating the conceptual separation between the world of the performance and that of attendees—the "mystic gulf" auteur Richard Wagner sought to create by lighting the stage and leaving the house in the dark. Thanks to the dominance this mystic gulf came to have in live theater, most attendees of the new Globe can be relied on to recognize the convention of lighting some areas of a space during a performance to delineate a fictional world and leaving other areas in the dark to exclude them from this fictional world.[60] Consequently, changing this dynamic by lighting all areas of a performance context universally, as does the new Globe, registers to twenty-first-century playgoers as diminishing the separation between the narrative world of the performers and the non-narrative space attendees inhabit. Under the universal light of the new Globe, attendees

are not excluded from the dramaturgy of the show, but immersed therein. Combined with the geometric arrangement of the playhouse seating, universal light also means that, from nearly every vantage point in the yard and the galleries, people with adequate distance vision can see the face of every other person in attendance. This communal visibility further amplifies an invitation to enact the archetype of worshipper, because seeing one's fellow worshippers helps to construct the congregation.

A Canonical Source

The presence of a canonical source shapes participation by appealing to what sociologist Pierre Bourdieu calls "cultural capital." As the introduction explains in more detail, in a production invested with the cultural authority of canonicity, participating by following along demonstrates one's knowledge of the source; attempting to alter the story registers as transgression and even ignorance. For attendees to act the part of worshipper, this canonical source needs an air of holiness, a quality all but guaranteed at the new Globe thanks to the multiple similarities between Christianity and the larger reception history of Shakespeare's dramatic oeuvre. More than any other canonical sources, the Bible and Shakespeare's plays have shaped Western culture and served as the cudgels of its hegemony, due in large part to a missionary deployment of both sources that often insists on their universal and comprehensive representation of the human condition.[61] Both sources are also similar in structure. At the center of each is a lengthy tome comprised of multiple sections—in the Bible, books, and in Shakespeare's oeuvre, plays—each of which is at once its own fully formed entity and a contribution to the larger volume of which it is a part.

Also linking the Bible and Shakespeare's plays is that both manifest only through third-party transcription, behind any iteration of which is an elusive authorial voice that is simultaneously recognizable, unknowable, and at least a little collaborative. In the Bible, this figure is the tripartite God—Father, Son, and Holy Ghost, "I am that I am" (Exodus 3:14). Behind Shakespeare's plays lurks the historical playwright, eye-witness accounts of whom are concretized by handwriting scraps, a few dozen legal documents, and a handful of likenesses that, let's be honest, do not look like the same guy. That multiple conspiracy theories have swirled around the plays' authorship since the mid-nineteenth century—Sir Francis Bacon wrote them! A woman wrote them!—only amplifies the inscruta-

ble godliness that attends the name "Shakespeare." Their similarly shadowy authorship has also meant that both the Bible and Shakespeare's dramatic oeuvre have been plagued since their earliest written instantiations by arguments—often brutal—over which written version is correct and authoritative. And, most germane to this chapter, arguments—often brutal—have long ensued over the correct way to conduct a live interpretation of each text.[62]

The new Globe's contribution to canonizing Shakespeare began with the playhouse's first missionary, Wanamaker, who often invoked Shakespeare as a unifying force: "[F]or the sake of our international and polyglot public, as well as for English-speaking young people, we must leave the exhibition inculcating a love of Shakespeare as a *universal genius* who belongs to *all* mankind."[63] This level of Bardolatry may have eased at the new Globe, but for both the Bible and Shakespeare's plays, the presence of attendees enacting the role of worshipper in a sanctified space still endorses the authority of the version being staged—especially when this presence involves the financial affirmation of buying a ticket or donating to a collection plate. Leaving aside the Bible, is it worth worrying about thousands of people turning up for productions of Shakespeare where they participate by acting the part of a worshipper? Well, yes. A sacred site is a powerful place to stage a canonical source. Such stagings can reinforce the problematic histories of that source or they can catalyze change, but they are rarely neutral. Fortunately, the new Globe is investing in catalyzing change, launching an annual Shakespeare and Race festival in 2018 focused on understanding some of the destructive legacies this oeuvre has created.[64] As the most visible cathedral for Shakespeare worship, such efforts from the new Globe make an important contribution to the influence this most canonical source will continue to have in the twenty-first century.

A Production-Specific Economy

The fader in the lowest position at the new Globe is its production-specific economy, wherein tasks and rewards give attendees a predetermined way to participate and the incentive to do so. Because these tasks and rewards are calibrated for the production at hand, any production-specific economy also needs narrativized intermediaries, who exist somewhere between the world of the performance and the world of attendees and provide instruction in the rules for participation. Compared to the other case studies in this book, the new Globe's

production economy features fewer tasks and rewards. This limited range derives from an absence of affordances in the playhouse that could provide in-the-moment control over live, co-present participant bodies. As the subsequent chapters describe, open-world theater, virtual reality, and augmented reality can permit participation that is lengthier and more central to the unfolding storyline because these contexts have affordances like masks and software that can better manage participation in real time. In contrast, a confused, malicious, or simply overzealous attendee could easily hijack the show at the new Globe if invited to participate at length or in a pivotal moment. To avoid this possibility, the new Globe's rewards and tasks are comparatively minimal.

Rewards

Across the cases this book examines, a powerful incentive for attendees to play along as directed is the possibility of receiving targeted attention from performers while being in view of others in attendance, and, by definition, being chosen over someone else. In the new Globe's production economy, this attention is the primary reward participants can earn.[65] It manifests as the performer briefly implicating an attendee in the drama, an action that, however peripherally, casts the targeted recipient in a narrative role. Such moments register as rewards at the new Globe because they are public acknowledgments from the authority of the stage that the attendee in question probably has enough cultural capital to understand the joke of being singled out, and possibly even to understand how being singled out is an authentically early modern moment the production is using to amplify the larger historical resonance at work in the playhouse.

To accomplish this brief casting, a performer might point to someone in the crowd to personalize a line—a common choice of the Porter in Act 2, Scene 3, of *Macbeth* as he lists a few occupations that can be found in hell. In the 2023 production I attended, for example, the Porter singled out a bald man in a dashing jacket as "a banker, that hanged himself on the expectation of plenty," and the man responded to this attention by making a face of faux offense.[66] More indirectly, performers might gesture and wink at a specific attendee, as did one of the Witches, who punctuated the same entrance in every performance by charging to the downstage left corner where one groundling or another was always leaning, and growling that person back a pace or two. Although not as clearly defined a role as the banker, the groundling chosen for this interaction became part of the fiction for a moment as an enemy, or perhaps prey, of the Witch.

That the new Globe makes its primary reward available almost exclusively to holders of the cheapest tickets, the groundlings, contrasts the relationship between ticket price and in-show rewards that defines the next chapter's subject, *Sleep No More*. In the *Sleep No More* production economy, rewards are bits of information about a grand narrative purported to explain, in short, what the heck is going on across the show's six floors. Unlike the new Globe's pricing structure, paying a higher ticket price at *Sleep No More* comes with the possibility (but not the promise) of greater access to this information. At *Sleep No More*, a VIP ticket includes an earlier entry to the explorable space, access to roped-off areas of the preshow club, and the possibility of being invited from this club into a private interlude with a performer, who may or may not whisper additional clues.

At the new Globe, however, the only rewards to be gathered by paying extra are creature comforts: better sightlines to prevent neck strain, a seat to prevent tired legs, and a cushion to prevent a sore behind. Although it is tempting to attach religiosity to a production economy that rewards stalwart groundlings for suffering and excludes an attendee who pays for a soft landing, multiple experts have informed me this is also exceedingly British. Since the advent of the postdigital condition, however, a hint of religiosity could be said to characterize a groundling's suffering in the moment. To groundlings accustomed to documenting their adventures on social media, the discomforts of devout worship may be worth it if one can circulate selfies after the show for the eternal reward of Likes.[67]

Tasks

What does a groundling have to do to get some attention at the new Globe? For an attendee at their first show, collecting such rewards depends on luck. Actors often choose marks based on where that mark is standing or what they are wearing—criteria a first-time groundling would not know. However, repeat attendees can improve their chances at being singled out by noting these choices and, in a future performance, jockeying for the target spot or wearing the same kind of item, hat, sunglasses, dashing coat, etc., that caught the performer's eye last time. Leaving aside this minimal leveraging of chance, anyone who wants to earn the new Globe's central reward of being briefly implicated into a narrative role has to complete the task of seeming available.

Describing his many experiences with staging direct address by involving attendees in this way, new Globe Associate Theatre Director Tim Carroll insists

that "the only way any of it will work is if the audience plays along with the performers."[68] As Carroll implies, whether this invitation to play along is as overt as being pointed at or as understated as meaningful eye contact, it requires an attendee who will complete a multistep task: pay close enough attention to the ongoing action to preserve the flow of the beat, project an openness to being invited in this way, and acknowledge the performer's attention once it happens. One way to understand these exchanges is as call and response. Much as liturgies assume congregants will participate in call-and-response litanies not through impromptu dialectic but by reading out their assigned lines at the right time, a participant's compliance in all steps of the task is expected at the new Globe. The system is not perfect. Particularly in the new Globe's early seasons, reviews and scholarship occasionally note (with derision) when someone responds out of step with these expectations.[69] But the brevity of these moments of participation and their restriction to the fringe of the drama makes such interruptions minor.

Compared to the lengthier and more complex tasks attendees complete in the other contexts this book examines, participating in this way at the new Globe might seem inconsequential. However, in the presence of the new Globe's affordances of a polygonal seating arrangement and universal light, no small value accrues to this subtle reward. Thanks to the communal visibility the playhouse creates, other attendees usually can see who was chosen for each fleeting enactment and how the invitee reacted. An attendee's negative response to a performer's invitation might suggest they do not understand the play, but a conspicuous willingness to play along indicates they have the cultural capital to understand their momentary role and, by extension, this nuance of the canonical source. Consequently, though the task of "being available" hardly seems complicated, the payoff for executing it properly is considerable.

Narrativized Intermediaries

Although any performance at the new Globe includes several ushers, their authority indicated by orange safety vests, these are not narrativized intermediaries who model how to best position oneself to earn the new Globe's rewards of attention from performers. Ushers perform a role that is regulatory, not instructive in the production-specific economy. They help people holding tickets to gallery seats find their places, and during the performance, zip through the crowd to enforce the theater's prohibitions against photogra-

phy or sitting in the yard, scolding offenders who take their smartphones out or sit down on their backpacks. Being scolded by an usher is undesirable attention, not a reward that invites the person being scolded into the fiction the performers are creating.

The quietest component of the quietest fader in the playhouse, narrativized intermediaries are still an important part of the new Globe's encouragement to enact the archetype of worshipper, because these intermediaries are part of the congregation itself. Much like Sunday regulars at a Protestant church, experienced groundlings model instruction in the new Globe's tasks and rewards, and with the theater's hallmark £5 yard ticket still in effect, each show is likely to have several experienced groundlings in attendance. It was only by watching other groundlings at *Macbeth* that I learned the best spots for standing—leaning against the downstage lip of the stage—are claimed immediately and for the duration of the show. After a first half of being disappointed with my perch in the yard at upstage right, where the pillars regularly blocked my view of actors who kept standing in one place for too long, I determined to rush back from the interval and find a spot in the center of the yard. This relocation would mean giving up any acknowledgements from one of the witches on stage (the characters most reliably doling out this reward), but it might mean interacting with an actor entering or exiting through the yard—a less frequent but equally valuable moment I watched other groundlings experience. Even if the production did not include any more such entrances, a center spot would be worth it for the better sightlines. However, as people filed out to use the bathroom and buy more drinks, the groundlings occupying the best spots in the center of the yard stayed put. Several took snacks from their backpacks, revealing they had planned in advance not to give up their spots, while others sent emissaries to purchase concessions for their whole group and tag-teamed to use the facilities. Chagrined, I retrieved the marinated olives I had preordered from the hospitality cart and returned to my post at upstage right, the vacancy of which suggested its undesirability was a known factor.

The familiarity and effortlessness with which many groundlings at this production worked the new Globe's production economy to their benefit suggests the organization's target demographic is fairly aware of the worship they are expected to act. Contributing to this awareness is that postdigital playgoers expect participation and acknowledgment from within the fiction of the stage in a way that would not have occurred to attendees of the new Globe in the late

1990s. In fact, the new Globe's production economy registered as shocking at the turn of the millennium. In fairly short order, however, its success had a significant influence on participation in theater more generally. Reflecting on the impact the new Globe had on spectatorship norms in just ten years, Gurr noted in 2010 that "none of us had any idea that the novelty of groundlings round the stage would transform the experience of modern playgoing in the way it has done since the first performances at the new Globe."[70] Multiple decades and participatory media revolutions after Wanamaker began this project, the transgressive thrill of being acknowledged by and responding to a performer in a live production of a Shakespearean play has softened, or perhaps ossified, into the gentle enactment of a devotional.

Worship as Wonder

Over the new Globe's thirty-year experiment with recreating material conditions of early modern performance to glean insights into Shakespeare's plays, one such insight practitioners have often discussed is how natural it feels in this playhouse to invite attendees into the stage fiction as identifiable characters. Carroll notes the numerous roles groundlings can occupy just in *Tempest*, from the strange creatures who bring in the banquet, to the "elves of hills, brooks, standing lakes and groves," to the sea itself as it wrecks Alonso and company's ship, recalling as well the new Globe's 2003 production of *Richard II* where John of Gaunt turned the entire house into "the whole of England" during his lines about his beloved country's betrayal.[71] Similarly, American Shakespeare Center founder Ralph Alan Cohen lists several possibilities in the oeuvre's many insult speeches to "cast certain members of the audience as individuals . . . Portia's description of her suitors . . . Pompey's list of the inmates in his prison . . . Porter's speech in *Macbeth* which merely names professions."[72] For Carroll and Cohen, the irresistibility of emphasizing such moments in performance when the plays are staged at the new Globe suggests that a participatory dynamic wherein attendees occupied peripheral narrative roles in a performance must also have informed spectatorship in early modernity.

Despite the appeal of getting inside the heads of the new Globe's early modern forbears, it is customarily accepted in scholarship that too many unknowns swirl around the phenomenology of early modern performance to endorse any

guesswork about whether historical playgoers might have perceived themselves as cast in a role—at least not with a level of certainty comparable to the insights Gurr's "best guess" technique yielded on the material elements of an early modern playhouse. Anyway, more interesting for a project bent on recuperating historical authenticity is the absence of playing around the new Globe fosters. Of the little known about early modern spectators' behavior, one agreed-upon characteristic is that it pulled focus. The groundlings were notorious for commanding attention by throwing things, shouting, and generally making their opinions clear. Given that this legacy remains visible enough to have informed the name of a popular website for rating movies and television—RottenTomatoes.com, which uses the icon of a splattered tomato to indicate titles that receive bad reviews—twenty-first-century attendees are likely to be at least passingly familiar with the archetype of a rowdy early modern playgoer.[73]

But at the new Globe, designed and built expressly as an experiment in recuperating historically authentic early modern playing, attendees are not and have never been inspired or encouraged to truly enact this archetype, despite being immersed in historicized materiality, rewarded with attention from the stage, and armed with food and drink. Why not? Diane Paulus, artistic director of the American Repertory Theatre, has blamed the absence of authentically Shakespearean horseplay on having been "beaten into submissiveness by our collective theater etiquette superego" by hundreds of years of sitting quietly in a darkened house.[74] From Paulus's vantage point in 2006, the oppressive legacy of the mystic gulf certainly would have seemed the likeliest culprit. Web 2.0 was just emerging, and it would take several more years before playgoing would feel the effects of the robust interactivity new media theorist and cultural critic Henry Jenkins came to describe as "participatory culture."[75]

However, almost two decades later, the new Globe's postdigital attendees have become habituated to such participation, even in live events, but they remain decidedly un-Shakespearean in their comportment.[76] Every time I have attended, the groundlings were categorically decorous. Understanding how the four components of enactivity operate at the new Globe suggests it is not submissiveness that keeps a groundling from hurling marinated olives at an actor who has been standing behind a pillar for too long. It is reverence. What does it mean to engage a canonical source, Shakespearean or otherwise, through the enactment of worship? It is perhaps no surprise that in our postdigital, post-democratic era when science and technology are the new gods, membership in organized religions has declined precipitously across the

globe.[77] Certainly, the archetype of "worshipper" implies one might enact behaviors like uncritical obeisance and zealotry, which seem worth avoiding whether one's god is supernatural or supercomputer. But in an episteme of pure rationalism, how much magic is lost? Relearning how to worship through theater might remind us how to engage the world with wonder instead of critique, mystery instead of answers, and even a belief in something greater than the daily toil of our little earthly lives.

CHAPTER 2

Sleuth

The Open-World Theater of Sleep No More

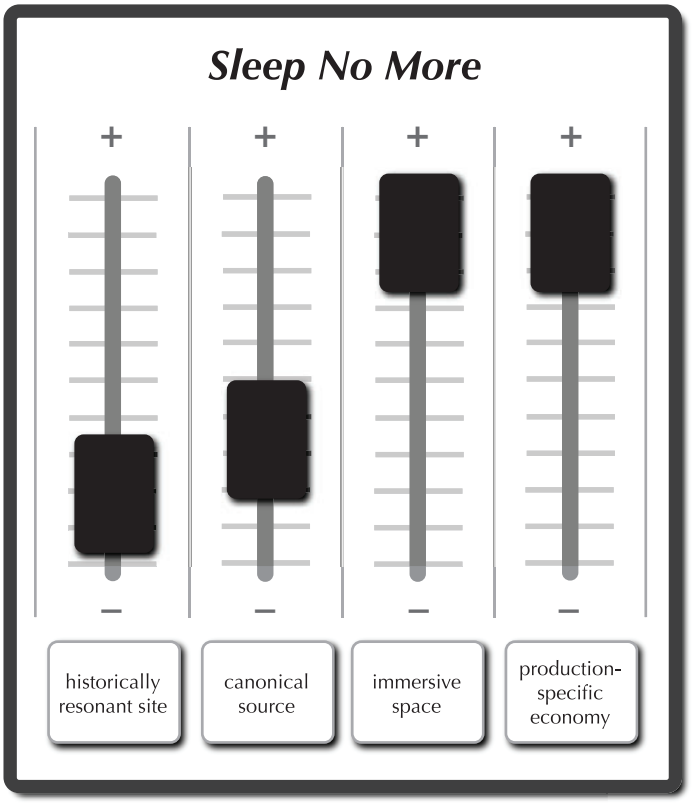


Fig. 9. The mixing board of enactivity at *Sleep No More*

The crown jewel of UK-based theater company Punchdrunk, *Sleep No More* makes a valuable case study for understanding how an amplified fader of a production-specific economy influences participation, because the show constructed perhaps the most complex such economy in recent years.[1] The strength of this economy derived in large part from the other fader this show pushed to its limit: the immersivity of a performance space. The extensiveness of this immersivity and the seamlessness with which it was part of the show's interpretive framework established *Sleep No More* as a fully formed world unto itself, where the tasks and rewards of its production-specific economy registered as logical, meaningful, and very enticing.

Sleep No More is by far the most dramaturgically complex production I examine. Each three-hour show was comprised of multiple performance vignettes and one-on-one encounters, the details of which were adjusted by the design team many times over the show's lengthy run.[2] Further complicating the production was its considerable intertextuality, which integrated its key text, William Shakespeare's *Macbeth*, with several canonical films from auteur-directors Alfred Hitchcock and Stanley Kubrick.[3] This ever-evolving citational pastiche introduced a range of archetypal roles to the "horizon of participation," as performance theorist and stage director Gareth White puts it, through which attendees determine their willingness to play along.[4] *Sleep No More* therefore also makes a valuable example of the contingency of enactivity as a dynamic, because the archetype any one attendee might have been incentivized to enact depended on that person's knowledge of the many referents behind the production's semiotics as well as the details of their individual experience moving through the show. In the interests of an analysis that is deep rather than broad, I focus here on the archetype I found most obvious: "sleuth." This archetype seems to have occurred to many other attendees as well, as a legion of people have spent an extraordinary amount of money and time cataloging, comparing, and debating how the production's many elements might fit together to solve the mystery the show implies.[5] At the close of this chapter, I also explore how my perception of this archetype shifted when my enactment of it proved less vital to the production's dramaturgical aims than I expected.

The Nurse

Halfway through a sticky summer in New York City, I found myself in an industrial elevator with a dozen other attendees of *Sleep No More*, Punchdrunk's

witchy, noir reimagining of William Shakespeare's *Macbeth*. As the usher at the control panel gave instructions, his Hollywood Golden Age accent, bow tie, and sleeve garters worked hard to reinforce the show's conceit that we had stepped from the 2010s into a late-1930s time capsule on 530 West 27th Street—the (fictional) "McKittrick Hotel," grand dame of Art Deco luxury, closed and abandoned since the outbreak of World War II but recently rediscovered, its countless secrets still intact and more than a little supernatural.[6] Everyone but the usher wore a mask made of heavy-gauge white plastic, the design of which remixed Carnevale Bauta, plague doctor, and Jacques Lecoq's neutral mask. With so many of us in the elevator, the mask's wide eyeholes, beaky upper lip, and pinched cheekbones converted our faces into an anonymous clutch of birdy skulls. As we peered at one another and our confines, the usher exhorted us to keep the mask on at all times, to remain silent—no questions, no chatting, no talking at all—and to find our own paths through the journey ahead. As the elevator lurched to a halt, I adjusted my mask to get some air, drawing his attention from across the car. He fixed me in a glare, pressing a button on the panel and intoning a reminder that the experience "is yours alone." The elevator's rear door opened behind me; reflexively, I stepped out and looked around, blinking in the dim light.

. . . What? Based on my research, I expected a labyrinth of rooms laden with props. This was a narrow concrete hallway whose end I could not see, empty other than a low-wattage light hanging from the ceiling. I shivered, chilly at the shift from body heat to cement. Great. Had I already done this wrong? Was I not supposed to get out? I turned back to the elevator and discovered it had closed behind me . . . and only me. There I was, trapped in a cold hallway in a giant warehouse in way-west Manhattan with a swinging lightbulb that evoked more than a few horror film tropes. My adrenaline skyrocketed. Reminding myself I was in a staged environment and a scholar *of immersive performance no less*, I managed not to pound on the elevator door. I took a beat, pulled it together, and turned back to the hallway. I was no longer alone. Halfway down the long hallway, a petite woman had materialized, wearing a white 1930s afternoon dress and pillbox hat, or maybe a nurse's uniform. She stood preternaturally still, arms too straight at her sides, looking directly at me. By the absence of her mask, I deduced that she was a *Sleep No More* performer. My relief at not having made a rookie mistake was short-lived once I realized the similarity of this visual to *The Shining*, Stanley Kubrick's film adaptation of Stephen King's novel about a haunted hotel. I spent many sleepless nights trying to unsee *The Shining*'s twin little girl ghosts, who appear in the long hallways of the hotel and

stand there preternaturally still, arms too straight at their sides. The performer smiled gently and took a step toward me. The lightbulb went out.

A half-second later, she was shoulder to shoulder with me in the pitch darkness, lighting a flash paper. I tried to focus on my familiarity with this simple technology instead of my shock at how quickly she snuck up on me. She met my eyes again, radiating warmth and innocence with her gaze. I noticed she was exactly my size. As the paper flashed out, I heard the opening lines of *Rebecca*, Alfred Hitchcock's film adaptation of Daphne du Maurier's novel about a young woman who marries a rich, moody widower with a creepy mansion and a dark past. Was the performer speaking? Was it a recording in surround-sound? I was too focused on trying not to trip in the dark to tell the difference. The performer took me by the elbow, placing her other hand over mine so she could steer me down the hall, which may or may not have been raked. The lines continued:

> Last night I dreamt I went to Manderley again. It seemed to me I stood by the iron gate leading to the drive, and for a while I could not enter, for the way was barred to me. Then, like all dreamers, I was possessed all of a sudden with supernatural powers and passed like a spirit through the barrier before me.[7]

As we walked, I remembered the usher's stern warning about not talking. But I was desperate to telegraph something, anything to the performer—that I was only a little terrified, that I recognized *Rebecca* because I did my homework before coming, that I was a theater person too so I wasn't going to be weird and ruin her scene, that this was my first *Sleep No More* visit and wasn't it marvelous to start off with such a compelling encounter—so I patted her fishnet-gloved hand too urgently. I want to think she understood.

At the end of the hall, a low spotlight came up on a vintage wooden wheelchair, which I assumed I would have to sit in. I was right. After settling me in the wheelchair, the performer unbolted its back and laid me flat. I strained to hear the rest of the monologue through the chair's creakiness, the clacking of the bolts, and the blood rushing in my ears. Directly above me, a scale model of the Manderley estate from *Rebecca* was fastened to the ceiling. My view of this model created an inverse of Hitchcock's opening shot, which zooms in from afar on the grand estate of Manderley, which astute viewers can tell is a model in a studio. As the monologue concluded, the performer rotated the wheelchair and returned me to an upright position. She tugged my hand until I was stand-

ing. Disoriented, I only partially caught that she was whispering in my ear some version of "this hotel has many secrets to discover, and fortune favors the bold" as she pushed me through a door.

I stumbled into what appeared to be an infirmary ward, with rows of free-standing bathtubs and prewar hospital beds lining the expansive space. I had reached *Sleep No More*'s main performance floors. Sensorial overload washed over me, made more pronounced by my abrupt transition from the intimacy of the wheelchair interlude. In contrast to the cement hallway, this space was thick with the cloying smell of fog machines, a hum of ominous music, and the heavy warmth of an air-conditioning system barely keeping up with the crush of summer bodies. A visual field of twenty yards stretched out in front of me with entrances to multiple rooms in view in the distance. Around me, a dozen attendees scoured the infirmary, opening cabinets and rifling through clipboards hanging on the wall, their sharp-nosed white masks making every movement furtive. In the absence of conversation, the noises of their investigations seemed amplified.

At my appearance, a few masks swiveled in my direction. Their wearers descended on me, silently trying to access the portal I'd just come through. No dice. Behind me, the only trace of a door was a thin seam in the wall. Everyone's attention was redirected as two *Sleep No More* performers drifted into the hospital ward—a regal woman in an evening gown, dazed and a little frantic, and a (different) nurse, her face devoid of emotion. A dozen more masked attendees flooded in behind them. The nurse stripped the evening-gown performer and forced her, shivering and naked, into one of the bathtubs. Everyone crowded around, blocking my short-person view. Torn between a desire to see the action, the transgressive appeal of picking up a nearby prop to examine it, and the intrigue of what might lie behind the handful of doorways in the distance, I stepped forward from the wall, elbowing my way to the front of the group.

Open-World Theater

This interlude took place in the New York City run of *Sleep No More*, which was staged in a warehouse on West 27th Street from 2011 to 2025. In the New York City iteration of the show, participants had three hours to explore the building's multilevel labyrinth, where cast members flitted from room to room, mostly ignoring the presence of the masked attendees chasing them down to watch as

they performed mostly wordless, dance-oriented vignettes. In addition to performing these vignettes, some *Sleep No More* characters staged encounters like the wheelchair interlude I experienced. A signature of Punchdrunk's oeuvre, these encounters were characterized by a performer breaking out of their standard mode of looking through attendees to acknowledge and pull someone into a one-on-one interlude, often delivering a cryptic message. Complicating the experience of navigating *Sleep No More* was that vignettes transpired simultaneously throughout the dozens of rooms, and at the end of a vignette, performers dashed in separate directions, leaving attendees to decide which performer to follow. These vignettes were organized in an hour-long cycle repeated three times in the same locations, yielding fourteen hours of material performed by twenty-one performers over the course of each three-hour show.[8] This structure meant that attendees had three chances to see any one performance vignette, but one three-hour show was not long enough to track down and watch all the vignettes. Much as attendees were free to choose which characters to follow during the show, they were also free to roam through most of the McKittrick's spaces, many of which were overstuffed with fantastical props that could be picked up, sifted through, and investigated for clues as to what the storyline of the production might be, since the performers did not have lengthy dialogue giving this information.

With the exception of pandemic lockdowns and their aftermath from March 2020 to February 2022, *Sleep No More* was a year-round installation in the West 27th Street building. Its outsized success led producers to add to the six floors dedicated to the main show with a restaurant, jazz club, and rotating shows with shorter runs. The show has been the subject of reams of scholarship, a collaboration with the MIT Media Lab, and even an episode of the television show *Gossip Girl*.[9] This cross-platform notoriety compounded *Sleep No More*'s reputation as the pinnacle and progenitor of, as *New York Times* theater critic Ben Brantley phrased it in 2011, the "ever-multiplying slew of immersive productions [that] have been doing their damnedest to tempt audiences away from their screens and into the tactile here and now of three dimensions."[10] To describe the kind of productions Brantley identifies, which tend to have a performance space with multiple locations attendees navigate proactively rather than sitting in their seats, I use the term "open-world theater," a term I draw from video game studies. In video games, an "open world" is a game world players can navigate at will, as opposed to one that has linear or branching structures guiding players along a predetermined narrative.[11] This is not to say

the structures of open-world theater are inventions of the postdigital media landscape. Theater that allows attendees to perambulate through one or more spaces has been around for ages.[12] What an understanding of the postdigital does provide, however, are new insights into the structures of open-world theater, because the dominant cultural medium of the mid-twenty-first-century media landscape is that of the video game.

At their core, video games are sets of rules. Even a video game with exceptional player autonomy includes rules, the most basic of which is its code. As I discuss more in the next chapter, the rule-based nature of a digital context such as a video game or social virtual reality restricts players to performing only the actions that are programmed into that context, a constraint that gives creators an easy way to prevent participants from doing something undesirable. To ensure the wrong object does not get picked up, for example, designers simply need to program a rule that only designated objects can be picked up. In a physical context, however, participants have many options to enact behaviors a show might want to prevent. Despite this seeming agency, open-world theater has thus far managed its participants well enough to generate the "ever-multiplying slew" Brantley identifies. How do open-world productions prevent attendees from running away with the show? Understanding how enactivity functions in this context to channel participation into the enactment of archetypes illuminates the "code" behind participatory productions that, as Shakespearean and performance theorist W. B. Worthen points out, ensures "the spectator is part of the machine" and not the free agent many productions promise.[13] *Sleep No More* is an especially instructive case to analyze because a remarkable sleight of hand hides the show's code even as its marketing foregrounds the experience as free-wheeling and driven by attendees.

In open-world productions like *Sleep No More*, performance theorist Adam Alston finds a neoliberal aesthetic, "predicated on entrepreneurialism, personal responsibility, and risk-taking, valorising each as productive features within a framework for audience immersion and opportunistic participation."[14] According to Alston, open-world theater emphasizes an attendee's responsibility for their own experience, incentivizing behaviors more often associated with the relentless opportunism of start-up culture than playgoing. Performance theorist Keren Zaiontz describes this mode of participation as "narcissistic spectatorship," in that it "encourages the viewer to fully engross herself in an artistic production in a way that highlights her own singular relationship to the piece."[15] According to Zaiontz, this can lead to a competitive dynamic, wherein attend-

ees "are implicitly called on to prioritize their multisensory encounters over one another."[16] Shakespeare and performance scholar Kathryn Prince confirms this quality in the attendees of *Sleep No More*, who she describes as exhibiting the "Hobbesian behaviour" of "hunting packs . . . jostling and shoving for the best view."[17] Of course, a dog-eat-dog social contract is not the only framework with which to attend this production. Guests I invited to the show described their experience as contemplative, hypnotic, even detachedly voyeuristic.[18] Unlike these better angels, however, I found the opportunism *Sleep No More* cultivated so tempting that I stopped resisting its siren song and—for research purposes—leaned into the neoliberal ethos Alston, Zaiontz, and Prince roundly critique. *And it worked*.

Despite the appeal Alston's "entrepreneurial participation" surely holds for the hustle culture of *Sleep No More*'s target demographic, productions such as these are more than a reflection of the zeitgeist.[19] By identifying the mix of enactivity that drives *Sleep No More*, this chapter seeks to illuminate the complex codes that shape attendee behavior in the communal, embodied, and multisensorial lab of open-world theater. To that end, as in the previous chapter, a majority of the analysis below focuses on the faders pushed the highest; here, these are immersivity and a production-specific economy. Less intense but still important to this production is the fader of a canonical source, the drumbeat of *Macbeth*, which reverberates over the cacophony of sources *Sleep No More* references. Finally, in a reversal of the new Globe's mix of enactivity, *Sleep No More*'s fader of historical resonance sits in the lowest position. As I found, historical resonance rings differently to different attendees of this production, and its sometimes discordant note makes a surprising contribution to acting the part of the *Sleep No More* sleuth.

An Immersive Space

The function of pushing immersivity in a physical context to its arguable limit was to frame the McKittrick Hotel as a place "real" enough that a grand narrative worthy of extensive investigation believably could exist within its walls. To demonstrate how closely *Sleep No More* lived up to the producers' claim that it was "the most monumental immersive installation ever presented in New York," this section begins with a descriptive floor plan of the five performance

floors attendees can perambulate more or less at will.[20] This floor plan also supports the brief discussion that appears later in this chapter of the minor role historical resonance plays in promoting the enactment of sleuth.

Floorplan

The McKittrick Hotel was comprised of five floors attendees could wander more or less at will, plus hidden spaces accessible only by invitation from a performer. These five open-world floors were connected by two centrally located industrial stairwells, which were undecorated beyond the neon exit signs and floor numbers fire codes require. This plainness made clear they were stable, non-narrativized passageways. These stairwells offered a view of the door to the sixth floor, but ushers clad all in black and wearing black eye masks stood sentry at this flight of stairs, wordlessly shaking their heads to attendees who tried to pass. Within each of the five main floors was a network of chambers of varying sizes that were interconnected with visible entrances, as well as halls and doors hidden behind curtains or in armoires, sometimes locked and at other times unlocked. Compared to the industrial stairwells, these passageways were unpredictable, amplifying the sense of mystery that permeates the McKittrick Hotel and encouraging attendees to investigate by testing and retesting a door to see if it might have been unlocked.

Across the floors, lighting ranged from dimmed general to low pooled spots, mostly of a yellowish hue with exceptions in cold white or blue, all of it illuminating scenography that embellished the production's noir aesthetic with supernatural imagery in varying degrees, depending on the floor. Perched on the first floor were luxurious private quarters with a realistic aesthetic—library, bedroom, sitting room—which overlooked a large dance floor on the basement level. The dance floor hosted full-company scenes like the finale, a banquet where Macbeth was hanged in front of everyone. Interior staircases connected the first floor's living quarters with the basement's banquet-hall floor. The second warehouse floor was occupied at the east end by Manderley Bar, the preshow jazz club where attendees got their masks and, as I discuss later, were instructed in *Sleep No More*'s rules of engagement. Throughout the show, attendees who wanted to remove their masks, talk to their friends, buy another drink, or simply take a break could come and go from Manderley Bar as desired. The west end of the second floor was within the performance space proper; it

contained the fictional hotel's common areas: lobby, dining room, sitting room, and library, as well as a baggage deposit and Porter's office. Like the first-floor private quarters, this space was realistic in its aesthetic and filled with props anyone could examine.

On the third floor, the scenography became more stylized. The center of this space was a graveyard many yards in length with piles of dirt and multiple crumbling brick walls. At one end of this graveyard was the Macduff household, comprised of a handful of bedrooms and studies hung with several mirrors, some of which were two-way. These spaces contained an abundance of realistic furnishings as well as dreamier installations, such as the dozens of life-sized headless dolls that hung over a crib like a mobile. Across the graveyard, the Macbeth household was a larger, more open space with a working clawfoot bathtub, a giant bed, and a stack of jumbled dresser drawers piled six feet high. Above the mountain of drawers was a large plexiglass window that looked into Lady Macbeth's dressing room.

The fourth floor of the performance space was a small town, where a central street was lined with storefronts: taxidermist's shop, tailor's shop, candy store, private detective's office, and pool hall. The scenography here was dense and ranged from the realism of the candy shop, where bold attendees snuck samples from the rows of large candy jars under a glass counter, to the more symbolic back-room pool hall, where the floor was covered in shredded tires and the walls were built from a snarl of shipping pallets. The fourth floor also included a long alley off the main street, which was easy to miss unless another attendee or performer drew attention to it by exiting or entering. The near darkness of this narrow passageway and the abrupt silence that fell upon setting foot in it made its exploration daunting. Sleuths brave enough to investigate the alley found it opened into Hecate's private lair and the witches' Pit of Acheron, styled as a visual echo of the second floor's hotel lobby, dining room, and Manderley Bar. In contrast to the second floor's copious items, however, the witches' version of these spaces contained few props to examine. Instead, trees grew through the floor and upended chairs were piled four high around a light and haze machine, creating a ten-foot spiky orb that glowed and emitted smoke.

The topmost floor attendees could access independently was the fifth, which was divided into two halves that were conceptually and spatially distinct. One half was the "King James Infirmary," where formal intake and exam rooms, replete with props, led to a small surgery. The surgery led to the ward into

which I emerged from my one-on-one interlude with the nurse. In the ward, rows of bathtubs occupied one long room, and rows of hospital beds were lined up in another. The other half of the fifth floor featured a simple maze made of tall white birch branches bound together like a fence. Halfway through the maze was a large white taxidermied mountain goat and, around the bend from the goat, a smallish yurt sequestered behind a section of the white birch fencing. Attendees could not access the yurt unless invited by a performer, but they could look into its window and doorway. These two halves of the fifth floor were separated by a hallway of practical bathrooms for attendees. Like the industrial stairwells, the bathrooms were not narrativized, a necessary choice for indicating this was a location where attendees would not experience sudden intrusions from the show. The relative isolation of the fifth-floor bathrooms from the storytelling of *Sleep No More* converted them into an oasis of sorts, where attendees could be found surreptitiously removing their masks, checking smuggled-in phones, or, like the poor young woman I stumbled on one evening, having a full-blown panic attack. Though I had been to the show multiple times by this point, even I had trouble navigating the tangle of *Sleep No More*'s performance space to guide her back out to Manderley Bar.

Multisensory Perception

Throughout this complex performance space, a range of production choices drew attention to immersivity by inviting attendees to experience the show through the full sensorium—a "(syn)aesthetics" that, as performance theorist Josephine Machon puts it, "fuses the somatic ('affecting the body' or 'absorbed through the body') and the semantic (the 'mental reading' of signs) in execution and reception."[21] Incorporating this awareness into the dramaturgy of a production becomes possible in productions like *Sleep No More* because of the affordances of open-world theater, such as perambulation, physical closeness with performers, and permission to pick up and examine elements of the scenography. Even with such affordances, however, it is no small task for a production to sustain attendees' attention to the multisensorial nature of their engagement. *Sleep No More* accomplished this task through multiple juxtapositions of scenographic elements that were interpretively incongruous, such as spaces where, visually, the walls and props suggested an interior living space but the floor was made of packed earth or shredded rubber. In such spaces, the discordance of these elements drew attention to the sensorium, activating it for the

interpretive ends of trying to understand what it might have meant that the floor of a living room was made of dirt.

Although *Sleep No More* was a visual feast, a range of production choices destabilized seeing as a sense that works alone. A tortuous layout was among the more pronounced of these choices, because it hampered an attendee's agency to perambulate the open world with precision. For people with temporary or permanent disabilities, the inherent ableism of such a layout could easily have created an unproductive, even dangerous limitation of their agency over the action they might see or hear—an agency some attendees probably needed to retain, such as the panicking woman I escorted out of the performance floors. Countering the frustration of thwarted seeing, whether due to a disability or the random chance of an open-world environment—stumbling onto an interesting vignette just as it ended, for example, or trying to follow another person through a door only to find it locked—was that *Sleep No More* did allow considerable agency to engage the space through touch.

For the most part, attendees decided what to pick up or ignore; only rarely did a performer hand an object directly to an attendee. Moreover, the production worked hard to make investigatory touch irresistible, with dozens of spaces awash in items: layers and piles and stacks and rows of stuff, thousands and thousands of *objects*, most of which participants were free to pick up, leaf through, leave out, or put back in the wrong drawer. Across spaces, multiplicity made familiar objects strange: Instead of one pair of scissors in a tailor's shop, fifty hung from the ceiling; instead of one jack of hearts playing card pinned to the pool hall wall, a hundred. And every object drew attention with the patina of age—the piles of clothing in openable drawers were vintage, the pens on the desk were vintage, the scissors were vintage, everything vintage. Combined with the appeal of breaking theatrical conventions that prohibit the audience from messing around with the set, *Sleep No More*'s abundance of beguiling, touchable items reinforced the performance space as a place welcoming curiosity and participation through investigation.

Options to taste one's way through *Sleep No More* were limited—the fourth floor had candy for the very bold, and, as I describe in this chapter's conclusion, some one-on-one interludes involved drinking a liquid—but few attendees in the pre-pandemic era could have avoided the production's smell.[22] While the production restricted and individuated visual and auditory input through physical barriers and disorienting light schemes, and attendees themselves could have closed their eyes, stopped up their ears, or refused to pick up any of

Sleep No More's thousands of props, everyone had to breathe. The production's musty floral aroma, then, was nearly universal as sensory input. Deriving in part from the manufactured haze that filled every corner of the space, this omnipresent floral note elevated the McKittrick to what contemporary art theorist Jim Drobnick calls an "aromatopia"—that is, a "site of polyvalency where orthodox behaviors are shed and alternative possibilities temporarily inhabited."[23] Writing on museums, Drobnick notes that smell functions in such contexts to "demarcat[e] the museum's experience as decidedly 'other'—one olfactorily coded to be outside the routine of the ordinary and everyday."[24] In other words, the smell of an architecturally defined art space like a museum (or a fictional hotel) signals to attendees that the conventions of regular life do not apply within its walls. In *Sleep No More*, smell amplified the full-body interpretive engagement of enactivity by providing a "vivid slice of the 'real'" that dance historian Sally Banes identifies as the outcome of aroma in performance. As Banes argues, the presence of aroma functions to "carve out a niche for theatre where 'liveness' makes a difference."[25] In other words, the fiction unfolding at the McKittrick was so believable people could smell it, and it was so "other" it had to be investigated. The believability this multisensorial engagement generated was paramount to the function of the show's immersivity, which was to frame the McKittrick as a place where a grand narrative worthy of rigorous investigation could exist.

Glitch

Sensorially robust though *Sleep No More*'s performance space may have been, an unavoidable pragmatic element prevented attendees from sinking fully into a reverie of inhabiting this world: the theatrical glitch. To understand the relationship between *Sleep No More*'s near-complete immersivity and the irruptions that occasionally intruded, it is helpful to think of a computer glitch. In the twenty-first century, the scale, speed, and integration of contemporary technology obscure the casual observer's view of the machine behind the surface of a digital interface to such an extent that an aberration in this smoothness—a glitch—signals a mistake with amplified force. In his analysis of the digital age's "myth of pure transcendental data," new media theorist Curt Cloninger identifies the cultural function of the computer glitch as the necessary sudden violence that "foregrounds and problematizes this myth," pulling back the curtain on the gears behind what seems effortless.[26] In an immersive per-

formance context as complex as *Sleep No More*, a glitch jolts participants into an awareness not only of the functionality that creates the theatrical illusion, but also of their own physical presence therein. This awareness creates what new media and performance theorists Nick Kaye and Gabriella Giannachi call "the *qualia*—the phenomena of 'feeling present'—within a meaningful simulated world."[27] According to Kaye and Giannachi, this sensation arises not out of perfect immersivity, but in the moments when the illusion breaks.[28]

Throughout the McKittrick, flashes appeared of the systems the show relied on, such as the glow of a twenty-first-century credit card machine amid Manderley Bar's 1940s aesthetic (a flash of commercialism) and the black-clad, nonnarrativized ushers on the performance floors who waved attendees away from parts of the set they were not permitted to access (a flash of control over the unfettered exploration the show promised). Perhaps the most striking theatrical glitch in *Sleep No More*, however, was the relocation touch performers used when they needed to relocate a participant. Because of attendees' tendency to pack themselves around live vignettes and the speed with which performers transitioned between spaces, relocation was a frequent point of physical contact. The intimacy and assertiveness of the *Sleep No More* touch was markedly different from the accidental bump or Hobbesian elbowing of a fellow participant. Relocation touches typically began light and involved minimal contact, but as soon as contact was made, performers put authoritative pressure behind the touch, quickly and assertively relocating the attendee in question, their hands lingering a half-second to stabilize a surprised body. The initial contact was startling because the performer's hand was hard to see, even when the relocation was happening to someone else.

More jarring, however, was that this touch created an acknowledgment from a performer that starkly contrasted the visual negation of the attendee that the same performer maintained throughout the relocation. This visual negation was necessary because, if performers had acknowledged attendees in front of witnesses beyond the infrequent, purposeful flicker, the snow globe of plaintive, dreamy nostalgia the show so carefully crafted would have shattered. The implication of this visual negation was that participants did not exist, because they could not be seen consistently by the denizens of this storyworld. But participants must have existed, because performers regularly moved their bodies out of the way. The simultaneous invalidation and validation of an attendee's presence that arose from the relocation touch was a glitch in the system, a sudden, unresolvable, and unavoidable contradiction that pointed up the impossibility of flawless immersivity in open-world theater.

The flaw this glitch revealed was how often real-world injury could have resulted from the kind of immersivity *Sleep No More* created, as nearly happened during one of my visits.[29] In the witches' bacchanal one evening, as the rave music crescendoed and a strobe light began to flash, an attendee built like a linebacker lumbered into a clearing the witches had just created in front of the door by relocating a dozen other attendees. With no time to hide a subtle relocation touch, a five-foot-tall witch in a floor-length satin sheath dress with spaghetti straps, her heavy evening makeup contrasting with her shaved head and iron-woman physique, stiff-armed him back into the crowd like she was a karate grandmaster, maintaining her visual negation of his presence. A split second later, Macbeth barreled through the doorway at full speed. Had the witch not moved that attendee so assertively, an injury would have happened. The linebacker and everyone around him shrank back, their submission drawing even more attention to the guardrails of the code delimiting the freewheeling experience *Sleep No More* claimed to promote.

By jolting attendees out of the production's multisensorially rich and believable performance space, glitches like the witch having to shove the linebacker out of the way so overtly instead of by using a hidden relocation touch illuminated how differently attendees occupied their role compared to the ways in which performers as technicians occupied the roles of the characters they portrayed. While both groups enacted roles, attendees did so only within the production's dramaturgical frame. In contrast, performers enacted their roles from inside the narrative, where they existed as inhabitants of the McKittrick, possessed of an intimate knowledge not only of the story but of the code of the whole experience. To an attendee enacting the role of sleuth, glitches such as these lent an air of collusion to the performers, who demonstrated a deeper layer of knowledge about the show's inner workings only when pressed. By revealing how much might be concealed in *Sleep No More*, glitches strengthened the dynamic of participating via the archetypal sleuth's investigation.

A Production-Specific Economy

A well-developed production economy helps foster enactivity because it gives participants something concrete to do that the production marks as meaningful but that does not change the unfolding storyline. As I describe in more detail in the introduction, the fader of a production-specific economy relies on three subcomponents. These subcomponents are identifiable tasks,

rewards that have value only within the world of the production, and narrativized intermediaries who hover somewhere between the storyworld of the performers and the positionality of attendees. The function of these intermediaries is to show participants how to navigate the tasks and rewards the production has devised.

Tasks

At the most basic level, the experience of being in *Sleep No More*'s performance floors involved a series of tasks, because everyone had to perambulate at least a room or two. Even attendees who might have tried to stay beside the entry doors, attempting to do nothing out of stubbornness, eventually would have had to move out of the way or be trampled by the throngs of other attendees rushing after a performer, thereby engaging in what theater artist Rose Biggin identifies as the "functional interactivity" of a Punchdrunk production.[30] Beyond this overall task of moving oneself through the space, the production featured an endless list of smaller tasks that revolved around investigating *Sleep No More*'s mountains of objects and its elusive live performance vignettes. These smaller tasks included discerning which objects or vignettes were relevant, picking them up (if objects) or chasing them down (if performers), and piecing together how they were related.

Despite the show's regular pronouncements that attendees had the agency to decide which clues to pursue, the production regularly leveraged the affordances of open-world theater to indicate a clue was worth inspecting. One such clue was Macbeth's letter to Lady Macbeth, wherein he tells of his meeting with the witches and their prophecies. In Shakespeare's script, this letter appears in Act 1, Scene 5. If a production is staged conventionally, as was the new Globe's *Macbeth* I described in the previous chapter, the actress playing Lady Macbeth reads the letter aloud. In a conventional staging, then, attendees are not responsible for independently discovering the letter is important, because such a production informs attendees of the information in the letter directly. At the new Globe, everyone watched Lady Macbeth's soliloquy, because there was no option to wander off and investigate other scenes. But in an open-world production, the affordance of perambulation means attendees can very well wander off and miss the importance of any number of plot points. Consequently, *Sleep No More* had to use other strategies to point out that Macbeth's letter contains information important to Shakespeare's plot.

One such strategy was to convert the dialogue Shakespeare wrote into an interesting prop. In *Sleep No More*, the letter became an object anyone could pick up and read, because it was printed, in legible handwriting, with the lines Lady Macbeth reads aloud as part of her soliloquy in Act 1, Scene 5. At the bottom of the *Sleep No More* letter was Macbeth's signature. To emphasize the importance of this letter as a clue, the production set it in a spot so centrally located as to be difficult to overlook: the Macbeths' living quarters, which took up half of the third floor. Within this large, open space was a grandiose clawfoot bathtub on a dais, the spotlit placement of which pulled focus even when no performers were present. Attendees who saw promotional material about the show before arriving to the McKittrick probably would have been motivated to find this tub, because it appeared in many of the production's authorized photographs on its website and in reviews. This preshow evidence marked the spot as a likely site for an important clue. Keeping with *Sleep No More*'s propensity for drawing attention to a clue with multiplicity, dozens of identical copies of the letter were strewn about the bathtub, a choice that not only drew attention through the strangeness of repetition, but also made it easy for several people to examine the letter simultaneously. As the evening progressed, these copies degenerated into smeary wetness from other participants handling them—more evidence of the letter's importance.

In case attendees missed all these signals, *Sleep No More* also staged a lengthy performance vignette around the tub: a wordless dance enactment of Act 2, Scene 2, from *Macbeth*. In Shakespeare's script, Macbeth, covered in blood from having just murdered Duncan, returns to Lady Macbeth, who waits in their bedchamber. In the *Sleep No More* version of this moment, Macbeth entered the room in bloody clothes and Lady Macbeth helped him undress and bathe in the tub. The visual magnet of stage blood on an actor, the technical spectacle of working plumbing, and full-frontal male nudity—so shocking to American theatergoers—all within arm's reach, ensured that any attendees who were nearby stopped to watch. That this vignette tended to attract a large crowd typically snowballed into more attention from anyone within view, because most people had learned by this point that crowds indicated a vignette, and vignettes were scarce and therefore valuable. As they gathered round, attendees could not help but notice all the paper letters and the other people reading them. Having rehearsed to behave investigatively throughout the space, any half-decent sleuth picked up and read the letter. And if they did not, whether because of subpar preparation, obliviousness, or simple bad luck to miss the

bathtub vignette three times in one night, they could always buy another ticket and try again to complete this task.

Rewards

Just as *Sleep No More*'s complexity fostered more than one archetype attendees might recognize, so too did it offer a range of rewards. An up-close view of naked or suffering people might have felt like a reward to people who perceived the archetype of "voyeur," for example, while taking candy from the jars in the fourth floor confectionary or pocketing a prop might have registered as rewards for attendees to whom the archetype of "sneak" was most obvious.[31] For the archetype of sleuth, rewards were pieces of information about the grand narrative, which the show implied would explain how everything was connected. The most compelling source of such clues in *Sleep No More* were the one-on-one encounters in the show, wherein one attendee was seen from within the narrative by a performer and invited, briefly, behind that boundary, where more information about the grand narrative surely must have been available. Being acknowledged by a performer at the McKittrick was an amplified version of direct address at the new Globe. However, in contrast to the affordances of a reconstructed early modern playhouse, such as an elevated stage and attendees who are largely stationary, an open-world performance space has the affordances of sustained proximity and multiple locations to which an attendee can be removed while other people watch them depart. In *Sleep No More*, these affordances heightened the intimacy of performer-attendee physical contact compared to what is possible in a context like the new Globe.

The comparative scarcity of such moments in *Sleep No More* marked them as a top prize in the production's reward system. As performance theorist Jan Wozniak observes, "Punchdrunk performances are constructed to place the highest value on intimate human contact," making attention from a performer very satisfying even for attendees enacting archetypes that had little to do with solving a grand narrative.[32] Especially when these moments began in front of other people before relocating to a site that was otherwise inaccessible, they bestowed on the recipient a halo of specialness, because the chosen person now had a fuller experience of the show. Amid a sea of masked faces, one attendee received a direct message from the production itself, available to nobody else, regardless of their dogged investigation of props. The contrast between these acknowledgments and the performers' usual mode of looking through attend-

ees as if in a dream made it clear to all archetypes that these moments were valuable rewards within the *Sleep No More* economy. As I have described, the acting choice of "looking through" someone was not part of the narrative world performers inhabited; when performers were together, they saw and acknowledged one another. But occasionally, from within the narrative world, performers saw and reached out to a single attendee. These moments of acknowledgment seemed as if the performer was sliding in and out of a dream, breaking through the *Sleep No More* storyworld to realize an attendee was present, only for a moment, before the performer's awareness returned to the storyworld where participants did not exist. Performers managed this flickering recognition through a disconcerting eye contact familiar to those who know the sad task of managing a person suffering from dementia, or night terrors, or other conditions that create a strobe-like recognition in the eyes. Though people thus afflicted might look in the direction of their caretaker's eyes, or even at them, they seem to see the other person—specifically *that person*—only in flashes. In *Sleep No More*, watching these moments of recognition happen to someone else powerfully foregrounded the eyes as a site of communication, as the mask erased all facial features but an attendee's hopeful, astonished, frightened, enchanted, greedy, skeptical eyes.

I found my first such acknowledgment in front of other participants intoxicating. Tailing Macbeth one evening, I followed him to the basement banquet hall. Earlier, a grand party with a partner dance had occupied this space, but now the hall was lit in moonlight and filled with a glen of faux fir trees, fifteen feet high and on wheels. As Macbeth caromed from tree to tree in a dance of great perturbation, alternately flinging a tree out of his way and pausing to consider the horror of his state, a handful of attendees crept through the firs to watch. In the center of the dance floor, Macbeth drew up short, looked around desperately in our direction, and locked eyes with me. His hand outstretched, he walked toward me, put his hand on the back of my head, laid his face against my ear, and whispered, grief-stricken: "Of all men else I have avoided thee. / But get thee back. My soul is too much charged / With blood of thine already." Before I could respond, he sprinted away through the firs. I wanted so much to share with the crowd around me, even those who were glaring at me with envy, that he'd whispered Macbeth's line to Macduff before their battle in Act 5, Scene 8. Surely others would want to mull over what it meant for where he was headed next. But talking is prohibited, so the moment was mine alone. The brevity of my attention from Macbeth him-

self only heightened my sense of wanting to complete more sleuthing tasks to try and collect more such rewards of information.

Narrativized Intermediaries

More than the other case studies in this book, *Sleep No More* incentivized tasks that in daily life would be rude, even criminal: rifling through strangers' drawers and bookshelves or elbowing people aside to stand a few inches from naked performers in the bath. Many of the show's most valuable rewards would have been similarly problematic in the nontheatrical world, such as being abducted or caressed (or both) by a stranger. The comparative alienness of this production economy meant that *Sleep No More* needed narrativized intermediaries to convince people that such behaviors really were acceptable tasks and valuable rewards. This convincing was extensive enough that the production also needed a dedicated location to "enskill" attendees, to borrow Shakespearean Gina Bloom's identification of such instruction.[33]

The location where attendees learned *Sleep No More*'s rules of engagement had multiple stages. It began just inside the door on West 27th Street at the ticket booth, where an intermediary wearing a casino dealer's vest and green visor "checked in" attendees to the hotel from a printed roster, sometimes bantering with them before handing out the playing card that served as the show's paper ticket. Each time I attended, this banter suggested the dealer was choosing cards based on an element of the conversation, an interaction that established the evening's ethos of being responsible for the quality of one's own journey. One evening, I brought a friend who, being both incorrigible and from Alabama, decided to sass the dealer in her thickest drawl. Charmed, he winked and switched the card he was about to give her to an ace, which permits guests to enter the performance floors before any other card groups. Each night I attended thereafter, I wondered if I could have bantered better and won myself an ace, too.

Divested of coats and bags and in possession of a semipersonalized playing card ticket—itself connoting luck, dark rooms, unknown outcomes, and interactive play—attendees proceeded through a long and twisting passageway in near-total darkness, which culminated in the door to Manderley Bar. The production's luxurious noir aesthetic became more apparent in this space, as a low, amber-lit haze and loud jazz music created the mood of a speakeasy, which encouraged mingling, talking, and ordering absinthe from the drink

cart. Though I always arrived for the earliest check-in, Manderley Bar was already in full party mode, creating a sense of stumbling into a fully formed world. Sweeping through the crowd were more intermediaries, played by production staff costumed in vintage tuxedoes or evening gowns and fascinators. In between staging brief interludes with one another, they regularly flung out their arms to greet attendees with an enthusiastic "Welcome, dahling!" and a light physical touch.

In addition to teaching attendees that, in this world, performers would approach and possibly touch them, Manderley Bar also introduced some of the rewards to be gleaned from investigating the hotel's spaces. At one end of the bar was a handful of cabaret tables set aside for VIPs, each of which held a small pile of props. Othered by their vintage style, these props begged to be investigated, a task made even more desirable by restricted access: Only people who purchased tickets for the "Champagne tables" could handle these props. Bearers of standard admission tickets were permitted only to stand around and try to interact with the hosts. With this class distinction, Manderley Bar also introduced one of the foundational principles behind *Sleep No More*'s economy: Higher ticket prices included differential access to the rewards one might want to pursue. Regardless of one's ticketed status, the bar's combination of a few props and mild-mannered intermediaries created what performance theorist and stage director Gareth White would call a "warmup" for the more involved interactivity of the performance floors.[34] Warming up at Manderley Bar meant that the items on hand were of a manageable quantity, not the deluge of items within the performance floors, and the intermediaries' verbal and physical acknowledgment of attendees was brief and amiable (if focused on hawking *Sleep No More*–themed drinks). Intermediaries did not turn bossy and reveal the show's stricter rules of engagement, such as wearing the mask and remaining silent at all times, until everyone had the chance to buy a drink or three—a potable "warmup" that also loosened inhibitions about rummaging through thousands of objects and being accosted by performers.

On hearing the number on their playing card announced, attendees downed their (expensive, freshly purchased) drinks and assembled in an anteroom for further instructions. Now separated from the boisterous, amber-lit club into a shadowy anteroom, a group of twenty or so attendees, many of them half-drunk and most of them strangers to one another, listened to instructions from another intermediary. In a tone shift from Manderley Bar's welcoming entrée, this intermediary distributed the show's masks and set the conditions for par-

ticipation: not speaking "at all, ever," thoroughly investigating the performance floors' many mysteries, and most important, keeping the mask on at all times.[35] Their training complete and their cocktail-flushed faces whitewashed into a covey of masks, each group set off to participate in the show's economy, some hustled by one intermediary into the elevator I took and others swept through a door into the industrial stairwell by another intermediary, who bellowed, "WHICH WAY WILL YOU CHOOSE, UP . . . OR DOWN?"

A Canonical Source

In contrast to the mix of enactivity at the new Globe in London or the social VR productions I describe in the next chapter, the fader of a canonical source does not blow out the speakers at the McKittrick Hotel. Such amplification is not necessary to foster a dynamic of enactivity, however. For attendees to understand that a storyline has a predetermined, widely accepted iteration they cannot alter through their participation, they need only a basic awareness that the source a production invokes is canonical. As I explain in the introduction, attendees' intimate knowledge of the canonical source in question might enhance the extent to which they can participate in a show's production economy, but such knowledge is not requisite.

As I have described, *Sleep No More* drew on a range of sources that could be considered canonical. However, the absence of explicit references to non-Shakespearean properties suggests *Macbeth* was the primary canonical source the production wanted to emphasize. The production handbook solidifies this privileging in an interview with co-director Felix Barrett, wherein he makes clear his intention to capitalize on his target audience's likely recognition of Shakespeare as cultural capital: "After all, you know what they say—Shakespeare's written every story there is to tell. I tend to work with classical texts because so many people already have a relationship with them. It's helpful to have a shared language when the audience's experience of the show isn't linear."[36] The handbook also contains an eleven-scene synopsis of Shakespeare's play, and many of its lush, toothy leaves are decorated with lines from *Macbeth*. A comparable study guide for *Sleep No More*'s other, more recent, sources or ornamentation with their dialogue does not appear in the handbook's seventy pages.

Further emphasizing the importance of *Macbeth* as the production's key text over its other canonical citations was that the roles performers played

either came from *Macbeth* or were characters of the production's invention. No performers played a role drawn from one of the show's other canonical sources. Although multiple performers played roles that echoed characters from these other sources, names such as "Mrs. Danvers" from *Rebecca* or "creepy twins" from *The Shining* were not listed in the show's dramatis personae.[37] In the handbook, co-director Maxine Doyle describes the choice to invent characters:

> Yes, there are other stories woven into our version. The show is a collage of different narratives drawn from sources we found relevant, but many of them do emerge from the world of the play. We try to imagine the action that might have been happening off the page, what I call the "unseen text." The more conventionally "minor" characters are developed so that they exist in the same time frame as Shakespeare's protagonists. Macbeth's downfall is the centerpiece of *Sleep No More*, but the other characters all have their own driving narratives that develop around this, and they are equally important.[38]

This interweaving of *Macbeth* and invented storylines in combination with the production's structure of multiple vignettes occurring simultaneously throughout the performance space foregrounds larger theatrical questions of what characters in a play might be up to when they are not on stage. Writing on the dramaturgical importance of such moments, Shakespearean and performance theorist Andrew Sofer describes the pull of "whatever is materially unrepresented onstage but un-ignorable" as the "dark matter" of theater: "much as the vast majority of the universe's mass is constituted by what remains transparent, most of the event we call theater depends on what might be called felt absences."[39] In other words, what attendees do not see on stage is several orders of magnitude greater than what they do see on stage. In a conventional, linear staging of a play like *Macbeth*, this "dark matter" includes the considerable pressure exerted on onstage plot points by events that are not depicted on stage but are still part of the plot.

By way of example, I return to Act 1, Scene 5, from Shakespeare's *Macbeth*. As I have described, the production I attended at the new Globe staged this scene the way it appears in published editions of the play: Lady Macbeth, alone in her chamber, reads aloud a letter from Macbeth describing the witches' prophecy. At the new Globe (as at other conventional stagings) there was no opportunity to see what Macbeth, Banquo, and Duncan were doing in this moment. Attendees at the new Globe knew the arrival of these characters to

Inverness was imminent, because this journey was discussed on stage at the end of the previous scene, but the journey itself is not visible in conventional stagings, because Shakespeare did not write such a scene. In terms of the play's overall storyline, however, the plot points implied in this "dark matter" scene are pivotal, because a major change transpires between the last time Macbeth was onstage and when he arrives at Inverness. In Macbeth's previous onstage appearance, his first in the play, he and Banquo are on the blasted heath near Forres, where they hear the witches' prophecies. By the end of this scene, Macbeth seems to lean toward killing his way to the kingship, saying "Stars, hide your fires; / Let not light see my black and deep desires. / The eye wink at the hand, yet let that be / Which the eye fears, when it is done, to see" (1.4.56–60). But by Macbeth's next appearance on stage, after the journey to Inverness, this enthusiasm has faded into a noncommittal "We will speak further" (1.5.84) in response to Lady Macbeth's suggestion that they murder Duncan that night. What happens on the road to Inverness to cause such a reversal? Is Banquo already suspicious? Does he threaten Macbeth? If we had access to the "unseen text" of this journey, to borrow Doyle's phrase—plus whatever Banquo might be doing at Inverness while Macbeth and Lady Macbeth confer throughout the rest of Act 1, plus any conversations Macbeth has with people he sees in the hallway—we might solve the mystery of why Shakespeare's Macbeth changes his mind during the offstage journey to Inverness.

According to early modernist Jonathan Walker, plot points that transpire offstage are constrained thus because they are "ghostly presences that threaten the drama's coherence and rationality should they come too visibly into view."[40] It is true that in conventional stagings, such ghostly presences are more effective, dramaturgically, when they remain unseen. Occasionally, a conventional production of *Macbeth* will try to answer the show's more familiar mysteries—What happens to Fleance after he escapes the murderers? What happened to the baby Lady Macbeth mentions having "given suck"? (1.7.62)—by inventing onstage action such as the actor who played Fleance running across the stage after the curtain call or Lady Macbeth weeping over an empty crib at the top of the show. I find such pantomimes universally disappointing. In a conventional staging, tacking on an invented, simplistic answer to the dark matter of a show is much like giving too clear a view of a Halloween mask that intends to be gory but is cheaply made, so it just looks hokey. Bringing offstage action into the light in this way drains the pressure it was exerting, which can leave a conventionally staged production of *Macbeth* feeling a little flat.

But in *Sleep No More*, the visualizing of offstage events was foundational, not tacked on, to the show's structure of simultaneous, looped performance and to the production's dramaturgical aim to suggest the existence of a grand narrative that was both coherent and discoverable. And it was the latter of these, the discoverability of the grand narrative, that especially reinforced the positionality of attendees as archetypal sleuths, who, if enterprising enough, might have been able to find out what happens in any number of offstage scenes from *Macbeth*. To piece together these specifics, attendees had to investigate across modalities in the performance space. Only rarely was one of these modalities spoken dialogue. Aside from laughter, grunts of anger, or an occasional shout of "No!" or "You . . . ," characters in the main areas of the performance space murmured only brief lines to one another, and their active, dance-like movements prevented participants from getting close enough to overhear their whispering. Instead, deducing a character's identity required an attendee to know *Macbeth* well enough to know if the character being performed was drawn from Shakespeare's play or an invented storyline, and then find enough vignettes drawn from *Macbeth* to confirm this identity. I know the play well, so when I saw a distraught man of about thirty years of age murdering a man of about sixty, I suspected they were Macbeth and Duncan. Later that evening, my suspicion was confirmed when I saw the same thirty-year-old man, still distraught but now covered in blood and being washed off in a bathtub by a woman his age who he seemed comfortable being naked around—a vignette that also suggested the woman was Lady Macbeth.

A source of clues more accessible than the performers, who seemed always to dart maddeningly out of reach, was the scenography, which materialized dialogue from the play into a cornucopia of narrativized props. Worthen characterizes this practice as "a fundamental New Critical practice, spatializing 'character' by remaking a network of verbal imagery as the scenic landscape of performance."[41] This design allowed attendees familiar with Shakespeare's dialogue to find evidence of *Macbeth* in a myriad of objects, from a lamp made of eggs in the third-floor Macduff household ("What, you egg? / Young fry of treachery!" [4.2.94]) to a stuffed wolf in a fifth-floor infirmary patient room ("withered murder, / Alarumed by his sentinel, the wolf" [2.1.64–65]). These scenographic elements were far easier to examine at length than were the performers. Though the static elements of *Sleep No More*'s scenography hardly compensated for the ableism inherent in the show's design, being able to thoroughly investigate props was an inviting proposition for attendees tired of

charging up and down flights of stairs, and it created a way for a participant more interested in objects than actors to enact the role of sleuth.

The scenography's tendency to stay in place was no guarantee of its helpfulness in solving the mystery, however. Many spaces were lousy with interesting props that bore no clear connection to *Macbeth*. Instead, many items seemed related to plotlines of *Sleep No More*'s invention, such as the detective's logbook or infirmary case files that suggested someone named Agnes was looking for her missing sister—storylines that could not have been pieced together with any amount of knowledge about an external canonical source. In the absence of reliable guidance for discerning which narrative was responsible for any individual item, the effect of *Macbeth* documents and props being integrated with an avalanche of not-*Macbeth* documents and props was to amplify the sense that *Sleep No More*'s many clues bespoke a much larger story, the discovery of which required repeat visits.

A Historically Resonant Site?

The quietest element in *Sleep No More*'s mix of enactivity, historical resonance, evidenced a very different relationship with geography, architecture, and authenticity than exists at the new Globe in London. The only similarity of historical resonance between these two case studies is that each is located in the theater capital of its respective country. Home of Broadway, Off-Broadway, Off-off-Broadway, and Off-off-way-off-Broadway experimental theater, New York City gives an aura of shabby glamour—of the Fabulous Invalid—to any production staged within its borders, amplifying that production's historical resonance, however faintly.[42]

The similarity ends here, because the backstory *Sleep No More* promoted for the McKittrick Hotel as a historical site in Manhattan was invented, a fabrication the show took pains to preserve across its points of contact with attendees. This backstory was introduced on the "About" page of the ticketing website: "Completed in 1939, The McKittrick Hotel was intended to be New York City's finest and most decadent luxury hotel of its time. Six weeks before opening, and two days after the outbreak of World War II, the legendary hotel was condemned and left locked, permanently sealed from the public. Until now . . ." Inside the *Sleep No More* complex, production staff from ticket-takers to the intermediaries in Manderley Bar propped up this account with vague com-

ments that echoed the website.[43] The effect of this loose tale of big-city luxury gone to seed was to amplify the production's aesthetic of noir—famously wistful for better days that are long gone—with the gravitas of historic events. And while the exterior of 530 West 27th Street looks like any number of six-story red brick buildings in the five boroughs—vaguely prewar, possibly new construction, entirely unremarkable—inside, the detail and complexity of the scenography's architectural realism suggested material evidence for the handbook's assertion of a 1939 origin story.

The claim that a luxury hotel in Manhattan was condemned, locked, and sealed for over seventy years was, of course, a whopper. But how dubious this story seemed to any individual attendee depended on how well that person knew New York City, an inverse of the impact an attendee's knowledge of geography has on historical resonance at the new Globe in London. This individualized "polytopianism," as theater historian Una Chaudhuri puts it—theater's layering of represented space onto the physical locations of the playhouse—can dampen or amplify the enactivity a production fosters.[44] As I described in the previous chapter, the more an attendee knows about the significance of the Bankside neighborhood to Shakespeare in performance, the more their enactment of *worshipper* is validated, because such people know they are making a pilgrimage to a holy site. *Sleep No More* reversed this impact of polytopianism on reception, because increased knowledge of the McKittrick's location in Manhattan would have invalidated its backstory as a time capsule.

Hopefully, no attendee was dewy-eyed enough to truly wonder if the performers were sealed up and preserved inside a hotel in 1939. But the realism of the McKittrick's scenography was so thorough in so many rooms across its five explorable floors that it was feasible to imagine a well-financed band of artists taking over an abandoned historic hotel, zhuzhing it up with red string and freaky trees, and putting up a play. Many attendees would have learned about *Sleep No More* from its appearance in multiple tourist guides. Not every tourist is even passingly familiar with Manhattan and its idiosyncrasies—so many idiosyncrasies that someone making their first trip to the city could easily have seen enough absurdity on their way to West 27th Street to make the most preposterous claim seem believable.[45] However, to anyone moderately familiar with Manhattan, the show's commitment to its invented backstory must have seemed a little hinky. Renting or owning any kind of real estate in the tristate area, for example, probably would have caused an attendee to question the claim that 100,000 square feet of building space in Manhattan's Chelsea

neighborhood—poster child for runaway gentrification—was "permanently sealed from the public" for over seventy years.[46]

Even more wise to the bunk of the McKittrick's backstory would have been any former club kids who visited this warehouse when it was a nightclub anchoring New York City's rave scene, first under the moniker Sound Factory (1989–95) and then as Twilo (1995–2001).[47] This embodied knowledge of the McKittrick's recent geographic history surely "haunted" any grown-up ravers prowling the site a decade or two later, especially if they stumbled into the Pit of Acheron vignette.[48] An increased awareness of the Chelsea neighborhood of Manhattan, then, would have inserted a few degrees of skepticism between an attendee and their commitment to enacting the role of the sleuth. If, like me, attendees smelled a rat in the historical resonance *Sleep No More* claimed, they too might have questioned whether their enactment of the sleuth archetype was really as vital to the production's dramaturgical cohesion as the show worked so hard to suggest. This suspicion took center stage on my last night of fieldwork, when I had a lengthy one-on-one that drew into question which archetype I had really been enacting in *Sleep No More* and what dramaturgical aims the show had actually needed my participation to validate.

Hecate's Lair

For my *Sleep No More* swan song, I experimented with the made luck Alston says is essential to "entrepreneurial participation"[49] to see if I could get into the private room of Hecate, goddess of witchcraft. In Shakespeare's play, Hecate appears on stage twice to boss around the other three witches, a managerial position augmented in *Sleep No More*, where she seemed to be something of a puppet-master. My first entrepreneurial choice was to arrive to the McKittrick in a black hoodie. The evening was sweltering, but the hoodie bore my alma mater's name in large white letters that are easy to see in the dark. The school has a nationally recognized performing arts program, so I gambled on the possibility of some performers being alumni, seeing the hoodie, and inviting me to more one-on-ones. At the top of my list of interludes to collect was the one that transpired in Hecate's private lair, which was situated in the fourth floor's supernatural version of Manderley Bar, below. I had seen her take a single attendee through a door off to one side of this space, but I always arrived to this vignette too late to see what preceded their departure.

On this night, after missing this moment twice, I arrived in time to see Hecate sitting at one of the club tables with a meek female performer wearing a sweater set. The only character from Shakespeare's play this young woman could have been playing was Lady Macbeth, but Lady Macbeth is hardly meek (or the sweater-set type) and she does not cross paths with Hecate in the scenes Shakespeare wrote. This performer must have been playing a character of *Sleep No More*'s invention. Finally, a chance to solve the mystery that intertwined characters from *Macbeth* with the characters from *Sleep No More*'s storylines. The grand narrative! What luck. Even more determined to get myself into the Hecate one-on-one, I jockeyed my way to the front just as the sweater-set girl burst into tears. This seemed to be Hecate's goal, because she produced a small vial and made like she was collecting the girl's tears. A red lipstick, or maybe a pearl necklace, changed hands at one point, which caused the sweater-set performer to rush from the room. Definitely not Lady Macbeth. A handful of attendees dashed after her, but the majority stayed to see what Hecate would do with the vial of tears, which didn't have any liquid in it despite the sweater-set performer's admirable weeping on cue.

By now, I had learned to position myself favorably by monitoring a *Sleep No More* performer's gaze. As performers moved through their vignettes, gaze drifting over attendees as objects to be repositioned, their eyes registered an intense acknowledgment of any scene partners as well as a veiled tracking of the exit path they would shortly need to follow. Performers were so attuned to this upcoming path that, by watching their eyes and their chess-like relocation of bodies throughout a vignette, I had successfully positioned myself several times at an exit point to tail a performer whose story I wanted to investigate. As the sweater-set girl ran off, Hecate drew herself up, her red satin evening gown intensifying her towering height. She held out the vial in front her like a trophy, fixing her eyes on it—a motion that also allowed her to point her face in the direction of the door through which I had seen her take attendees on other nights. I stepped into that pathway, pretending I was trying to get a better look at the vial.

Although I was standing only a few feet in front of her, Hecate's eyes were not yet marking which bodies she would need to relocate. Hoping movement would catch the location-tracking eye of the technician behind the glazed-over eyes of the character, I swiveled my torso in both directions, as if looking at the people near me but really so I could flash the back of my hoodie in Hecate's direction. I put my arms up to adjust my hair. She sailed through the crowd to

the door of her lair, turning her face in my direction but avoiding my eyes. I followed, stepping on at least two other people's feet. At her door, she stopped short and whipped around to face the crowd that had followed, shooing us back by sweeping her fishtail train around behind her. She registered our presence for the first time and focused on the three of us who were up front. I leaned forward a little. She flung her door open and went through, slamming it behind her. The person next to me gave up and left, but I'd seen this before. A beat or two later, she flung the door back open again, looked directly at me, and threw her hand out imperiously. I took it, and she pulled me inside. *Victory*.

The interior of Hecate's chamber was decorated with the same semiotic multiplicity and film noir witchery as characterized several other *Sleep No More* spaces—a dressing table was piled with bottles and personal effects and the walls were papered in arcane drawings. Tempting as these objects were, her energy made it clear that I should focus on her and not rifle through anything. She sat me at her dressing table, pulled off my mask, and looked down at me, smiling broadly. I was part relieved for the cooling air, part adrenalized, and part awkward over the very tall performer's theatricality in such a small space. I have no poker face, so I began to wish I had the mask back to hide my rising skepticism over the melodrama. I sat on my hands and tried to look naive. With a flourish, she snatched a leather case from her dressing table and unzipped it to reveal vials filled with clear liquid. She inspected me closely, commenting that I had the look of someone who would be helpful. I nodded. She handed me a vial and motioned for me to drink it. I complied.[50] She smiled widely. With a conspiratorial look, she grabbed a slip of paper to write a note, which she folded and kissed, leaving a big red print, and told me to take it to the Porter in the red jacket in the hotel lobby. She repeated herself to ensure I understood. I nodded again. She put my mask back on and opened her door, telling me to hurry as she pushed me back into the bar and marched to her low stage, startling three attendees who were poking around the otherwise deserted space.

As I ran from the fourth floor to the second, I opened her note. Above the red lip print, she had written "Dear Porter, it is time, H." I wondered what would happen if I didn't complete this task. Then I realized a participant *not* completing the task was probably what usually happened—it was challenging to get from Hecate's lair at the end of the scary alley on the fourth floor to the hotel lobby on the second floor. Dozens of interesting spaces created a stimulus overload, compounded by crowds of participants dashing past, chasing down performance vignettes. Deciding a sleuth should investigate what happens if

someone does find the Porter, I forced myself to pass several enticing vignettes I hadn't yet seen. Was this task a decent clue or a wild goose chase? I had been in the hotel lobby a few times before, and it was often deserted. Could I find the Porter before he moved on to his own next scheduled vignette?

Whether through navigational acumen or pure luck, I arrived to the hotel lobby on the second floor in good time, and it was not deserted. A performer in a red vest, his greasy hair pulled into a ponytail, was puttering around behind the long check-in desk. The Porter. I pushed through the few attendees who were watching his actions and held out Hecate's note. The Porter froze. The other participants recoiled at my offense of engaging a performer directly, but the Porter met my eyes and took the note. He read it slowly and looked back at me, curling his body with resentment to broadcast extreme unhappiness with my presence narratively, but confirming I had not broken the rules, dramaturgically. Their horror morphing into intrigue, the other attendees drew closer. The Porter regarded me archly as he produced a set of keys and slunk to a door marked Hotel Staff Only.

He opened the door and shot me another baleful look, still acknowledging only my presence amid the other white masks. I felt a glow of importance as we all crowded into the tiny room, the scenography of which suggested his personal office and storeroom. He sat at a desk taking up most of the space and motioned angrily that I should sit in the empty stool beside him. A dozen or so attendees swarmed around us, peering at the Porter and at me, the participant turned semi-performer, as the Porter folded Hecate's note into a paper boat. He ran the boat several times over a pentagram shape scratched into the desk, taking so long that a few people left, and I started to wonder if I was no longer part of the narrative. Just as I began to feel the whole scenario had jumped the shark with the pentagram, the Porter sprang to his feet, handed me the paper boat, and glared hard at me. I guessed he wanted me to take the boat back to Hecate, but I decided to see what would happen if I just stared back at him.

He inched closer, his smudged eyeliner giving his already sour expression a darker, otherworldly note. I had no wish to truly disrupt his performance by being clever and obstinate, so I backed out of the room to investigate what would happen if I completed this next step in the task and brought Hecate the boat. The Porter followed me into the hallway, still scowling, and shooed me away twice with his hands. Annoyed that my open-world investigation had been commandeered for at least fifteen minutes by a task with continually moving goalposts, I turned the boat over in my hand and discovered the Porter had

snuck a ring into its center. A new clue! Reinvested in seeing what other private intel I might learn about the grand narrative, I sprinted back to Hecate's lair. She was midway through her torch singer vignette on the stage of the bar, lip-synching to a distorted playback of Tony Bennett's "Is that All There Is?" I edged to the front, waited for the song to end, and held out the paper boat. She looked in my eyes, granted me her signature smile, and kissed the forehead of my mask before brushing past me to her private chamber, into which she took another attendee. She had not taken the paper boat.

Determined to give her the boat and find out what happened next, I waited outside her chamber, trying not to think about all the vignettes I was missing. After two or three minutes, everyone else meandered off, leaving me alone other than one attendee leaning against the wall, tapping a letter against his hand. He seemed very bored, and when he saw my paper boat, he nodded his head and gestured to his letter with confused irritation. Another sleuth who had completed his errand and was still waiting to see what it meant. After an additional five minutes, Hecate threw open her door and released the person she'd taken inside. I stuck my hand out with the boat in my palm where she couldn't possibly miss it, blocking her path. Behind the outward grandiosity of the Hecate character, which was still ignoring my presence, the performer's affect cooled noticeably. She lifted her chin and strode to the center of the space, where she began preparing for the witches' bacchanal, which I recognized from having seen that vignette three times already. Clearly, I had been dismissed.

With no payoff of knowledge in exchange for the lengthy, difficult task (which I'd done right, no less), and now bereft of the heady promise it had ginned up of an explanation—for the intertwined narratives, for our presence as attendees, for the show overall—I was too deflated for another round of the bacchanal's goth-rave energy. Anyway, the last time I attended that vignette I stood too close to the bald witch and got stage blood on my shirt. I looked at the bored letter guy and shrugged in solidarity before drifting out of Hecate's lair to spend my remaining time sifting through props in the last few spaces I hadn't explored much. Grumpy that I had spent so much time on what turned out to be a red herring for my particular evening, I noticed a few attendees staring in my direction. Surely they hadn't followed me from the Porter's office. A few minutes later, the show ended and the black-clad ushers cleared attendees from the performance floors, herding everyone back into Manderley Bar. Relieved to push my mask off my sweaty face and onto my sweaty forehead, I scanned the crowd for the companion I'd brought. He spotted me across the packed bar and

Fig. 10. Hecate's kiss on the pre-pandemic version of the iconic Punchdrunk mask. The left temple of the mask bears traces of stage blood from the witches' bacchanal.

waved, eyes wide, pointing at his mask and back at me. I took my mask off my forehead and saw why I had been drawing attention: Against the white plastic, the bright red lipstick of Hecate's kiss had marked me like a brand (fig. 10).

The Ontology of a Sleuth

What was the point of enacting the sleuth, an archetype so many production conditions in *Sleep No More* suggested and so many attendees have adopted? At the end of my errand, Hecate's negation of my presence and that of the bored letter guy made it clear she was not going to miss her cue to start the witches' bacchanal, regardless of any sleuth's completion of the task she had assigned. Moreover, if I had walked off with Hecate's note or gotten lost on my way to the

second floor, the only consequence would have been the Porter not performing the boat-folding vignette. The Porter is not a principal character in Shakespeare's play and this performer was not doing much when I showed up, so the paper boat vignette seemed easy to skip if an attendee on an errand from Hecate never showed. When a lengthy task rich with material evidence like a message and a ring proved unnecessary to the performers who initiated it, the reward the production marked as its most prized—a one-on-one encounter—lost its value to the archetype of sleuth. This devaluation called into question the portion of the show's economy that commoditized knowledge, revealing the dramaturgical function of the sleuth archetype was not to solve the mystery at the center of *Sleep No More*. Rather, participants enacting the role of the diligent sleuth served the dramaturgical function of affirming the production actually had the grand narrative it suggested, and that this mystery could be solved with enough investigation.

Although my enactment of sleuth proved less fulfilling than the complexity of *Sleep No More*'s production conditions led me to anticipate, leaning into this archetype in this show did offer phenomenological insights into its key source that other adaptations or productions of Shakespeare's *Macbeth* could not achieve. As a character, Macbeth is driven by paranoia and the consequences of making irrevocable choices on the fly. Enacting "sleuth" at the McKittrick Hotel, then, accessed what Shakespearean John Bayley argues is a defining aspect of *Macbeth*, that "mind and consciousness take over from tragic action, creating their own intimacies with us."[51] With three hours of immediate, irrevocable, and frantic decision-making in pursuit of its hazy knowledge rewards, *Sleep No More* gave anyone enacting "sleuth" a faithfully panicky enactment of Macbeth's interior world, implicating them into what Shakespearean Diana E. Henderson calls the "diachronic collaboration" with Shakespeare that necessarily attends contemporary productions of his works.[52] For me, an especially anxiety-producing part of this "intimacy" with Macbeth's mind derived from knowing it would be impossible to adequately investigate *Sleep No More*'s props and vignettes within one three-hour evening while also watching other masked attendees take different routes through the space. Several times I found myself harboring a suspicion that other people were getting better information about the show's secrets than I was discovering.

Perhaps the most unsettling phenomenological intimacy *Sleep No More* created between *Macbeth* and an attendee who enacts the archetype of sleuth was that the Scottish king also fell for the bait he was thrown. At the end of the

play, deserted by the thanes, his wife dead by her own hand, and Malcolm marching on Dunsinane Hill with the English army, Macbeth finally understands he might have interpreted the witches' prophecies all wrong. Too late, he realizes, "I pull in resolution and begin / To doubt th' equivocation of the fiend / That lies like truth" (5.5.48–50). By the final scenes of my fieldwork, I had scrutinized piles of props, run scores of stairs to tail dozens of performers, staked out multiple vignettes multiple times, and ponied up for many tickets, but the only thing I had solved about the grand narrative was that it seemed unsolvable by design.

Why? Was this a deep cut that would register only to the purest of noir purists, connecting the McKittrick's (fictional) origin date of 1939 with the publication date of Raymond Chandler's novel, *The Big Sleep*, which also appeared in 1939? In true noir fashion, I cite the intel supplied to me by this manuscript's anonymous Reader One, whose report suggested I might be missing a clue in plain sight: "That book and the two films adapted from it (dir. Howard Hawks with Lauren Bacall and Humphrey Bogart, 1946; dir. Michael Winner with Robert Mitchum, 1978) are famous for the murders that remain unsolved at the end. Despite launching the famous sleuth, Philip Marlowe, *The Big Sleep* presents the crime narrative as unsolvable, reflecting the general state of anxiety and lack of confidence in institutions at the height of the depression and before World War II. Rather famously, the crew of the 1946 film asked Chandler himself about the unsolved elements and he replied that he didn't know the answer."[53]

Is the shadowy figure of Reader One onto something? Is the absence of a narrative solution actually the presence of a dramaturgical solution? Was I being simplistic and hokey by demanding answers for what should rightfully remain the unknowable dark matter of a show? Or is the grand narrative driving *Sleep No More* simply a case of there being no *there* there? Any one attendee's read on the relationship between these loose ends and the archetypal role they felt invited to enact also inflected the dramaturgical function of their participation. For the sleuth archetype to be necessary to the dramaturgy of *Sleep No More*, there had to be a mystery. If there was no mystery, there was no need for an investigator. I closed the previous chapter by rhapsodizing on engaging the world with mystery and wonder, but at the McKittrick, I felt like a sleuth and I wanted answers. Anyway, unlike in the new Globe, few production choices in *Sleep No More* created a tone of religiosity; the archetype of "worshipper" hardly seemed on offer here. Instead, to someone who, admittedly,

might be a little too hard-boiled for her own good, all this smoke and mirrors felt like a cop-out on the difficult work of crafting coherent and logical conclusions—or, worse, a marketing ploy to keep attendees coming back for another (expensive) investigation. What a framework of enactivity reveals about *Sleep No More*, then, is that the role I played as an attendee might have been the sleuth. But it just as easily might have been the mark.

CHAPTER 3

Patron at the Vanguard

Theater in Social VR

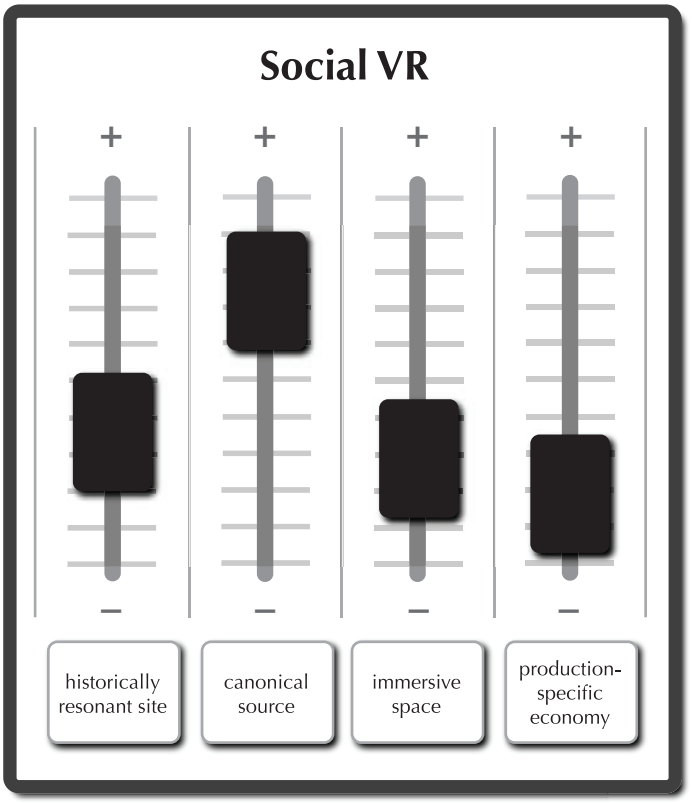


Fig. 11. The mixing board of enactivity in social VR

This chapter considers two pandemic-era experiments from companies who used social virtual reality (social VR) as a context for theater-making: *Tempest*, Tender Claws's adaptation of William Shakespeare's play *The Tempest*, which they staged in their proprietary social VR app, and *Finding Pandora X*, Double Eye Studios's adaptation of the ancient Greek mythos of Pandora, which they staged as a custom-built world in the commercial app VRChat.[1] Central to both productions was that their producers framed them, unequivocally, as experiments in theater rather than in other mediums that might also experiment with social VR, such as video games or film. Tender Claws described *Tempest* as "a limited theatrical run . . . a one-of-a-kind immersive theatre experience."[2] Similarly, Double Eye Studios invited attendees to "enter an immersive storyworld to join this Theatre performance featuring live actors in Virtual Reality," where they would be "interacting with live Broadway-caliber actors as the play unfolds."[3] That the principal partners of both studios had careers as theater-makers only reinforced this framing.[4]

Against the backdrop of theater's first real existential threat in the twenty-first century, both productions asked attendees to enact the archetypal "patron at the vanguard," who would support theater in a crisis with their enthusiastic participation and authorize the brave new world of social VR as a reinvention of theater for the postdigital age. In this chapter, my primary focus is to examine how participation operates within the constraints and affordances of social VR. Also of concern, however, are the stakes of enacting patronage with the uncritical support a new performance context might require, when that context is enabled by and suffused with the ideologies of big tech. Given the relative newness of social VR and the speed with which such technologies develop, the sections below begin with an overview of VR as it exists at the time of this writing, followed by a brief discussion of its relation to other pandemic-era experiments in performance. Thereafter, discussion follows the structure of the previous two chapters, which is to analyze the four "faders" that generate enactivity in a live performance, in descending order of their amplification. As the opening graphic illustrates, *Tempest* and *Finding Pandora X* had the fader of a canonical source in the highest position as they activated a reliable strategy for drawing attention to a new technology as a vehicle for storytelling and investing it with cultural gravitas: Use it to stage Shakespeare or ancient Greek drama. In each production, this lead note was supported by the fader of a site with ample historical resonance, a quality all the more pronounced because each site was designed from thin air (and electrons). Quieter but still important was the

fader of an immersive performance context, the phenomenological scantiness of which ran counter to many of the promises VR makes. And in the lowest position, due in large part to this muted immersivity, was the fader of a production-specific economy.

VR Technology

The aesthetic premise of VR is to entirely overwrite the visual and, to some extent, aural aspects of the user's physical environment with digitally rendered elements in three dimensions.[5] This premise is hardly unique to the digital age. What is a playhouse if not a three-dimensional attempt to overwrite the outside world for a few hours, visually, aurally, and conceptually? As performance and new media scholar Sita Popat has pointed out, "Theater has always been a space of virtuality. The action on the stage exists as neither what it is actually nor what it is pretending to be; instead, it bridges the actual and the imaginary to create a virtual world in which performers and viewers are complicit."[6] That said, on hearing "virtual reality," most people in the twenty-first century who are not theater scholars probably think of a VR headset. These headsets, which resemble opaque snorkeling masks, block out the ability to see one's physical environment, replacing this view with a digitally rendered world that the user sees through a first-person view. In some VR apps, this first-person view is stationary, meaning the user is fixed in a spot and can rotate their gaze around, up, and down to see in all directions.[7] Apps with more complex engineering can create a user experience more akin to *Sleep No More*, in that users can perambulate a digitally rendered space much as attendees at the McKittrick can prowl its warehouse floors. Depending on the headset, users make selections from drop-down menus and manipulate the digitally rendered objects they see with hand gestures or by pressing buttons on hand-held controllers. In recent years, advances in spatial audio technology have enabled creators to partially overwrite the ambient noise of the physical world with headset-generated audio, but audio has not yet reached the totality of sensory overwriting a headset can achieve with visuals. It is still possible to hear noises from the physical world through spatial audio headphones.

Also considered VR is a physical room transformed through projections that can be seen and heard without a headset. Multiple scholars are engaging the compelling opportunities for rethinking performance and participation

introduced by VR that does not require a headset.[8] Some configurations, like the Immersive van Gogh experiences popularized by the Netflix show *Emily in Paris*, invite attendees to walk around in an enclosed space where projections cover the walls, ceiling, and floor; often, audio is present.[9] Although the simultaneous presence of other attendees might create a reminder of the physical world, the aesthetic premise of such installations is, like headsets, to create an environment that is visually and aurally immersive. Still other VR experiences combine a VR headset with a complementary, purpose-built physical space to create experiences video choreographer Johannes Birringer has called "augmented virtuality."[10] Once limited to niche experiments at film festivals such as Sundance New Frontiers and Tribeca, hybrid installations like these eventually gained attention as a commercial endeavor called The VOID. The VOID's installations were warehouse-sized, physical spaces attendees could walk through as they wore VR headsets and haptic vests, and (of course) carried laser guns. While they were being blasted by tactile stage effects such as heat and mist, attendees could interact through touch (and shooting) with the digitally rendered elements they saw in the headset. VOID exhibits were typically based on blockbuster movie franchises, as in "Star Wars: Secrets of the Empire," where groups of three attendees suited up and battled through an enemy facility on the "molten planet of Mustafar."[11] The VOID's multiple installations saw almost two million guests between the opening of its first space in 2015 and early 2020, when the Covid-19 pandemic quashed the sharing of airspaces and face apparatuses.[12]

This chapter focuses on headset-based VR instead of these hybrids of physical and digitally rendered space because of a recent inflection point in the development of headset-based experiences: the addition of social networking to a technology that otherwise has changed very little in its intent to overwrite the user's physical environment. As trajectories of technology go, the apparatus of headset VR is not all that new. Since the first version was devised in a research lab in 1968, innovations to the hardware of headset VR have centered on making it lighter and easier to manipulate, and untethering it from a separate computer, rather than on changing its premise to eclipse the user's environment.[13] Although the tech industry's promise that wide consumer adoption of headset VR is imminent has lasted over a decade, one development in October 2020 finally brought the realization of this promise a little closer. Seven months into the pandemic, when entertainment venues like movie theaters, playhouses, malls, and gathering spots were still largely shuttered, Meta (formerly Face-

book) released the Quest 2 headset. At $299, it was the first VR headset to be untethered and priced within reach of many consumers.

Importantly, while sales of Quest 2 and accompanying content increased user adoption of VR more rapidly than did earlier headsets, what still has not materialized as of this writing is the "metaverse."[14] Equal parts marketing ploy and tech fantasy, the term "metaverse" is a moving target that, depending on which entity is using it, can indicate anything from the impact of all digital technology on all of daily life, to specific versions such as that depicted in the Hollywood blockbuster *Ready Player One*. In *Ready Player One*'s vision of a "metaverse," people would use VR headsets like the Quest 2 to plug into an entirely digitally rendered world, where they could live an alternate life with one another as socially engineered avatars and escape the boring demands of aging or gravity.

Though a unified, cross-platform metaverse currently does not exist, small elements of its infrastructure do. One such element is social VR, and it is the "social" component of this technology that creates an inflection point in the history of VR. In short, a VR platform is "social" if multiple headset-wearing users can access it simultaneously. The ability for multiple users, each in their own physical location, to join one another in real time in a consumer-facing headset-based VR experience has existed only since 2015.[15] In its function and intent, social VR resembles a next-generation version of the chatrooms that populated the early internet, wherein users situated in any geographic location could meet up online in real time for a range of activities, such as meetings, games, events, or socializing. Unlike the screen-based, text-heavy chatrooms of the early internet, social VR spaces exist in three dimensions. Here, users appear to one another not as screen names, but as floating half- or full-body avatars who can talk to one another and move around the digitally rendered 3D space.

When *Tempest* and *Finding Pandora X* were released, several publicly accessible social VR platforms existed, most of which could be accessed via VR headset or desktop. Some platforms, such as VRChat, focused on allowing users to create and upload bespoke "worlds" within the platform, while others, such as BigScreen and Spatial, focused on allowing users to host meetings and share media.[16] Within any one platform, some worlds were public and others were restricted. Until early 2023, AltSpaceVR hosted a restricted world that was a remote campus of the consulting firm Accenture: employees "went to work" from their individual physical locations by donning a VR headset for several hours a day.[17] Some cre-

ators eschew hosting platforms, choosing instead to build their own social VR app for staging performances, as did Tender Claws, the producers of *Tempest*. Although going it alone requires a heavier lift in terms of computer engineering, these creators retain control over the existence of their platform rather than being at the mercy of tech corporations notorious for reorganizing away entire divisions with minimal notice.[18] Due in part to the programming skills required to build for VR, formal training for which rarely overlaps with training programs in theater, the early years of social VR did not attract significant attention as a context for staging live performance. This disinterest changed with the coronavirus pandemic that began closing playhouses in early 2020.[19]

Pandemic Lockdown

As of this writing, theatrical ecosystems around the globe are still feeling the impacts of the coronavirus pandemic and the months-long lockdowns that canceled most in-person nonessential events beginning in March 2020.[20] When playhouses around the world shuttered, most artists found themselves out of work (making performance, anyway). Few theaters or theater-makers have ever operated with massive emergency funds held in reserve, so in the days when no end to the lockdowns could be seen, the threat to the industry genuinely felt existential. But theater people are plucky, sometimes incurably so. Within weeks, they were experimenting with whatever modes of engagement remained accessible, creating and circulating performance with remote technologies such as video calls, streaming services, snail mail, and social VR.[21] Of these remote modes, social VR promised the most embodied way to be together during a time of staying as far away from other people as was physically possible. From the socially distanced bubbles of their own living quarters, users donned VR headsets and entered a digitally rendered world as avatars, where, standing as close as they wanted, they could visit with other avatars representing other users, whose corporeal bodies were scattered across the globe, sheltering in place as everyone waited for the storm to pass.[22]

Years before the coronavirus pandemic arrived, the technology industry was ballyhooing the revolutionary improvements and remediations social and solo VR would create for live events, offering new ways to experience togetherness and presence in real time in a digitally rendered world where programmers could rewrite the laws of physics. As the thinking went, who wouldn't want to attend a play, a concert, or even a workday as an avatar, freed from the

constraints of work pants and hygiene, all from the comfort of one's home? When the pandemic lockdowns began and everyone not deemed an "essential worker" was encouraged or even mandated to stay at home, it seemed the perfect opportunity to test some of social VR's promises with a captive audience larger than early adopters and tech enthusiasts.[23]

Social VR did not prove to be a panacea for live events during or after the pandemic lockdowns, a dashed hope that continues to disappoint content creators in many segments of the entertainment industry.[24] But experimental theater is not scared off by a tiny house. Although some of the affordances unique to social VR ultimately limited the aesthetic outcomes and sustainability of both productions I discuss here, each was successful in ways other theatrical contexts could not have achieved. As this chapter describes, *Tempest* and *Finding Pandora X* created new dramaturgical insights into the canonical sources they invoked, and they showcased how social VR's infinite explorable space and the subject positionality of a puppeteer are raising important questions about the future of participatory performance and the responsibilities of its patrons.

That theater in social VR did not take off during the lockdowns or sustain meaningfully beyond them is perhaps evidence of the limits of its appeal and financial viability outside times of crisis. That said, the return from Covid-19 lockdowns hardly seems to have ended the existential crises theater can expect to endure going forward. For example, particularly in the United States, theater has long relied on a patronage model of loyal subscribers buying tickets to whole seasons up front, rather than on federal support or revenue from ancillary markets. The pandemic decimated this model, accelerating the collapse of a system that had been crumbling for years, as subscriber bases aged out, new generations of patrons did not materialize to replace them, and the costs of making theater rose steadily.[25] For theater to reinvent itself and survive in the rapidly changing entertainment landscape of the twenty-first century, significant attention will be needed to cultivate new generations of patrons. Also important in this chapter, then, is to record for posterity the production choices of two teams who kept calm and carried on making theater by encouraging attendees to act the part of patron at the vanguard.

A Canonical Source

Playhouses that need to increase ticket sales and artists who want to prove their seriousness often turn to productions of dramas that will register as canonical

to a broad demographic. As the introduction to this book explains in more detail, when that demographic is English-speaking and from the Global North, the properties such producers are likely to stage are Shakespeare's plays and ancient Greek drama. These classically canonical sources imbue a production with gravitas, legitimizing it as part of an established theatrical tradition. As the introduction also explains, when such productions involve participation, some of the cultural capital a canonical source embeds is conferred onto attendees who play along as directed, because such participation demonstrates their knowledge of the property being staged. Like playhouses and artists, producers using new technologies for storytelling also have a long history of turning to canonical drama—especially Shakespeare and ancient Greek drama—to authorize these technologies as capable of generating Serious Art rather than simple novelty.[26] Both *Tempest* and *Finding Pandora X* made use of this strategy to demonstrate that social VR is a suitable context for theatrical performance, a choice that pushed the fader of a canonical source to the highest position on their respective mixing boards of enactivity.

Unlike *Sleep No More* or the subject of the next chapter, *Bitter Wind*, my lab's adaptation of the Agamemnon mythos for the HoloLens headset, neither *Tempest* nor *Finding Pandora X* expected attendees to independently discover the production's citations of its canonical source. In preshow materials and throughout each performance, both productions made regular mention of their respective sources, with performers narrating the plot points attendees needed to know to make connections between the unfolding action and Shakespeare's play or the Greek mythoi. While this overtness may seem like a gateway to uncritical patronage, it was necessary from a pragmatic perspective. The relative newness of social VR meant this technology was likely to be unfamiliar to many attendees, a condition not helped by the non-intuitiveness and lack of user friendliness that continues to characterize VR headsets. With so many buttons for an attendee to push, a headset to adjust, and a physical space to monitor for interruptions, even scholars of Shakespeare and classics would probably have missed references to a canonical source that were too subtle.

Beyond pragmatics, this straightforwardness also reinforced the archetype of theater patron by reminding attendees regularly of the established theatrical tradition that is indexed by any production of either canonical source. One of the more successful outcomes of placing such a strong emphasis on the presence of a canonical drama within an immersive context was to illuminate elements of that source in ways not replicable with other technologies. As the

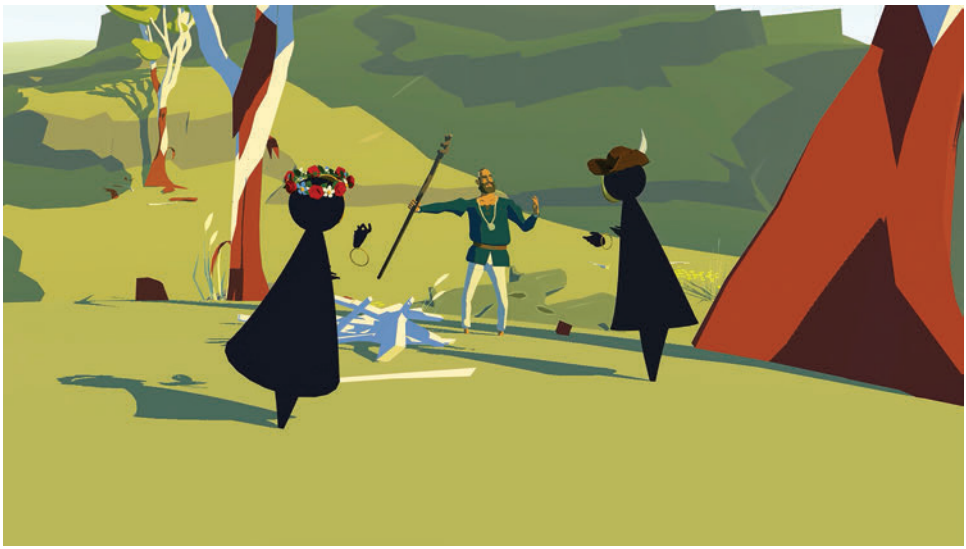


Fig. 12. Attendee avatars (*left and right*) and the performer avatar (*center*) in the fields of Tender Claws's *Tempest*. Courtesy of Tender Claws © 2020.

below walkthroughs of each production illustrate, both *Tempest* and *Finding Pandora X* were successful in generating new dramaturgical insights into properties that have long felt familiar, and new ways for attendees to access phenomenologies other performance contexts hold at a distance.

Tempest Walkthrough

From Shakespeare's play, Tender Claws's *Tempest* staged the opening shipwreck, a visit to Prospero's home, and the courtship of Miranda and Ferdinand, buttressing these scenes with original material to stretch the experience to about an hour. When I attended, I was one of five attendees, and the show featured one performer playing Prospero. Tender Claws's proprietary app uses low-poly graphics rather than the more detailed graphics of *Finding Pandora X*. In this simpler style, each attendee's avatar appeared as a black cone (body) topped by a black sphere (head), balanced atop a thinner, inverted cone (legs) (fig. 12). Attached to each avatar face was a mask: a flat panel with a gold chevron on a green or orange background. Avatars also had two hands that were detached from the avatar body and floated in view. These hands could perform limited

gestures such as snapping, which was accomplished by pressing a button on the Quest 2 hand controller. Because *Tempest* did not use attendees' headset mics or include a mechanic for communicating via text or emoji reaction, as did *Finding Pandora X*, our communication was limited to gross motor movements of the torso and hands, such as waving, pointing, bowing, opening one's hands, or putting hands to head.

Attendee avatars started off in the lobby of the Decameron Theater, a transitional space I discuss in more detail in the sections below on historical resonance and the narrativized intermediaries of a production economy. At the appointed time, avatars were transported from the Decameron to the backyard of a coastal midcentury modern house on a hillside with evergreen trees, and mountains in the distance, all rendered in stylized low-poly graphics in a greenish yellow and orange palette. We were greeted by a forlorn actor avatar, who explained the reason for our presence: helping him use the new technology of social VR to stage a production of Shakespeare's *Tempest*, so he could replace the production he had been scheduled to headline until it was canceled by the pandemic. He provided onboarding instructions and everyone agreed (by snapping) to help him stage *The Tempest*, with him playing Prospero. He sent three volunteers up to the balcony of the house, directing them to pretend it was a sinking ship while the rest of the group flashed lanterns at them to mimic lightning. This playacting was so effective (in Prospero's estimation) that a storm kicked up, sending the group to the next location: the ocean floor, where a huge octopus-ghost creature loomed as attendees explored.

Also included in our production were an escape to Prospero's lair to regroup, as well as a lengthy visit to the fields for a feast and Miranda and Ferdinand's courtship and wedding. Similar to the open world model I describe in the previous chapter's analysis of *Sleep No More*, attendees could wander *Tempest* freely, but the guide encouraged everyone to stay together. There was little to do on one's own, so there was no point wandering off. Throughout the experience, some attendees took brief turns in a named role such as Miranda or Ferdinand, miming actions at the direction of actor/Prospero, who narrated the relevant plot points. Because attendees in *Tempest* could not turn on their headset mics and speak to one another, the performer voiced all of the spoken words in the experience. Direct quotes from Shakespeare's play made up about 10 percent of his dialogue, with the remainder in the twenty-first-century, slightly West Coast White-person dialect he used in impromptu patter to hustle every-

one along and in his summaries of the plot points from Shakespeare's play we were skipping. The show concluded back at the coastal house, which broke apart in another tempest, this time blowing our avatars back to the lobby of the Decameron Theater.

One of the most innovative thematic interventions that came from staging *Tempest* in social VR was that producers could engage the production problem of magic in a way not possible in physical theater. Magic is a regular onstage presence in many of Shakespeare's plays, from the whole island of *The Tempest* to the Fairy King and Queen in *A Midsummer Night's Dream* to the Weird Sisters in *Macbeth*. In a physical context, staging magic can be a challenge. Whether a company attempts realistic special effects, which require money and skill to execute effectively, or symbolic representations of magic, which can seem corny, staging magic in a physical context involves substantial work to overcome the limitations of the laws of physics. In VR, though, these limitations are easy to thwart. Experienced through a VR headset, the entirety of *Tempest* became magical, including the attendees.[27] Our avatars could traverse the bottom of the sea, make onions appear by snapping, and be whisked from a hillside backyard to an open field and back again in the blink of an eye.

Pervasive magic characterizes the island Shakespeare's Caliban describes as "full of noises / Sounds and sweet airs that give delight and hurt not" (3.2.148–49). That this island enfolds all denizens in its power is extremely difficult to render with physical means. Moreover, even in a production in a physical playhouse that goes to great lengths to represent pervasive magic on stage, it is not possible to extend these magical powers to attendees. In a context like the new Globe in London, some attendees might be swept into the imaginative space of a magical island, but no amount of direct address can grant them the power to enact magic and make onions appear with the snap of a finger. By granting this power to attendees in *Tempest*, Tender Claws illuminated that the magic on Prospero's island is all-encompassing, even smothering. For me, especially evocative of Shakespeare's Prospero and his relationship to magic was the moment I took the headset off. In this moment, being a patron of theater at the vanguard in social VR allowed me phenomenological insights into how Shakespeare's Prospero might have felt when, wistful, he drowns his magic book "deeper than did ever plummet sound" (5.1.65) and returns to life as a midlevel politician in Milan. Returning to my mid-lockdown life, I too mourned the loss of the rough magic I'd had on Prospero's island. Compared to Zoom classes,

bored children, and the simmering catastrophe of the pre-vaccination pandemic, teleporting across the ocean floor and conjuring onions in social VR had been a lot more fun.

Finding Pandora X Walkthrough

Staged as a purpose-built, invite-only world in the consumer-grade social VR app VRChat, *Finding Pandora X* was an hour-long original adaptation of the ancient Greek mythos of Pandora. Pandora appears in several ancient literary and visual depictions, but her appearance in ancient drama is limited to Sophocles' satyr play *Pandora (The Hammerers)*, which exists today only by mention in other texts and as three lines that survive in fragments.[28] Because no substantive portion of an ancient play about Pandora is extant, Double Eye Studios had to create their own storyline for *Finding Pandora X*, the canonical authority of which they reinforced by including highly recognizable characters from the pantheon, such as Hera and Zeus (fig. 13).

Each performance of *Finding Pandora X* accommodated a dozen or so attendees. As in *Tempest*, each attendee had a first-person point-of-view of their avatar, allowing them to look down and see the avatar's body from torso to toes and its hands from fingertips to the elbow. Users arrived into the *Finding Pandora X* world from the main portal of VRChat, whereupon the show required everyone to change their avatar "skin" from whatever personalized version they customarily used in VRChat to a skin that signified Greek Chorus—a sleeveless, shabby tunic and leggings in mottled gray, with a sack-like hood pulled down to the bridge of the nose.[29] Once costumed, *Finding Pandora X*'s attendees could turn on their mics to speak aloud, display a stream of emojis above their heads like a smokestack, perform a limited set of avatar movements like kneeling and dancing, and perambulate the world freely. The aesthetic of *Finding Pandora X*'s digitally rendered world was defined by sparse mid-poly graphics depicting a spacey, dystopian scenography, the design of which landed somewhere between the original *Blade Runner* film and the planet Tatooine from the *Star Wars* franchise, but in pink, blue, and purple. As part of the onboarding, the show's narrativized intermediaries—Hermes, Iris, and "Cory," short for *coryphaeus* (the leader of the Chorus in ancient Greek tragedy)—explained the backstory of the world. We had arrived to a place where all hope was lost, and a mysterious decay was causing the gods to fade from their embodied selves into constellations of stars. This decay would wipe out the world unless we could find Pandora's box of

Fig. 13. Attendee avatars serving as the Greek Chorus (*left*) listen to performer avatars Hera (*center*) and Zeus (*right*) in Double Eye Studios's *Finding Pandora X*. Courtesy of Double Eye Studios © 2020.

hope and deliver it to Mount Olympus. To do so, attendees had to work together to search for clues and solve puzzles.

After learning the pragmatics of VR and the show's expectations for participation, attendees chose whether to follow Hera or Zeus, who were going to look for clues in separate locations. Both options amounted to following along behind the god avatar and figuring out simple tasks like teleporting onto a hovercraft before it departed or conferring with other Chorus members to unravel simple word puzzles. *Finding Pandora X* had an open-world model attendees could wander freely, but, as in *Tempest*, the absence of things to do on one's own kept everyone working collaboratively. Plot points unfolded in a predetermined order, and the dialogue was casual conversation, with few lines that seemed scripted. This choice accommodated the copious feedback and impromptu discussion performers solicited from the Chorus throughout. For the final narrative moment, the two groups reunited and learned that hope had been with them all along, a discovery that restored life to Olympus and saved the gods. On the conclusion of the performance proper, attendees were invited to join the performers in a previously unrevealed location of the *Finding Pandora X* world: an outdoor cantina in an expansive, mountainous desert, where everyone

enacted the VR version of the theatrical custom of having post-show drinks at the bar down the street.

Staging this experiment in social VR emphasized a latent element of ancient Greek drama in production that other performance contexts by nature minimize: the detailed interconnectedness of the mythoi, which would have been intimately familiar to ancient playgoers. In antiquity, the presence of the mythoi as a state religion would have given playgoers a familiarity with the breadth and detail of this interconnectedness in a way that is impossible for playgoers in any other time period to experience.[30] Moving through these stories as part of daily life was an aspect of ancient Greek society that a physical performance context cannot replicate at scale. With social VR, however, *Finding Pandora X* could invite attendees to perambulate the stories of antiquity as a denizen of that world. The ability to walk for miles through 1:1 scale city blocks and landscapes created a mode of participation based on corporeally inhabiting a self-contained world that, while it was spacey, also was infused with antiquity, a quality that enabled access to the phenomenology of ancient playgoing in a way physical theater in the twenty-first century cannot offer.

Unfortunately, the new dramaturgical insights to be gleaned from inhabiting a Greek mythos were undermined by the production's misinterpretation of an important aspect of its canonical source. Counter to *Finding Pandora X*'s framing of hope as a net benefit to society, the Pandora mythos evidences considerable ambivalence about the concept of hope. Pandora's story may not appear in an ancient play that is extant, but it does appear in other ancient sources that are easy to access in the twenty-first century. In the first recorded instance of Pandora, Hesiod's *Theogony Works and Days*, Pandora's creation was sparked by Zeus' rage at Prometheus, who gave fire to the mortals—creatures who were exclusively men up to this point.[31] Now that the mortals had fire, Zeus worried they would think themselves too much like the gods and scale back their worship. Zeus could not do anything about the fire, because ancient Greek mythology has a no-take-backs rule for immortal gifts. But he could ruin the party with his own "gift," so he ordered Hephaestus to create Pandora, the first woman. At Zeus' direction, Hephaestus created her with "a bitch's mind (*kuneon noon*) and a thievish character (*epiklopon êthos*)."[32] Zeus directed all the other gods to supplement Pandora's hidden nature with more palatable qualities, such as beauty and needlework skill, so the mortal men would find her appealing and keep her instead of killing her. Betting on the effectiveness of reverse psychology, Zeus then handed Pandora a jar (Erasmus

later turned this into the "box" more familiar to modern readers), warned her never to open it, and sent her down the mountain to the mortal men.[33] Unbeknown to Pandora, each god had placed into the jar "an evil for men who devour grain."[34] Pandora, of course, lived up to her nature and promptly opened the jar, "scatter[ing] its contents abroad, and she devised terrible pains for humankind. Hope alone remained within the unbreakable house beneath the lip of the jar, and did not fly out the door."[35]

Setting aside the ancients' eye-rolling misogyny of devising a legend that frames the first woman as the cause of all the world's problems, the internal contradictions of this plot point have confounded scholars for ages. Why does hope remain inside the jar? Did it choose to stay there, or did an outside force keep it in? Does hope remain in the jar so it can be under Pandora's control, because women are supposed to be in charge of hope? From Hesiod's description, the plagues influence mankind by being *scattered abroad*, so does hope even have any influence stuck inside the jar? Perhaps most important, why was hope in the jar in the first place? Ancient Greek gods have little reputation for kindness to mortals, especially in the face of an enraged Zeus determined to punish somebody. Hesiod makes no mention of a god or Titan taking pity on humans and sneaking something helpful into Pandora's jar. As Prometheus can attest, the events leading up to Pandora's creation illustrate how terribly softheartedness toward mortals can end for an immortal.[36] And as Hesiod says, only *evils for men who devour grain* are in that jar. Given this context, it seems more accurate to understand the ancient Greek perception of hope not as the positive for humanity that twenty-first-century political slogans like to portray, but as a plague, just like the rest of the evils in Pandora's jar.

Strengthening this nihilistic framing of hope's toxicity to humanity is that it appears across ancient texts. As classicist Robert Wallace has meticulously traced, from Hesiod's *Theogony* to Thucydides to Sophocles' *Antigone* to the *Theognidea* to Pindar's *Olympian*, "most Greeks said little good about hope."[37] Within this sampling, the ancient skepticism of hope appears most clearly in the Melian Dialogues from Thucydides' *The History of the Peloponnesian War*. This episode tells of the Athenians, ever logical, trying to convince the Melians to be absorbed into the Athenian empire. Given the easy victory Melos posed, the Athenians offered to do the Melians no harm if they surrendered without a fuss. Despite living on a little island with no outside help, the Melians doubled down on their resistance, citing hope as their justification. Exasperated, the Athenian emissaries warned, "those who rely on hope when they have other

resources may be damaged but are not destroyed by it. Hope, however, is prodigal by nature, and those who stake everything they have on it see the truth only at the moment of disaster."[38] The Melians refused to see reason and continued hoping for the best, whereupon the Athenian army razed Melos, executed all the men, and enslaved all the women and children. Between this example and hope's origin site inside Pandora's jar, it could be said that ancient Greeks saw hope as a plague to all but the mighty.

Although the ambivalence toward hope that permeates this canonical source did not appear in *Finding Pandora X*, the adaptation did bear multiple traces of the ethos of another, more recent cultural force that was central to its creation: Silicon Valley. *Finding Pandora X*'s optimistic misreading of the Pandora mythos makes an ideal, if unflattering, metaphor both for the tech industry's sweeping-under-the-rug of its own legendary misogyny and for what has been critiqued as its toxic positivity or hope-washing. As tech journalist Owen Thomas explains, "In Silicon Valley, this expresses itself as an always-be-hustling attitude; an embrace of growth hacking by any means necessary; ceremonious ostracism of doubters; and a conflation of mission and meaning."[39] That is, instead of assigning responsibility for the chaos and destruction left by the plagues the technology industry has unleashed, such as social media, e-waste pollution, deepfakes, etc., let's plow forward with the *hope* for a better future, which always seems predicated on inventing more technology.

One adaptation that strays far from what scholarship says about its canonical source is hardly a cultural crisis. What is a cultural crisis, however, is that this particular misreading was all but inevitable, given the Silicon Valley milieu of social VR as a technology. *Of course* a tech industry reading of the Pandora mythos would frame it as confirmation that hunting up a box of hope from the gods is an adequate solution when faced with the destruction of one's world. As more than one congressional hearing has shown in recent years, the technology sector is the poster child for an industry committed to shifting attention away from accountability for wrong-doers or self-examination of one's contributions to the structures that accommodated the wrong-doing in the first place.[40] A misreading of Pandora is worth noting, then, because it points up the stakes of twenty-first-century theater's increasing interest in "big tech" as a survival strategy. Due in no small part to its relative pennilessness, theater is broadly understood in a neoliberal, semicapitalist ethos as an engine of cultural authority—who would pursue such laborious and low-paying endeavors except those pure of artistry and intellect?

Caricatures aside, the imprimatur of theater on a project that relies on the technology industry for its existence runs the risk of validating any number of the problematic ideologies that permeate that sector. This validation becomes particularly potent when it transpires through an uncritical "diachronic collaboration," as Shakespearean Diana E. Henderson puts it, with canonical sources that are lionized as paragons of Western civilization by the same neoliberal ethos that valorizes theater for its pennilessness—i.e., sources such as ancient Greek drama and Shakespeare's plays.[41] As this book has argued, live participation is a powerful endorsement. Consequently, whether a theatrical adaptation of a canonical source is staged in social VR or a future instantiation of the metaverse, enacting "patron at the vanguard" responsibly will require tempering the enthusiasm a new technology can inspire with a little homework about the source in question, if theater-makers and theatergoers are to avoid becoming the marks of or complicit with the gods who are building the Pandora's boxes of the postdigital age.

A Historically Resonant Site

Reinforcing the archetype of patron at the vanguard of theater, and not another medium such as film or video games, were the many design choices in each production that signaled "playhouse." Invoking the playhouse during the lockdowns generated perhaps the most poignant historical resonance of the cases in this book, because most physical versions were closed, their reopening unsure. In both *Tempest* and *Finding Pandora X*, these design choices included digitally rendered architectural elements, the semiotics of which unmistakably conveyed theater, as well as the activities each production assigned to the multiple spaces attendees perambulated—signifiers through behavior that, as performance theorist Gay McAuley has argued, are as important as architectural semiotics to framing an event as theater.[42] In both productions, form and function worked together to deliver on the promise each production made in its marketing materials that the experience of attending them was theater.

The semiotics of a historical playhouse were the most pronounced in *Tempest*, which required attendees to have multiple sustained encounters with the digitally rendered Decameron Theater. As mentioned in the walkthrough above, this playhouse was the transitional space users visited before being whisked away to the midcentury backyard to meet the actor playing Prospero.

Users first encountered the Decameron in advance of the show, when they purchased a ticket. This errand was accomplished by opening Tender Claws's proprietary app within the Quest 2 headset, which landed the user in a barren, digitally rendered desert landscape. From this landing spot, users had to teleport toward two detached buildings, a hundred or so yards in the distance. The first was a two-story dive bar, decorated with a frizzling neon sign displaying the name of Tender Claws's previous social VR production, *The Under Presents*. Twenty or so yards from this dive bar was the Decameron, a detached row house with a tall vertical blade sign rimmed in neon lights and a massive neon-light marquee with a few letters askew or burned out and exposed lightbulbs covering its underside. Much as the previous chapter's McKittrick Hotel posed as an older, reclaimed space with a glorious past, the Decameron clearly was meant to evoke a historical playhouse that had seen better days.

Beneath this marquee was a box office, styled as a freestanding booth, which was occupied by an automated figure users had to interact with briefly to purchase a ticket. Although attendees learned of *Tempest* via targeted emails or online articles, they could purchase a ticket only by visiting the Decameron. Tickets could not be ordered via email or through a third-party site like Eventbrite. At the appointed time, ticket holders logged back into their Quest 2 and navigated back to the Decameron, where they found the front doors newly operable. Inside these doors was an explorable, two-story lobby space with an (unstaffed) bar, which matched the building's exterior in evoking a small, neglected early-twentieth-century playhouse. Heavy millwork lined the walls of both stories, and motes of dust floated through the air. Other attendees were also present in the lobby bar, their geometric avatars flitting from space to space. Because *Tempest* did not include the affordance of attendees speaking, the theatrical activity of socializing was limited to waving, handing them objects, or snatching them away in silence, an incivility I performed multiple times while I was trying to offer someone a bottle of wine. At the conclusion of the show, attendees returned to the Decameron, where they could linger as desired. In the wake of the energetic tempest that sent us back to the Decameron, this lobby felt even more deserted, so I did not stay long after the show.

The semiotics of *Finding Pandora X*'s architecture were less pronouncedly theatrical, instead remixing properties like *Blade Runner* and the *Star Wars* franchise, both likely to be in the cultural repertoire of an attendee interested in VR. Interspersed throughout this landscape were classical columns and pilas-

ters in disrepair, which indexed the production's canonical source. Like *Tempest*, *Finding Pandora X* created dedicated spaces for attendees to socialize. When attendees arrived from the main VRChat platform into the show's private world, they landed in an exterior location filled with round café tables and space-age kiosks, form and function evoking playhouse lobby as well as space-age bar. VRChat's affordance of allowing attendees to speak aloud generated a familiar preshow anticipation, which returned as postshow euphoria in the second cantina we all visited on the conclusion of the performance proper. Mapped onto performance theorist Richard Schechner's "poetics of performance," each production's choice to situate the "dramatic structure" of its narratives between "gathering" at and "dispersing" from the Decameron in *Tempest* and cantina spaces in *Finding Pandora X* created a "performance structure" that encouraged attendees to encounter and remember the show as the live theatrical event each production claimed as its medial identity.[43]

The presence of production choices that generated this quality of historical resonance was more noticeable in social VR than might be the case in a physical context, because each space had to be designed from scratch. The ocean floor and backyard of *Tempest* and the city streets and purple mountains of *Finding Pandora X* were not inhabited before they became sites for theater. That VR can create spaces that have no prior use puts social VR at antipodes with what theater historian and performance theorist Marvin Carlson identifies as a defining element of physical theater sites: "Through history, as publics have assembled for theatrical events, they have assembled in spaces already familiar to them in other contexts."[44] As Carlson points out, every physical theatrical space had another use, human or nonhuman, before somebody came along and put up a play there. In social VR, however, a theater site has no geographical address, no graffiti to paint over, no occupancy permits to obtain. It is true that VR developers can reuse assets from prior projects or whole worlds. Tender Claws could stage *A Midsummer Night's Dream* quite handily with the multiple digitally rendered locations they already own. My point is that they do not have to. Unlike theater-makers working in the physical world, developers can choose to begin with the blank slate of a software engine. Starting fresh means there is no need to work around a row house's awkward floorplan, a shabby marquee, or pilasters in disrepair. That the designers of *Tempest* and *Finding Pandora X* chose to ground the semiotics and spatial configurations of each production in architecture that would be recognized broadly as theatrical, when they could have emulated or devised any number of other configurations, further rein-

forced attendees' positionality as patrons supporting theater—and not just any theater, but theater reinvented for the future.

The ways in which each production encouraged this nuance of patronage can be understood through performance theorist Joanne Tompkins's concept of heterotopias on stage. As Tompkins explains, "theater that is heterotopic depicts other possible spaces and places live in front of an audience and it offers spectators specific examples of how space and place might be structured otherwise."[45] Although Tompkins also admits that slim potential exists for a heterotopia to create immediate and radical social change, the alternate futures heterotopias depict as possible in real time can be an important first step. In the depths of the pandemic lockdowns, when the possibility of ever returning to a physical playhouse seemed a pipe dream, *Tempest* and *Finding Pandora X* invited attendees into an already existing theatrical future where embodied attendees and performers could gather in three-dimensional spatial configurations that looked and felt a little familiar. The reinvention may not have been ideal, but by activating the historical resonance of a playhouse, these productions and their patrons proved—not hoped—theater would not disappear, even if its physical buildings did.

An Immersive Space

Also important to the case *Tempest* and *Finding Pandora X* made for themselves as theater was that they were *immersive* theater. Like "theater," the term "immersive" appears throughout their marketing: "an immersive . . . storyworld," "a one-of-a-kind immersive theatrical experience," "an immersive theatrical VR experience."[46] Emphasizing the immersivity social VR could offer made good sense for encouraging patronage at the vanguard. Immersive theater in purely physical contexts was booming until the pandemic shut it down, and, as described above, The VOID was selling tickets by the millions to installations that combined VR headsets with physical scenography.[47] Given this growing popularity, immersive theater in social VR should have worked. A key promise of immersive theater in a physical context is participation that is more involved than sitting in the dark and watching. Attendees might get to walk the space, pick up the stuff, engage the performers, or all of these. And a key promise of VR is rewriting the laws of physics to create an experience not possible in physical contexts. In a physical context, constraints like gravity, the universal tangi-

bility of objects, and the footprint of real estate are insurmountable. But what could producers do with a performance context that does not have to obey these laws, like VR? Immersive theater in social VR, then, seems like a natural fit: walk or leap or fly through infinite space to play with digitally rendered objects and performers that could never exist in the physical world. Push the fader of immersivity past what is possible in a physical context and deafen attendees with the satisfaction of acting the part of patrons at the vanguard of super-immersive theater.

Why did theater in social VR not catch on? Why does any live event in social VR never seem to catch on with mainstream consumers, who have proven quite willing to adopt other tech-heavy innovations like smartphones, streaming services, or social media? Theater, concerts, work, hanging out with friends—why is social VR not replacing or significantly supplementing any scenario where people gather in shared physical space? As of this writing, social VR has been available for a decade, solo VR for many years longer. But also as of this writing, sales of VR headsets have not met projections and are declining rapidly, breakout content has not materialized, and major companies such as Meta, Microsoft, and Disney are ending VR initiatives and laying off whole divisions.[48] The obstacle to VR's widespread adoption is not availability. The most popular headset to date, the Quest 2, was backordered for a few months after its release in October 2020, but since then, anyone who wants one can have it within a day or two—ditto for the next generation, the Quest 3 and 3S. Since the release of the Quest 2, the obstacle also has not been price. New, the Quest 2 and Quest 3S started at $299; used units run $150, which is less than a third of the price of an Xbox or PS5 video game console, or a month of coffee for people who buy it daily at Starbucks, two metrics probably familiar to the demographics who would be most likely to take up social VR en masse if such an adoption were going to happen. But even with the obstacles of availability and price cleared, headset VR seems unable to break the curse of limited mainstream appeal.

But hope springs eternal in the technology industry, as this chapter has established, and perhaps social VR will fare better than the ancient Melians for some reason that has yet to signal its approach. Should a deus ex machina not arrive, a more productive response to the continued non-adoption of this technology could be to analyze why and how it does not deliver on its promise of replacing, extending, or improving the user's experience of liveness and presence. One shortcoming of VR identified by philosopher of technology Don Ihde is its phenomenological "thinness":

> An analysis shows a variation between what would be called full or multidimensional experience and a visual objectification of presumed body experience. Where does one feel the wind? Or the vertigo in the stomach? Can it be felt "out there" in the disembodied perspective? The answers quickly show partial primacy to the embodied experience.[49]

As Ihde points out, considerable disparity exists between the way a user's corporeal body experiences its physical surroundings and the way that same user can experience a digitally rendered environment through an avatar, with the richer experience being that of the corporeal body's sense of the physical world. What Ihde identifies as "multidimensional" might also be understood as multisensorial, given that the mismatch between what the user sees their avatar doing in VR and what the corporeal body expects lands first on the user's sensorium, rather than on their cognition, memory, or sociocultural context.

To understand how social VR itself prevented the fader of immersivity from being amplified in *Tempest* and *Finding Pandora X*, this section takes a deep dive into two affordances of the technology especially at cross-purposes with developing a robust multisensorial immersivity in a performance context: the subject position of an avatar and having to program the laws of physics. For two reasons, it is necessary to closely examine some of the factors that kept this fader low in social VR. First, as theater-making technologies go, social VR's relative newness means it is still undergoing rigorous scholarly analysis to determine what it can provide or preclude for performance. Such a foundation can help theater-makers more effectively leverage what social VR can or cannot do and allow scholars to identify whether a performance outcome derives from choices a production made or from something inherent in the technology. Second, and more specific to the project of this book, immersivity and a production-specific economy are positively correlated—a relationship visible in the previous chapter's subject, *Sleep No More*, because both faders were amplified. In the other direction, the dampening of these two faders in social VR confirms that robust immersivity is a precondition for a strong production economy. The "thin" immersivity, to borrow Ihde's term, of both *Tempest* and *Finding Pandora X* proved to be a central reason their production-specific economies were commensurately "thin."

It is possible that social VR's downswing will continue apace, making an understanding of what it can and cannot do relevant only as media archaeology. However, other emergent technologies, such as artificial intelligence and

robotics, make similar promises to replace, extend, and remediate human phenomena, based on similarly uninterrogated assumptions about which affordances can or cannot create liveness and presence. These technologies are also being used to make theater.[50] Understanding the assumptions that contributed to the "thinness" of social VR may therefore prove a useful baseline for future analyses of the ways in which these and the technologies to come are registering, phenomenologically, to the patrons at their respective vanguards.

Affordance 1: The Avatar

A core difference of an immersive space in social VR compared to one in a physical context is that users move through social VR via an avatar, a digitally rendered proxy for the individual human attendee who wears the headset and controls the avatar's locomotion, movements, and communication in real time. One way to understand the relationship between the user's physical body and the avatar they control is through performance theorist Jennifer Parker-Starbuck's model of cyborg theater. Intended to map the relationships between corporeal body and technology in physical theatrical contexts, Parker-Starbuck's foundational conception of an ever-evolving "strand of DNA, two thick threads—body and technology—twisting in a dance of mutual dependency" identifies when and how the body and technology on stage are abject, subject, or object in relation to each other. This critical model both anticipates and accommodates the configurations an avatar enables for performers as well as attendees.[51]

With this matrix applied to social VR, the user's body can be understood as the subject and the avatar as abject technology, functioning in much the same way as a puppet. As digital puppets, avatars embed a tension similar to that which characterizes their physical corollaries. On a physical stage, as theater historian Dassia Posner explains, a puppet is "a repository of visual dramaturgy; the puppet *is* character and *contains* story even before it is set in motion."[52] The simultaneous stillness and potential for movement Posner identifies in puppets also inheres in avatars, regardless of the presence of a narrative. When a narrative is present, as in theatrical scenarios like *Finding Pandora X* or *Tempest*, this simmering tension between stillness and movement elevates the dramaturgical importance of the avatar above that of other scenographic elements, such as the digitally rendered set or props.

Like a physical puppet, the avatar's abjectness means it must be manipulated by a user in real time in order to be animated. And like a physical puppet

on a stage, which exists as itself and draws attention to itself even when it is not manipulated by the puppeteer, the avatar remains present within a social VR world but becomes idle the moment a user sets down the controllers in the physical world. Depending on its programming, an avatar without an operator may become motionless or it might cycle through an animation loop, the subtlety and repetition of which makes clear that its corporeal puppeteer is otherwise occupied. As I discovered in *Finding Pandora X*, the sudden reminder that an avatar is abject technology can be unnerving. When a fellow Chorus member handed me a rose in the Hall of Gods and suddenly became unresponsive, I froze. What happened? Was there a glitch? Had the user fallen in the physical world? Was the story taking a dark turn and eliminating Chorus members just as it was eliminating the gods? Was I, who had become so comfortable as an empowered subject body, next? As it turned out, her preschooler just wanted a snack. But a range of possibilities crystallized in the idle figure in front of me, reinforcing the dramaturgical weight each avatar bears in VR theater.

That each avatar is a proxy for a human puppeteer also creates tension around proxemics in a shared performance space. Users who have a strong sense of personal space in the physical world, as I do, are likely to find this awareness transfers to social VR. For me, this sense of personal space remained strong whether avatars were the simple black geometric figures of *Tempest* or the more anatomically detailed forms that populated *Finding Pandora X*. In both productions, I recoiled whenever another avatar rushed up to mine or if I turned my head to discover another avatar standing within a few inches of mine. As of this writing, social VR spaces do not provide a user the cues built into the physical world that another body is approaching, such as footsteps, breathing, or interpersonal proprioception, and the absence of these warnings further destabilizes the sense of being a body in VR. Even destabilized, however, the sense of one's own body being at stake is still strong in a digitally rendered encounter. Much of this corporeal potency derives from what Popat identifies as the unique version of presence avatars create through the enactment of touch:

> [R]eaching out to another person in a virtual environment invites the opportunity for my body as flesh, represented by a digital avatar, to cause the other person's body as flesh, represented by a digital avatar, to be born in the virtual environment. If the person accepts my reach by enacting being touched, then we both have presence in that environment together, and our physical/virtual flesh is constituted through the connection that is made between us.[53]

In other words, although a social VR context like *Tempest* may render attendees as anthropomorphized geometric shapes, if the shape I know is mine can be made to touch the shape I know is puppeted by another live person, we are embodied together in this digitally rendered space.

This strange embodied togetherness makes social VR a place where, as performance and new media theorist Gabriella Giannachi observes, "simulations are both present and not present, while viewers, too, are both inside and not inside the world of virtual reality."[54] Amid this digital liminality, all manner of disruptions arise when this "not-not-real," as Popat puts it, contact between avatars is uninvited.[55] The disruption that ensues from avatars bumping into one another is made worse because it is hard to tell whether the human puppeteer behind the offending avatar has a malicious intention or a lack of skill in using handheld controllers. In my case, the latter is so true that in both productions, I teleported frequently into another avatar's personal space or snatched an asset from another avatar by pressing the wrong button while my avatar stood too close to theirs. Of these indiscretions, I found that accidentally teleporting into another avatar's space bubble created less anxiety than mistakes having to do with my avatar's hands. Writing on the importance of hands in VR, Shakespearean and video games scholar Rebecca Bushnell argues that the hands of an avatar take on amplified meaning because they create "a double-consciousness of the affordances of hands which are and are not your own, hands structured by the play world and hands that act in this world."[56] In other words, the distorted mirror an avatar's hands represent of the human hands controlling them emphasizes the stakes of successfully (and politely) navigating the "not-not-real" of a VR space.

In *Tempest*, my simultaneous awareness of corporeal and avatar hands escalated from observation to frustration when the avatar's hands (my hands?) did something rude like stealing, because it was nearly impossible to say "sorry." In *Finding Pandora X*, I could turn on my mic and atone for any actions my avatar inadvertently made. In *Tempest*, however, I was limited to gross motor gestures. More than once, I tried to apologize by splaying my hands wide in supplication, fingers pointed down, and shaking my wrists. After a couple avatars flitted off without responding, I wondered if this action came across as more of a flourish than an apology; either way, it probably seemed weird. Not being able to discern the intentions of another avatar or to make amends for my own fumbling put a damper on the interactivity that generates much of the immersivity in social VR and the spirit of adventure necessary to fully enact the archetype of a patron at the vanguard. I became less enthusiastic about teleporting to a new

spot or trying to pick up a prop if another avatar was nearby, lest I seem creepy or competitive. Additionally, much community-building and good will comes from people apologizing for discourtesy. Not being able to enact basic niceties while navigating an unfamiliar, often non-intuitive space made it difficult to feel in solidarity with the other attendees or foster the camaraderie of being patrons together in an exciting new experiment.

The already limited range of motion an avatar can execute is further hampered by the constant threat of a glitch. The impacts a glitch can have on performance in social VR were especially visible in *Finding Pandora X*, where multiple members of the Greek Chorus spasmed uncontrollably at moments that were discordant, thematically. One such occurrence involved a reaction called "dance mode," which the VRChat platform allows avatars to perform by selecting it from the menu of reactions. As part of attendees donning their costume skins, *Finding Pandora X*'s guides demonstrated this mode, which amounted to flailing around, arms in the air and legs thrashing. After several rounds of everyone selecting "dance mode" from the reactions menu to celebrate our arrival, the story began in earnest and most attendees lost interest in dancing as a response to the guides' questions, perhaps because it seemed less relevant than the other reactions, such as a stream of hearts or smiley faces. However, late in the show, during the solemn moment of mourning the lost Pandora below her commemorative statue, one attendee accidentally chose dance mode from her reaction menu. Rather than executing the brief animation we all saw at the top of the show, the avatar got stuck in a loop, requiring our guide to break from the narrative and assist. Having seen dance mode deployed purposefully earlier in the experience was helpful in diminishing the surprise of it showing up later as a glitch, but its reappearance was still distracting.

In social VR, such moments of glitch emphasize the digital thingness of the avatar as a recalcitrant object that cannot deliver on the promise immersive technology makes of an automagically perfect immersive world. Glitchy avatars remind us that even if the sanitized, socially engineered metaverse comes to pass, we will not be idealized versions of ourselves therein, but mere puppeteers. As Posner points out, "puppet theater is inherently self-reflexive—it is always a performance of the creation of a performance."[57] In the puppet of an avatar, this moment of self-reflexiveness is the glitch, the split second when the pretense of the uber-marionette drops, and everyone in the experience is confronted with the humanity of the puppeteer, helpless in the face of a digitally rendered performance that is misbehaving. Much like the exaggerated potency

a canonical source can have in the metaverse, the avatar is a reminder that patrons at the vanguard must be critically engaged if theater is to make responsible use of the resources for reinvention and survival the technology industry may hold. With its propensity for glitch and rudeness (unintended or otherwise), the avatar adds new layers to the subject positionality of a participatory attendee and draws new attention to the responsibilities of the flesh-and-blood operator wearing the headset.

One of these responsibilities has to do with anonymity, an affordance of digital, online contexts that has proven especially alluring and problematic. As the previous chapter's discussion of sexual assault at *Sleep No More* illustrates, even a little anonymity can be perceived by some attendees as permission to misbehave, particularly when the apparatus creating their anonymity is distributed by the production as a condition of attendance. A physical context, however, does not include the affordance of total anonymity—Punchdrunk's signature mask covers only the face, and even in the dimly lit and tangled floorplan of the McKittrick Hotel, a perpetrator could be identified by their clothing. But when theater takes place in an entirely digital context like social VR, the avatar can afford total anonymity, and with it, the potential for participation that is damaging. Importantly, these contexts are nascent, so the norms for using them to make theater are not set. Part of enacting the archetype of patron at the vanguard, then, must be modeling and advocating for mindful approaches to theatrical attendance via the proxy of an avatar.

Affordance 2: Rewriting the Laws of Physics

The "thinness," to return to Ihde, of immersivity in social VR is further effaced by the fact that developers must program all the laws of physics that will govern the world they are building.[58] This requirement is absent from a physical context, wherein every object obeys the basic laws of physics without extra steps from the crew. In *Sleep No More*, for example, every jack of hearts playing card or taxidermied bird afforded the same pick-up-ability (or, if glued down, touchability) to anyone who could reach it. At the McKittrick Hotel, the crew only had to gather and place the many objects that boosted the production's immersivity by providing attendees with a target for self-directed interactivity. In social VR, however, digitally rendered objects are not tangible by default. In *Tempest* and *Finding Pandora X*, extra steps in programming were required to add manipulability to the wine bottles, onions, roses, and chairs each produc-

tion wanted attendees to pick up, throw, and drop. Crucially, each of these programming choices represented time spent in computer engineering. Consider one of the simplest steps in my errand from Hecate in *Sleep No More*—taking the note she handed to me, unfolding it, reading what I saw her write on it, folding it back up, and handing it to the Porter. No effort from the crew was required to make Hecate's paper foldable, write-on-able, and manipulable by anyone who held it. In social VR, however, programming this one object with these affordances would have required several steps of programming. Programming every object a user can see in a social VR world to have the same affordances as its referent in the physical world would require a budget well beyond the means of most theater companies. Consequently, although the environments of *Tempest* and *Finding Pandora X* were very interesting visually, the limitation of programming meant only a small fraction of these surroundings afforded the interactivity that makes a performance context more immersive.

Another disruption of the laws that govern the physical world, and one with further ramifications for the immersivity of a social VR space, is that producers can create an infinite spatial field through which the user can perambulate. Restricting analysis to the observable universe, infinite space is generally agreed to be impossible in the physical world. But infinite space is possible in social VR because of two mechanics. The first, "6 degrees of freedom" (6DoF), describes how a user is permitted to move through a digitally rendered space. In a 6DoF app, the body can move along six axes in three-dimensional space: the three axes of head-based movement, which enable one to look around oneself via roll, yaw, and pitch, plus the three axes of the whole body's movement through space, which are elevation (standing up/bending down), strafing (sidestepping right/left), and surging (walking forward/back). For example, a 3DoF VR experience could be created by setting up a stationary 360-degree camera in a space like the yard at the new Globe in London, where action is happening on all sides, and recording a performance.[59] The user viewing this recording in-headset would have a point-of-view rooted in the spot where the camera was positioned. From this spot, the user could look in all directions to see the stage action, the other groundlings beside them, the upper galleries, the dirt beneath their feet, and the open sky above their head, but they could not perambulate around the yard as it is represented in the recording. Even if their corporeal body walked around in physical space, the user's point-of-view in the headset would not change. In contrast, 6DoF apps like *Finding Pandora X* and *Tempest* can allow users to walk around the space they see, rather than being rooted in one spot.

To create an explorable space that is infinite, 6DoF can be combined with a second mechanic: programming the visuals to repeat on a loop as the headset-wearer perambulates forward, or, in a generative world, to create entirely new terrain with each step. Although users can navigate this potentially infinite distance with step-for-step equivalence—that is, physically enacting every step an avatar traverses in the digitally rendered world—the impracticality of walking for miles in the physical world while wearing an opaque headset means they must first procure an omnidirectional treadmill with guardrails to lean on and shoes with sensors in the soles. These "infinity runners" allow a headset-wearer to walk (or run) in place, perhaps in a narrative that situates them as a member of a military squad on a mission. Not only is it exhausting to navigate a space with step-for-step equivalence, but the treadmills they require are expensive and take up considerable floor space. While such rigs are available to at-home consumers with enough funding and square footage, they are more common as attractions in theme parks or arcades.

Instead, most users navigate a VR space either by using the small joystick or trackpad on the hand controllers that come with most headsets, or through a combination of teleportation and a small perimeter for walking. To teleport, headset-wearers aim the controller at the spot within the digitally rendered world where they want their avatar to end up; pressing a controller button vaults the avatar forward to that spot. To combine teleportation with walking, one must first clear the physical space of trip hazards, and then use the handheld controller to describe around their physical body a perimeter of a few feet in any direction, which the headset can sense. In the Quest headsets, this perimeter is called a "guardian." This boundary functions as a safety mechanism, ensuring a headset-wearer does not walk into a wall, trip on a couch, or wave their arms and knock a coffee cup off the desk. Getting too close to the guardian causes the digitally rendered visuals to be replaced by the passthrough view—a live feed of the physical surroundings as captured by the headset's outward-facing cameras. Walking within the perimeter is usable only for short distances. To cover distances longer than a few feet without an infinity runner, it is necessary to use the joystick/trackpad or teleport.

Producers can use 6DoF to create traversable space that is only the size of a playhouse, but why not take advantage of the chance to let attendees roam vast meadows and soar through miles of open sky? Both *Tempest* and *Finding Pandora X* leaned into this affordance in their scenographic design. In *Tempest*, my avatar explored the bottom of the ocean and roamed across vast meadows, while my corporeal body stayed within a ten-foot guardian. Similarly, the

spaces attendees perambulated in *Finding Pandora X*—the hall of gods, an abandoned city of skyscrapers, an after-show outdoor cantina—were expansive exteriors whose only ceiling was the distant stars and twilight clouds above, and whose vanishing point was a horizon that seemed miles in the distance. Both productions further emphasized this visual expansiveness with spatial sound, another affordance of headset VR. With spatial sound, producers can program performers' and attendees' voices to increase or decrease depending on the proximity of their avatars to one another. In *Finding Pandora X*, which required users to navigate faster than did *Tempest*, my subpar button-pressing meant I often got separated from my group because I could not teleport onto a departing hovercraft in time. The group's amiable conversation fading into silence as they flew away from me in an abandoned cityscape reinforced how alone and lost I was. Similarly, hearing their voices at a distance and teleport-racing through multiple alleys, tracking the sound as it increased, was the strategy I used to rejoin the group.

Especially for people with a strong awareness of the corporeal self, traversing hundreds of miles in social VR can register as sensorially discordant, because such a journey finds the corporeal body experiencing great distances optically, but with levels of exertion and proprioception that remain within a ten-foot perimeter of physical space. This sensation of the physical body remaining stationary while the in-headset, first-person optical flow moves forward through space is called *vection*. To understand the sensorial disconnect vection creates, I will return again to *Sleep No More*. *Sleep No More*'s six floors of playing space, the McKittrick Hotel, amount to far fewer square feet than the digitally rendered spaces of *Tempest* or *Finding Pandora X*. In *Sleep No More*, however, the feet earn everything the eyes get to see. An attendee who wants to scour the McKittrick for clues (a central objective of the "sleuth" archetype many attendees enact in that production) must do so via step-for-step walking or running, often up and down many flights of stairs—an affordance of physical space that often turned an evening at *Sleep No More* into an evening of interval training. In contrast, the road-weariness I felt from the vection of roaming miles and miles in the digitally rendered landscapes of *Tempest* and *Finding Pandora X* was only cognitive. My corporeal body was not even out of breath. For some, the Cartesian dissonance borne of vection can even become debilitating.[60] Users susceptible to vection-induced nausea, as I am, often have to close their eyes while teleporting or using the joystick/trackpad, because the optical flow of VR moves forward too quickly. This unintended physical effect further amplifies the disjuncture VR headsets create for the sensorium.

Combined with the fragmented embodiment of the avatar, the attention VR draws to the sensorium through dissonance unproductively disrupts the interpretive frame of an unfolding experience. As Popat and new media philosopher Mark Hansen have argued, an unintended consequence VR headsets create is to draw the user's attention to the "lesser" senses the technology cannot overwrite: smell, touch, and taste.[61] This consequence describes my experience in both social VR productions, where I was unusually aware of the carpet beneath my feet, the sounds of my children as they took online classes upstairs, the smell of coffee brewing, and the weight of the headset smushing the bridge of my nose. Other users might be less fussy than I am about discomfort, but I suspect a simple, unfixable reason VR headsets are not in every living room in tech-enabled communities is that too many people do not care for the feeling of an opaque plastic box covering half of their face, regardless of what thrilling entertainment might be inside.

The dissonance between the physical surroundings the "lesser" senses detect and the digitally rendered surroundings one sees and hears in headset can amplify the phenomenon Giannachi describes of users "exist[ing] in fragmentation . . . performing their own presence (and therefore absence) in between the two worlds."[62] This fragmented presence disjoints what theater historian Una Chaudhuri calls the polytopianism of theater, the "orders of spatiality" audiences perceive of the fictional space(s) represented on the stage layered onto the geographic space they inhabit while attending a production.[63] Splitting my sensory awareness across the narrative world of social VR and the nonnarrative world of my daily life did draw a new attention to the sensorium, but with an aesthetic effect very different from what is possible to create in a physical context like *Sleep No More*. As the previous chapter describes, the McKittrick Hotel purposely cultivated a dissonance between senses. This dissonance led to a heightened awareness of the sensorium in a way that contributed to the production's dramaturgical cohesion—it did not jolt attendees out of the immersive reverie the show sought to weave. In social VR, however, I found that the combination of the avatar's fragmented presence, the limited interactivity possible in a programmed space, and the constant attention to a disjointed sensorium punctured each show's dramaturgy in a way that was at cross-purposes with the promise VR makes to immerse the user in an alternate world. For me, the technology made staying committed to patronage a lot like holding class online while being interrupted every three minutes by a bored preschooler standing behind one's laptop, begging for a snack.

The clarity with which a fragmented sensorium registers in social VR also

draws attention to the inherently, inescapably multisensorial nature of perception, and provides a necessary counter to analyses of new technologies that are devoted to isolating the visual or the audio, as if eyeballs and ears are not deeply enmeshed in the smelly, touchy mess of a body. An understanding of perception as always multisensory, a position supported by recent innovations in perception theory, questions the feasibility of the unisensory approach on which VR is predicated.[64] The limitations of theater in social VR are therefore a reminder that performance analysis across contexts, not just the digitally rendered, must attend to the "binocular vision" of semiotics and phenomenology, as performance theorist Bert O. States puts it, and situate interpretation of the visible sign within the embodied experience of the attendee.[65]

A Production-Specific Economy

The difficulty, even impossibility, of establishing a rich and dramaturgically cohesive multisensorial immersivity in social VR stymies the creation of a strong production-specific economy that could incentivize attendees to play along as directed. The limitations of social VR restricted *Tempest* and *Finding Pandora X* to offering only a simple set of the tasks and rewards that comprise such economies. Similarly, the technology itself sapped the potency of the third element of a production economy—narrativized intermediaries who instruct attendees in its rules—because the user-unfriendliness and unfamiliarity of VR meant these intermediaries had to devote most of their interactions with attendees to instructions and troubleshooting, rather than supporting the fiction. Despite a production-specific economy as muted as its immersivity, this fader did make a subtle contribution to encouraging patronage at the vanguard in both productions by activating and relying on attendees' good will to play along regardless of the shortcomings of the technology.

Tasks

As this chapter has described, programming requirements make it challenging to create a wide range of complex ways for attendees to interact with the digitally rendered world they explore in social VR. In *Finding Pandora X*, attendees were tasked with roaming as a group through different locations and working together under the close supervision of a narrativized intermediary to find a

few clues that, in turn, solved a couple of simple puzzles. In *Tempest*, the main task assigned by the production was to mime brief vignettes from Shakespeare's *The Tempest* as the guide/Prospero narrated. Neither production required everyone to participate. I wandered off several times in both shows, sometimes because I got lost and other times to see if there were clues hidden in the distance (there weren't). My absence did not hinder the forward progress of either show. However, if everyone had wandered off instead of completing the assigned tasks, neither show would have worked. Unlike the physical productions I described in the previous two chapters, where tasks incentivized attendees to enact an archetype but both shows could have gone on whether or not anyone complied, each social VR production had to have at least some attendees act the part of supportive patron. Without this participation, both *Tempest* and *Finding Pandora X* would have amounted to a handful of attendee avatars exploring a digitally rendered world while performer avatars tried to convince them to complete the tasks they wanted to assign so they could move on with the narrative. As in most participatory theater productions, particularly those with extremely limited tickets, people generally opt in to attending rather than being forced to turn up, so it was no surprise that attendees in both of these shows were eager to contribute. That each production needed willing spirits for the experience to work infused their participation with purpose, thereby reinforcing the sense that attendees were supporting an experiment.

Occasionally, this patronage became a little too willing, as in one session of *Finding Pandora X* when the same attendee took each invitation from the guide to call out suggestions as an opportunity to do subpar stand-up comedy for thirty seconds—an eternity when an attendee grabs the microphone and the performer does not try hard enough to grab it back. In these moments, the human behind the avatar became legible, creating a dynamic known in puppetry as "co-presence." As stage director Paul Piris explains, "co-presence" happens when "the performer creates a character through the puppet but also appears as another character whose presence next to the puppet has a dramaturgical meaning."[66] In *Finding Pandora X*, these moments of co-presence arose because of the affordance in VRChat that allows all users to speak aloud, at will, and simultaneously. Given the absence of other complex and rewarding tasks attendees could have focused on if they felt the need to participate, the show's encouragement for people to call out suggestions allowed an attendee puppeteer to achieve a co-presence that registered as almost antagonistic in its attention-seeking disruption.

This disruption never rose to the level of ruining a show, but if it had, *Finding Pandora X* could have leveraged one of the affordances in social VR that allow producers to keep attendees from inventing their own tasks. Many of these affordances derive from the need for producers to program the laws of physics that will govern a social VR space. For example, the need to program manipulability into a digitally rendered object means producers can control that manipulability. This control is absent from a physical context like the new Globe in London or *Sleep No More*, where anyone with functional hands could grab any physical prop that passed within their reach and use that prop to create a disruption. In *Tempest*, however, only the Prospero avatar could distribute and collect the costume pieces that designated an attendee avatar was miming a named part in a vignette. Because Tender Claws did not program "can be grabbed by another avatar" into Ferdinand's cavalier hat and Miranda's flower crown, attendees looking to devise their own tasks could not have invented such an interaction on the spot. Even if someone did find a way to disrupt a production within the allowable actions, a producer could disappear their avatar with a click and bar their reentry. Truly disruptive behaviors fall far outside the archetype of patron *Finding Pandora X* and *Tempest* fostered, however, so these concerns were not germane to either production.

Rewards

As in the previous two chapters, a central reward for attendees in both *Tempest* and *Finding Pandora X* was attention from the performers. Even in a digitally rendered world, surrounded by anonymized avatars, being singled out for public acknowledgment can be a powerful incentive to complete a task the production has assigned. In the *Tempest* economy, the value of attention as a reward was most noticeable when withheld. Such was my experience of the production, because I was never selected to complete any iterations of the tasks the production assigned: miming a scene while Prospero narrated or, at his behest, fetching a digitally rendered object that was manipulable. Not having any production-assigned tasks to complete, and consequently no opportunity to earn the reward of attention the production marked as valuable, led to an experience different from the rich engagement other attendees have ascribed to their journeys through *Tempest*. Bushnell, for example, who was tapped to play Ferdinand, notes that interacting with the avatar playing Miranda made her "acutely conscious of my being in that moment, pressured

to improvise a means of communicating with her in my avatar's body," and that these moments of participation "enhanced the sense of liveness not only because they demanded attention but also because they provided the illusion of physical connection."[67] But when I attended, Prospero never chose me to complete any tasks and thereby earn the reward of attention. While the absence of noisy attendees meant that *Tempest*'s narrative was tighter than that of *Finding Pandora X*, it also meant that my engagement, and consequently my interest in being a patron, waned.

In *Finding Pandora X*, performers also rewarded attendees with attention for completing the task of solving the handful of puzzles and riddles we encountered while following our guide on the quest to find Pandora's box of hope. An altruistic framing might point to the intrinsic reward that lies in successfully collaborating with a group on a puzzle, but the puzzles were too easy to be satisfying—a limitation surely borne of the expense of programming affordances into objects in VR. In practice, the reward for being the first person to get the right answer was the opportunity to show off in front of other people. This reward of being correct in front of a group drove much of the production, which moved ahead only in response to intermediaries asking leading questions, such as "What do you think this puzzle piece might symbolize?" or "If we're stuck who should we ask?" After praising attendees whose answers got closest to the information the intermediaries wanted to solicit, the intermediaries rephrased or redirected the response into the plot point they needed to hit next. This strategy kept *Finding Pandora X* on a predetermined narrative track while acknowledging a response as if it had been the right answer to begin with. Although the quests were simplistic, against the backdrop of a group of performers working hard against the odds to make an experiment successful in a pandemic, this transparency further emphasized the need for attendees to enact "patron" and support the effort by playing along anyway.

One reward that both productions could have explored in more detail would have been allowing attendees to make satisfying connections between the canonical source material and the few digitally rendered objects that were manipulable. The scarcity of such objects, especially in a context with minimal opportunities for interactivity, meant that each took on considerable significatory value. Being able to pick up an onion, a wine bottle, or a table in a space where nothing else could be picked up imbued that object with more meaning than nearly anything else in the experience and converted the action of handling them into a task users focused on, regardless of whether the production

incentivized them to do so. *Finding Pandora X* made minor use of this scarcity principle, using it to draw attention to the puzzle pieces that in turn led to a reward of attention from a performer, but in both productions, the objects we could manipulate without the help of an intermediary were not attached to rewards like attention or learning something about the canonical source. While snapping onions into existence in *Tempest* and lifting wine glasses to other avatars in both productions' bar spaces felt novel, completing these tasks did not yield any of the rewards the production had marked as valuable. Attaching rewards to the manipulation of these objects could have strengthened the internal logic of each production's economy despite the limitations of social VR, thereby providing another incentive beyond good will for attendees to act the part of patron at the vanguard. As the next chapter explores in more detail, a semiotics-led approach to the affordance of programmable manipulability can integrate such tasks with the dramaturgy of a production and sustain attendee interest in completing them with rewards more durable than novelty.

Narrativized Intermediaries

By midwifing attendees' experience of the theatrical event, narrativized intermediaries serve as a bridge between the physical and conceptual spaces a production designates as the dramatic event and the quotidian world from which attendees came and to which they will return. The dramaturgical function of narrativized intermediaries is to frame the immersive storyworld as so fully formed and different from quotidian life that a guide is required for new arrivals. This framing helps justify the existence within the storyworld of a bespoke performance economy with rewards that have value only therein and that attendees should pursue.

In *Tempest*, the role of a narrativized intermediary was collapsed into the principal role of Prospero, with one performer toggling between identities as he recited lines from Shakespeare's play or explained in twenty-first-century dialect where the group was going next. This dual duty as Prospero and narrativized intermediary lent a sense of intimacy to the world, as if we were a merry band who had been shipwrecked together in a time of social isolation. The justification for narrativized intermediaries in *Finding Pandora X* fell even more within the dramaturgy of the show, as they took on the roles of secondary, even fringe inhabitants of the mythoi. In contrast to the more recognizable and powerful figures of Zeus and Hera, who played the principal roles in the story, the

intermediaries took on the lesser-known, less powerful figures of Iris, Hermes, and a *coryphaeus*. Attendees unfamiliar with this hierarchy needed only notice the scale of the avatars to understand it—the Zeus and Hera avatars were much taller and wider than the avatars of the intermediaries, who were the same size as members of the Greek Chorus.

In both productions, attendees first encountered the narrativized intermediaries in a transitional space outside the performance proper. Much as *Sleep No More* set up a dedicated space, Manderley Bar, for its intermediaries to instruct attendees in the rules of its complex production economy, *Finding Pandora X* had our avatars emerge from the main VRChat landing page into a cantina set outside the performance space proper. In *Tempest*, this transitional space was spread over multiple locations—first, outside the Decameron, where we learned through trial and error how to move forward, then inside the Decameron, where we learned by watching other avatars that we could pick things up and make objects appear, and finally in the backyard of the house, for direct instruction from Prospero before the first storm took us to Prospero's island. These transitional spaces allowed us to meet our guides and be "enskilled" in social VR in a relaxed and low-stakes space before we had to use the technology in the main narrative.[68] In addition to this pragmatic function, each transitional space also stood as one of its production's most elegant uses of familiar theatrical configurations. Learning how to navigate in social VR by gathering around the bar tables at the preshow cantina of *Finding Pandora X* or, even more elemental, the firepit in the midcentury backyard of *Tempest*, gave attendees a way to feel at home both as patrons of theater and at the vanguard of its reinvention for a postdigital age.

Disaster Capitalism

If theater reconfigured for digital spaces is to be sustainable in the future, its patrons need to be aware of the ways that digital technologies can also reconfigure the labor structures required to make performance work—structures that are part of the "dark matter" that Shakespearean and performance theorist Andrew Sofer argues makes up more of a theatrical event than the parts attendees see on stage.[69] Such an understanding is important because the technologies that allow producers to create remote performance also allow producers to hand off to individuals responsibilities that used to fall to the company, such as

finding and maintaining the backstage spaces audiences rarely get to see. One poignant illustration of the way emerging technologies can convert private space into backstage space happened at the end of another pandemic take on *The Tempest*. In April 2020, less than a month into the UK's first lockdown, British theater companies Creation Theater and Big Telly used the videoconferencing app Zoom to stage a thirty-minute romp through Shakespeare's play, making imaginative use of Zoom's affordances of split screens, filters, and virtual backgrounds.[70] As a curtain call, each performer took down the sheet or blanket they had used to jury-rig a green screen behind them, revealing the personal spaces where they, like the audience watching at home, were sheltering in place, some with companions, some alone. With this simple choice, the production beautifully emphasized for its audience the often overlooked relationship between space and the labor of making magic for the stage.

Social VR, however, has no camera pointed at the physical backstage spaces where this labor transpires, so more effort is required to illuminate this work for the patrons who see only the final product. To create *Tempest* and *Finding Pandora X*, for example, each performer or crew member's personal space had to serve not only as performance and rehearsal space, but as lodging and scene and costume shops—spaces that are the responsibility of the production company in a physical context. It is true that the reconfiguration social VR can provide of the spaces necessary to making theater may solve some of the production challenges that are prohibitive for smaller companies, such as housing out-of-town cast and crew, as required by Equity. Similarly, social VR converts scene and costume shops into high-powered computers that model digitally rendered scenography and avatar skins, thereby ameliorating some of the challenges of making and storing large physical objects. However, these reconfigurations of space simply pass responsibility for them to the laborer. Unless a production company purchases and distributes an adequate computer—a nontrivial financial burden given the specifications required for VR development—the technical artists creating the digital assets that become scenery and avatar skins are likely using their own machines. And to be cast in a social VR production, a performer needs to live in or have reliable, extended access to a physical space large enough to accommodate a cleared guardian of several feet in diameter. This space also must be supplied with a top-tier internet connection, free of roommates or family members walking through the space during rehearsals and performances, and quiet enough to not disrupt the show with the sounds of sirens, dogs, or neighbors. How many theater artists live in spaces that fulfill these requirements?

These observations are not a critique of two productions that worked hard to keep theater alive in the crisis of the twenty-first-century's first global lockdown. In fact, Tender Claws co-founders Danny Cannizzaro and Samantha Gorman have been strong supporters of workers' rights.[71] My concern is not even with social VR as a technology, because it seems likely to remain too niche to become problematic for theater-makers at scale. Rather, my concern is, again, with the industries behind the emergent digital technologies that are introducing new opportunities for live performance, and the assumptions about labor they could extrapolate from pandemic-era experiments in making theater in social VR. Many of these entities have considerable histories of exploiting labor, in part through the "disaster capitalism," as journalist Naomi Klein puts it, of using crises to justify cuts to jobs and benefits and then converting these cuts to permanent austerity.[72] And the labor structures that enabled theater in social VR during the pandemic lockdowns modeled considerable austerity measures for live performance, only one of which was the elimination of a company's responsibility for maintaining multiple physical spaces.

What happens to human performers when spatial computing technologies like social VR and the subject of the next chapter, augmented reality, synthesize with generative artificial intelligence to create performers who are entirely digitally rendered and powered by AI? When these digital performers are trained on and emulate the video archives of performers who are deceased? Over a decade has passed since the posthumous performance of deceased rapper Tupac Shakur via hologram at the Coachella music festival in 2012. Since then, the technologies that create so-called "digital resurrections" have improved exponentially, spawning multiple new iterations.[73] Although the 2023 SAG/AFTRA strike was successful in securing landmark rights for artists regarding these questions, like all SAG/AFTRA agreements, it did not include live contexts. Consequently, very few protections from exploitation by AI and spatial computing exist for live performers as of this writing. As the postdigital media landscape evolves apace, ensuring opportunities for theater-makers are not just sustainable but equitable will require the strong support of many responsible patrons at the vanguard who are well informed about the theatrical futures these technologies afford.

CHAPTER 4

From Cinematographer to Protagonist

Theater and Augmented Reality

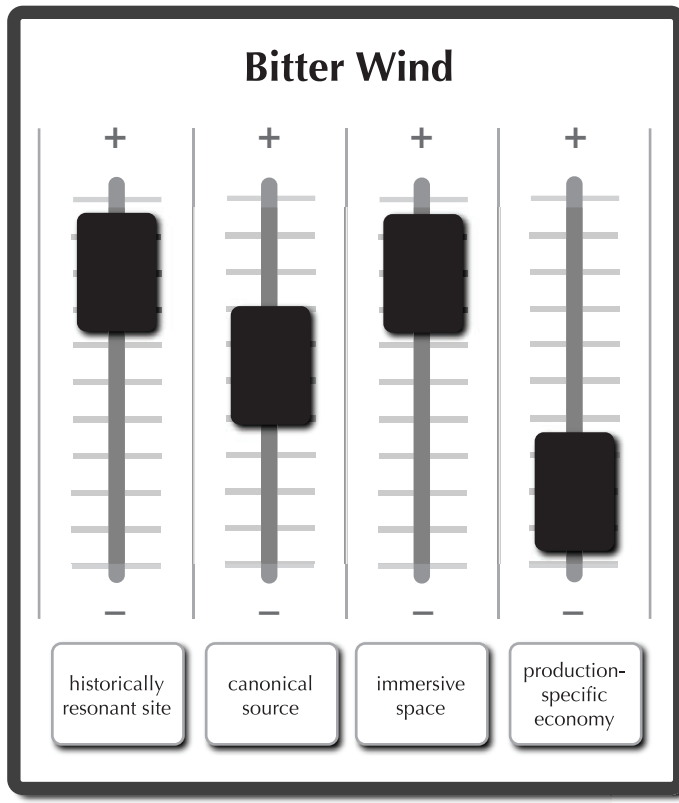


Fig. 14. The mixing board of enactivity in *Bitter Wind*

I conclude this book's investigation of enactivity with an analysis of the emergent technology of augmented reality (AR).[1] Currently available on smartphones and headsets, AR superimposes digitally rendered content onto the physical environment such that the content appears to populate the user's surroundings. The relevance of this technology to the framework I construct here is that it inflects any theatrical context that uses it with enactivity in a way that has not been possible with prior technologies. This is not to say that physical stage elements sharing space with nonphysical entities are new or only digitally rendered. As historiographers of Pepper's Ghost and magic lanterns can attest, artists have situated ghostly apparitions alongside corporeal performers for centuries.[2] Crowds remain interested in such juxtapositions of physical and nonphysical stage elements, as evidenced by concerts performed in recent years by the holograms of deceased artists such as Whitney Houston or Tupac Shakur. In these events, which are attended by flesh-and-blood ticket-buyers, holograms are projected onto physical stages, where they are backed by flesh-and-blood bands and dancers.[3]

Similar apparitions have appeared in theatrical productions as well, such as the Royal Shakespeare Company's 2016 production of *The Tempest*, which featured an Ariel hologram controlled in real time by an actor in the performance space who was wearing a motion-capture suit.[4] What differentiates performances with projected holograms from performances that use mobile and headset AR is that the apparatuses of the latter are in the hands and on the heads of attendees, not production staff. Assigning each attendee responsibility for managing a personal device that interacts with their immediate physical surroundings lends their participation an agency absent from shows in which a production team orchestrates any projections that appear.

To illuminate the enactivity that obtains in AR, the structure of this chapter departs slightly from that of the previous chapters. After a brief overview of the state of AR, I turn first to a production that did not include all four of the production conditions I have identified as particularly effective for cultivating enactivity: *Elements of Oz*, The Builders Association's adaptation of the 1939 film version of *The Wizard of Oz*. Playgoers of this production were situated in the subject position of a conventional audience, in that they sat in a darkened house for the duration of the show and were expected to watch, listen, clap at the right moments, etc. However, in addition to this mode of spectatorship, they were asked to download *Ozvision*, the show's proprietary app, onto their own smartphones on arriving at the theater. At key moments in the show, the app cued

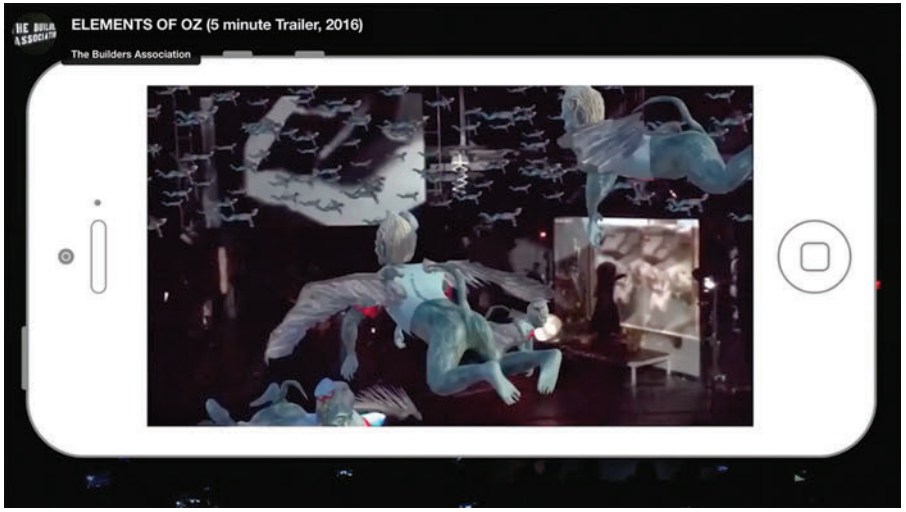


Fig. 15. Screen capture from the *Elements of Oz* trailer (2016) showing digitally rendered winged monkeys superimposed over physical stage action.

audience members to raise their phones. Using the rear-facing camera, the app superimposed animations like blossoming poppies or winged monkeys onto the physical action transpiring on stage, as seen through the phone's screen (fig. 15).[5] *Elements of Oz* is a useful illustration of the way AR adds a measure of enactivity to live theater because the only "fader" of enactivity this production featured was a canonical source.[6] Through a close reading of the unique affordances of AR, the analysis below of *Elements of Oz* demonstrates how this technology layers the subject positionality of a conventional audience member with an invitation to enact the archetype of "cinematographer."

The remainder of the chapter turns to an analysis of my own praxis in *Bitter Wind*, the adaptation of the Agamemnon mythos my theater and new media lab, Fabula(b), created in 2018 for the first generation of the HoloLens, Microsoft's AR headset.[7] A walkthrough of the full experience appears following the glossary. Throughout my discussion of *Bitter Wind*, I identify the participant as a "user," a shift in terminology deriving from the amplified control experiences like *Bitter Wind* grant the people handling the device. For this portion of the chapter, I return to the structure of examining how amplified or muted each fader is in the mix of enactivity a case study cultivates through its production choices. Through this framework, I explain how the dramaturgical aim of *Bitter*

Wind was to operationalize enactivity such that users occupy the subject position of a principal character in a drama, and thereby enact the archetype of "protagonist." Foundational to our design process was that *Bitter Wind* is a kind of AR experience I describe as "environmental AR." In contrast to the playhouse-dependent AR of *Elements of Oz*, which is usable only when a live production is going on, *Bitter Wind* is designed for an individual person and can be deployed in any physical location with at least a sixteen-foot diameter.

The HoloLens has multiple affordances that allowed us to put a user in the embodied subject positionality of a principal character—in this case, Clytemnestra. We created this positionality by requiring a user to engage with a series of elements drawn from Clytemnestra's backstory and leading up to her act of regicide. This design requires the user to enact "protagonist" because all of the actions they take are described or implied in the mythos as actions Clytemnestra would have completed, but the experience does not include a separate Clytemnestra character. The user takes her place, becoming the protagonist as they complete her actions and finish the story. Visually, casting the user as Clytemnestra was accomplished by overlaying the physical surroundings with digitally rendered elements of the palace at Argos—windows, torches, and fragments of brick walls—and a ghostly girl who represents Iphigenia (figs. 16 and 17).

Wearing a HoloLens, then, gives the user an ocular point of view that evokes the view Clytemnestra might have had. While a user is in this point of view, other mechanics in *Bitter Wind* require them to embody actions Clytemnestra might have taken, such as pacing and looking out windows. This combination of a user enacting "protagonist" through a first-person, embodied point of view and the possibility of deploying an environmental AR experience in the user's personal space allowed us to amplify the "own-homeness" of the grief that drives this character's murderous acts. A primary objective of revising Clytemnestra's reception history in this way was to resist patriarchal conceptions of her character. A goal of this chapter's analysis, then, is to demonstrate how designing explicitly for enactivity can activate new ways of thinking about and thinking with a canonical source, embracing untold perspectives and remediating conventional representations through both form and content.

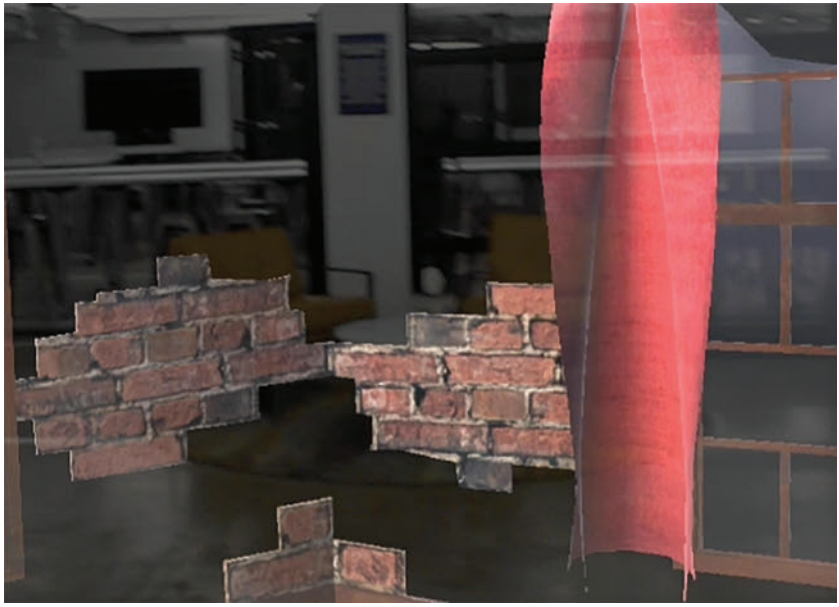
Augmented Reality

As in the previous chapter's discussion of social virtual reality (social VR), this chapter avoids describing aspects of a production with the binary of "virtual"

vs. "real," because anything a user experiences could be described as "real." Instead, I describe elements created entirely from code, such as the winged monkeys in figure 15, as "digitally rendered" or "computer generated." To indicate elements of the user's surroundings not created from code, such as the actress playing the Wicked Witch at the right of figure 15, I use "physical" or "corporeal." To refer to the digitally rendered components of an experience, I use "asset," not "hologram." Holograms are created by light beams and are visible without a screen or lens, as in the Whitney Houston and Tupac Shakur concerts referenced above.[8] The assets I discuss here appear only on the screen of a mobile device or the lenses of a headset. Also relevant is that I use "AR" as an umbrella term for apparatuses that augment the physical world with digitally rendered elements, and I avoid "mixed reality" (MR), a term that may be familiar to some readers. The immersive technology industry has co-opted this term in a way unrelated to performance theorists' use of "mixed reality," which has been to describe productions that significantly integrate all manner of digital technology, such as the work of the theater collective Blast Theory.[9] This industry co-option arose in 2015, when Microsoft released the first publicly available AR headset, the first-generation HoloLens, using "mixed reality" to emphasize the headset's computational robustness compared to the smartphones and tablets that, until that point, had cornered the market on consumer-facing apparatuses that could superimpose digitally rendered content onto a user's physical surroundings.[10]

In every innovation cycle since, the difference has only shrunk between AR-enabled smartphones and headsets like the HoloLens, making the term MR even less useful as a way to differentiate between these devices based on complexity. More pragmatically, this closing gap in computational robustness may enable more artists to make theater with AR. The three headsets first to market were the HoloLens, the Magic Leap, and the long-anticipated Apple Vision Pro, each of which cost in the range of $3,500 new—a price point that would make it difficult for most theater companies to provide a headset for each attendee.[11] However, at the 2024 CES trade show, an annual event where technology manufacturers often introduce new products, the AR consultancy Zappar introduced the "Zapbox," a molded plastic visor of sorts, accompanied by a handful of apps and a developer kit. The Zapbox holds a user's smartphone a couple inches away from their eyes, enabling hands-free access to mobile AR apps and creating a field of vision more encompassing than what can be achieved by holding a smartphone at arm's length. Although the Zapbox does not improve on the HoloLens's wieldiness or style, at $99 it does address the obstacle of price

Fig. 16. (*top panel*) Digitally rendered mountains frame torches that burst into flame when users approach one of *Bitter Wind*'s windows. (*bottom*) A trireme sails across the user's field of view toward the door in the final moments of the experience. (*top facing page*) Superimposed on the user's physical space are digitally rendered windows, stone wall fragments, and Tyrian purple tapestries.



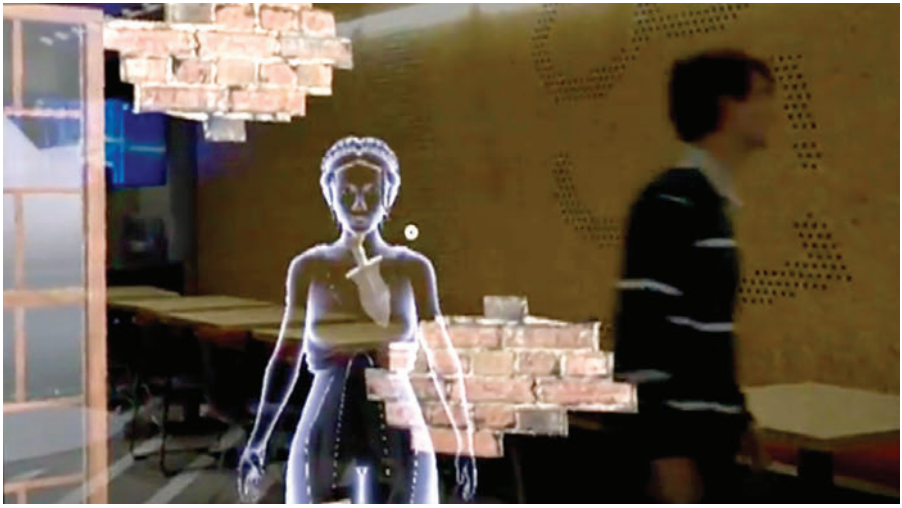


Fig. 17. Iphigenia with a dagger in her chest. The passer-by in the striped shirt cannot see her.

point posed by AR headsets. With a stockpile of Zapboxes—a static object that requires minimal maintenance, is platform agnostic, and has no software updates—a company could provide each attendee with a visor to hold their own smartphone, and thereby create hands-free AR experiences more affordably. As in *Elements of Oz*, audience members could then download a proprietary app onto the phone. In the years since *Elements of Oz*'s premiere, improvements in software such as ARKit for Apple devices and ARCore for Android devices have lessened the cost and expertise required to develop such apps, putting AR within reach for more theater-makers.

Cinematographer

A production of The Builders Association, long recognized for "using the richness of new and old tools to extend the boundaries of theatre," *Elements of Oz* was written by James Gibbs and Moe Angelos and directed by company founder Marianne Weems.[12] The production remediates the reception history and filmmaking process of MGM's 1939 *The Wizard of Oz*, the most popular adaptation of Frank L. Baum's novel of the same name.[13] The film follows the adventures of sweet Kansas farm girl Dorothy, played by Judy Garland, and her plucky little terrier Toto, who are whisked away by a tornado to the magical land of Oz. Dorothy, freaked out by the otherworldly denizens of Oz, wants only to find a way to return home. This quest leads her to befriend a Cowardly Lion, Scarecrow, and Tin Man, who skip down Oz's yellow brick road to Emerald City with Dorothy in hopes of getting the local wizard to grant their wishes. The wizard, who proves to be a fraud, tricks them into a battle with the Wicked Witch of the West and her winged monkeys. Thanks to Dorothy's unsinkable wholesomeness and an eleventh-hour intervention from Glinda the Good Witch, Dorothy finally wakes up back in Kansas, where it seems she has been unconscious for hours due to a head injury from the tornado.

Even with a limited run, *Elements of Oz* was celebrated as "a loose, loopy and enjoyable seminar on the making of the movie and its influence on pop culture" and "an endless fun-house mirror of revelatory effects."[14] These effects included a range of then-emergent technologies, from the purpose-built AR app discussed here to facial recognition, livestreaming, and a flotilla of onstage screens.[15] Although critics described the production as "a digital upgrade of the mirror theatre eternally holds up to society," the audience experience fol-

lowed post-Enlightenment conventions of sitting in a darkened house to watch the action unfold on a lit stage.[16] The exception to this positionality was the production's mobile AR app, *Ozvision*. As I have described, audience members (optionally) downloaded the app onto their own smartphones before the show began. At predetermined moments, the app would cause the phones to play sounds such as munchkins giggling, and, in a nod to the film's signature song "Over the Rainbow," a montage of YouTube videos of amateurs singing the song, as well as animations, such as a spinning tornado, blooming poppies, falling snowflakes, and winged monkeys, with the intent that audience members would hold up their phones to superimpose these animations over the physical action.[17]

Deploying AR on an audience member's personal device in this way alters their subject positioning such that they take on the dramaturgical role of "cinematographer." This alteration derives from the proscenium a smartphone creates. Similar to the way cinematographers splay their index fingers and thumbs to create a frame for envisioning shots, the viewer window of a smartphone creates a frame around whatever onstage action a user aims the phone toward. This affordance offers audience members a measure of control over the stage picture that is absent from other stage augmentations, such as Pepper's Ghost or the Royal Shakespeare Company's live motion-capture *Tempest* described above. In those scenarios, audience members might point their eyes wherever they like, but producers ultimately control the real-time composition of the picture within the frame of the stage. By putting the framing device in the hands of each audience member, *Elements of Oz* created a mode of playgoing that was both physically active and interpretively collaborative. This mode acted as a balance for the onstage framings the production controlled through its many screens. Inviting people to occupy the dramaturgical role of cinematographer in addition to that of spectator added an egalitarian note to *Elements of Oz*'s rapid remixing, further reinforcing the show's central project to celebrate the popularity its source has long enjoyed.

The use of AR in *Elements of Oz* also emphasized how this technology necessarily materializes and reconfigures the polytopianism theater historian Una Chaudhuri identifies in theater. As Chaudhuri points out, reception is impacted by "the combination and layering, one on top of another, of many different places, many distinct orders of spatiality" that ensue when fictional spaces are represented on stage spaces.[18] Superimposing AR assets onto physical stage action emphasizes these layered "orders of spatiality" and introduces a new spa-

tial layer between the audience and the physical stage. Making use of this affordance—a new spatial layer—for scenographic purposes can have considerable interpretive impact. This impact arises from the clarity with which AR assets signify, as compared to physical objects of representation on a stage. To explain this difference, I integrate my identification of the affordances of a technology with core concepts from semiotics in theater and performance.[19]

First, it can be assumed that people understand physical objects to be tangible, so they expect their hands will not pass cleanly through a physical object. In contrast, an asset does not have the affordance of tangibility. Audience members who tried to touch *Elements of Oz*'s winged monkeys would have found their smartphone screen showing their hands behind the animations. Such an encounter reveals that assets have the affordance of porousness. The obviousness of AR's porosity is important, because it also makes obvious the other differences of affordance that inhere in assets as compared to the physical world onto which they are superimposed. That an audience member could not feel the poppies in *Ozvision* also made obvious that these AR flowers could not be manipulated for other physical-world uses, like being crumpled up or thrown. The way an asset—effectively, a sign—can function for a person is necessarily and obviously different from the way the asset's referent can function, because the asset is digitally rendered and the referent is physical. This difference in function between sign and referent does not attend physical stage elements. Consider instead a poppy made of silk and plastic that sits on a physical stage as a prop. It is obvious this prop will function on stage exactly as it would if relocated to a nontheatrical space. Whether a silk and plastic flower is a prop signifying in a show or a not-prop decorating someone's home, it can be touched, crumpled, and thrown the same way.

Significantly, this question of function is unrelated to aesthetics. Imagine a physical representation of the poppy that is symbolic, such as painting made of canvas and gouache. The painted flower may resemble its physical referent, but it does not function like this referent—neither actors nor audience can pluck the gouache poppy from its frame. However, everyone in the performance space knows the *painting* would retain the same affordances if removed from the stage. Whether the painting hangs on an audience member's wall as decoration or on a scenographic wall as theatrical sign, anyone in possession of the canvas will be able to access the same affordances: tangibility, for example, and the surface tension that would allow one to bounce a coin off the fabric. In contrast, an AR version of the painting—a digitally rendered sign of a sign of

a poppy—would not be tangible and could not bounce a physical coin. In an AR experience, whether the sign of "poppy" is indicated by a digitally rendered flower or a digitally rendered painting of a flower, the asset does not function in the same way its physical referent would. The asset functions only as a sign. An asset in an AR experience is therefore demonstrably and exclusively a sign, a semiotic coherence that illustrates the clarity with which AR ostends, theatrically.

In *Elements of Oz*, this clarity of signification emphasized the hallucinatory aspects of Dorothy's experience in a way that would be difficult to achieve with other stage technologies. The production's choice to relocate the fantastical elements of the story from the physical stage to the layer of AR where they signify with pronounced clarity amplified their artificiality. One way to understand this effect is as a spatial corollary to the temporal impact of songs on the dramaturgy of a musical. Musicals, as Scott McMillin explains, are comprised of two orders of time: book time, which is linear and contains spoken lines and plot structures, and lyric time, which is ruled by musical form and therefore offers characters "a formality of expression unavailable to them in the book."[20] When characters break into song, McMillin argues, they "are being enlarged by entering into the second order of time and displaying their mastery of repetitive, lyric form."[21] According to McMillin, songs occur in a musical when the content has exceeded the affordances of speaking and can be expressed only with the affordances of song, such as repetition, timing, and pitch. Like lyric time in a musical, AR provides a second order of space for scenographic elements whose dramaturgical meaning exceeds the affordances of the physical stage. In *Elements of Oz*, the appearance of fantastical elements in this second order of space emphasized them as hallucinations—visions that are there and not there, and perceptible only to the hallucinator. That these hallucinations took place on a personal device with a framing directed by each audience member effaced the distinction between the audience and Dorothy. With AR, Dorothy and the audience were two subject positionalities who could see the same hallucinations. The effect of bringing audience members into the dramaturgy in this way was to underscore the production's larger interpretive goal of remixing the MGM film's popular reception through the filter of heavily mediatized stage performance.

I turn now to projects I consider "environmental AR," which add a directorial bent to the cinematographic role that audience-controlled AR activates by default in a performance context. In purpose-built theater spaces such as those

hosting *Elements of Oz*, audience members might frame their own views with a smartphone in the moment, but producers retain control over the venue and time of an experience. Environmental AR, however, permits more control over the experience—so much more control that I indicate this subject positionality with the term "user" rather than the "audience member" of a production like *Elements of Oz* or the "attendee" of previous chapters. Several established companies have experimented with giving people this kind of control in recent years. In 2019, the Bristol Old Vic partnered with actor Andy Serkis and AR headset manufacturer Magic Leap to record a performance of *The Grinning Man* with motion capture. Wearing a headset, users could play back the performance in 3D at scale and walk around and through the recording.[22] Also in 2019 and with Magic Leap as a technology partner, the Royal Shakespeare Company's Gregory Doran directed *The Seven Ages of Man*, a combination of volumetrically captured performance and animation. In this "tabletop theatre," as Doran called it, headset-wearing users could place a twelve-inch-tall Robert Gilbert on any flat surface and watch him deliver the "seven ages of man" monologue from William Shakespeare's *As You Like It* while a digitally rendered tree bloomed and withered behind him.[23] A third project appearing in 2019, a banner year for AR experiments in the UK, was the National Theatre's *All Kinds of Limbo*, which the company created in their (now-shuttered) in-house Immersive Storytelling Studio as a "tabletop theater" companion to their production of *Small Island*. Like *Seven Ages of Man*, this app used an AR-enabled tablet to display a 3D performer on any flat surface (fig. 18).

In environmental AR experiences like these, users have control over not only the framing, but also elements of scenic design, such as visibility under ambient lighting, the size of a space, disruptions to passers-by, and time of day, among others.[24] Anticipating such a development in performance, director and performance theorist Matthew Causey identifies its origins in binge-watching and streaming media:

> The choices available make for new models of viewership in which the individual audience member selects location and timings, allowing for the construction of a broadcast network of one programing for a spectatorship of the self. Perhaps this type of electronic variability and choice is not possible in a live setting, but the influence is present nonetheless in contemporary performance.[25]

Fig. 18. Viewed in AR on an iPad, the National Theatre's 2019 *All Kinds of Limbo* appears to play on a coffee table.

The habits of viewership Causey describes are now so familiar as to be unremarkable. This shift has enabled the "spectatorship of the self" Causey identifies to migrate from screen-based media to performance in the form of environmental AR. By permitting users so much personalized control over so many production elements, environmental AR introduces the potential for an increased sense of intimacy with and responsibility for the stories portrayed. Enabling users to carry environmental AR in their back pocket also invites them to exercise their creativity as both director and cinematographer. Deploying environmental AR wherever one sees fit is a mode of engaging with a cultural property substantively more empowered than the dynamic that arises from a production company deciding when, where, and how long playgoers will attend a show.

The interpretive possibilities environmental AR grants users have much to do with site-specific performance. A descriptor as contested and flexible as "spatial computing," site-specific performances, as performance theorists Mike Pearson and Michael Shanks describe, "are inseparable from their sites, the only contexts within which they are intelligible."[26] In other words, such perfor-

mances involve more than a casual interaction of staged elements with a non-theatrical site. In a site-specific performance, the details of one site over all other sites—its location, architectural features, prior use, cultural significance, accessibility, etc.—are deeply in conversation with the dramaturgy of and even inspiration for a piece. This is not to say an imbrication of site and dramaturgy is inherent in the design of every environmental AR piece. Any interpretive potency a site would have for the Royal Shakespeare Company's *Seven Ages of Man*, for example, depends on the creativity of the user who decides where to deploy it. Given the content of this monologue, which muses on the progression of life from infancy to the "second childishness and mere oblivion" (2.7.172) of old age, deploying *Seven Ages of Man* inside a daycare as opposed to a retirement home would offer different possibilities for a user's reception. From a design perspective, however, the Royal Shakespeare Company's approach to creating environmental AR did not pursue the "complex coexistence" Pearson and Shanks identify as the hallmark of site-specific work. *Seven Ages of Man* can be better understood as a snow globe, a digital object that can be placed on any number of surfaces without changing its core meaning. But AR can allow a deep and individualized integration of the user's site with the dramaturgy of a piece, and it can do so in ways that are not achievable with other technologies. To illuminate the design possibilities introduced by environmental AR that is site-specific, I turn now to *Bitter Wind*, my lab's adaptation of the Agamemnon mythos for the HoloLens headset.

Clytemnestra

The inspiration for *Bitter Wind* came from one powerful moment of theater. In late 2015, I accompanied a few colleagues from Northwestern University's Classics Cluster to the Court Theater in Chicago for the world premiere production of founding artistic director Nicholas Rudall's translation of Aeschylus' *Agamemnon*.[27] As is customary in ancient Greek drama, Aeschylus sets the entirety of *Agamemnon*'s stage action in front of an important building; here, the palace of Argos. On a stage, closed doors simmer with anticipation (or they should), but the plot of *Agamemnon* lends its door extra dramatic weight. Everyone in the theater except for Agamemnon—the queen Clytemnestra, the Chorus, Cassandra, dragged hither as Agamemnon's prize for winning the Trojan War, even the audience (if they are in antiquity)—knows a regicide at Cly-

temnestra's hands awaits the arrogant king if his wife can convince him to walk through his own front door. Even on the page, the door draws attention. In one of the first scholarly close reads of ancient Greek drama for implied stage action, classicist Oliver Taplin remarks on the way Clytemnestra "controls the threshold and everyone in *Agamemnon*, with the exception of Cassandra [9.1.1], uses the door on her terms and under her supervision."[28] The palace door at Argos, then, is not only a practical piece for entrances and exits—it is also an omen, foreshadowing Clytemnestra's agency over the play's gruesome ending. In production, the result of this complex meaning is that every movement of the Argive door on its hinges or actor's cross in its direction becomes infused with an anxiety that can be electric.

At the Court, scenic designer Scott Davis's production design pushed the stage presence of this famous door to an extreme, giving it the pull of a tractor beam. In two-thirds round, the stage was bare other than this set piece, represented in the style of a New York City Italianate brownstone with a double door. Massive even by the standards of Greek tragedy, the double door's height was accentuated by neoclassical pilasters and crosshead at the top of an eight-step stoop. The stoop's balustrades were fashioned not of wrought iron, but with wide plank handrails and heavy turned posts. Everything was painted in high-gloss black, functioning pragmatically to reflect the stage lights and symbolically to index wealth, severity, and foreboding. Even an audience member new to this storyline could not miss the importance of this door. As the play began and our group nodded through the familiar-to-us story beats—yes, Watchman sees the signal fire, yes, parodos, always a little long but the Argive Elders do like to air their grievances—my attention kept returning to the door. By the time of the first stasimon—Clytemnestra's entrance from inside the palace (i.e., from behind that door)—I was on the edge of my seat. The lights shifted and the Chorus shrank back from the stoop, trailing off their excuses for not going to Troy. Everyone, it seemed, held their breath. The double door flew open, revealing Clytemnestra, played with exceptional intensity by Chicago stage regular Sandra Marquez, her chin high and shoulders squared in defiance of the Chorus's mutinous gossip. A frisson of realization shot through our group of classicists as we saw the white-walled interior of Clytemnestra's home, overlit like a beacon against the otherwise black scenography. Scrawled on every inch of the foyer walls was the same word, over and over again, by the hundreds: "Iphigenia."[29]

Writing on the history of scenography, theater historian Arnold Aronson argues that the door in Aeschylus' *Agamemnon* was "the most profound tech-

nological and scenographic development in the history of theatre," because it introduced the concept of inside and outside as separate representational spaces on stage.[30] Despite my familiarity with the play, Clytemnestra's entrance in the Court production was the first time it registered to me that the "inside" Aronson references is a specific place: Clytemnestra's own home. In much of the long reception history of Clytemnestra's character, she is portrayed as enraged, lustful, and power-hungry.[31] Often overlooked in these depictions of the mythos is that for the ten years Clytemnestra has been pacing the halls, awaiting Agamemnon's return from Troy so she can murder him, she has occupied the space where her daughter Iphigenia grew up—a space where memories of the girl surely inhabit every wall. Across the mythoi, subtler valances like endless maternal grief tend to be drowned out by the noise and chaos of war and multiheaded monsters, and by supervillains who send a poisoned dress that bursts into flames on the wearer or cook their own nephews into a pie and serve it to the nephews' father at a feast. Given the spatial affordances of the ancient Dionysia, this privileging makes sense. From the nosebleed section of the festival's 17,000-seat house, splashy descriptions of rage and murder and the rolling out of bodies on an *ekkyklêma* would have read far better than the quiet oppression of grief.

The Court, then, was the first time this note of Clytemnestra's character—the quiet, "own-homeness" of her grief—registered to me. It appeared only for a flash, however. Like many productions of this play, the pace of the show was dominated by a race to the climax of getting Agamemnon to walk through the door. But this is the nature of physical theater, especially when a production company needs to prioritize revenue. A regional playhouse like the Court could hardly hit its overhead with a production where Sandra Marquez walks the stage in silence for two hours, intensely looking out the windows. Even a niche production that did stage such an experiment would not capture the loneliness of Clytemnestra's grief, because an audience as small as one person would have the company of the performer. Anyway, this improbable scenario would still lack the layer of familiarity—the experience of being alone in one's own space, besieged by the memories that live in those rooms. Is it simply impossible, then, for the technologies of theater to emphasize the grinding desolation that underlies Clytemnestra, borne of pacing her own halls for ten years—the *own-homeness* of her grief?

Months later, still mulling over Clytemnestra's entrance at the Court, I was working in the campus incubator where I launched my theater and new media

lab, Fabula(b). I started Fabula(b) to investigate through praxis how emergent technologies enable new dramaturgical insights into overlooked elements of canonical stories.[32] On this day, my team was finishing *Something Wicked*, a video game adaptation of the Norwegian invasion of Scotland described in Act 1, Scene 2, of Shakespeare's *Macbeth*. As I have described elsewhere, *Something Wicked* was an experiment in using the affordances of a digital context—here, a side-scroller video game—to allow users to enact the subject position of a principal character—here, Macbeth—but remain within the sequence of plot points as they appear in a canonical source, rather than change them.[33] With this design, we sought to recapture for a twenty-first-century demographic the importance of Act 1, Scene 2, in setting up the title character before his first entrance in Act 1, Scene 3. We therefore designed a game where players are governed by abilities and constraints similar to those controlling Macbeth, such as a sword that smokes with bloody execution, which in *Something Wicked* unleashes a superhit that kills all nearby kerns and gallowglasses, or a Banquo who gets in his way, a dynamic we materialized as a nonplayable Banquo avatar who hovers near the Macbeth avatar and absorbs all the health-regenerating resources.

During a coffee refill, I noticed the incubator staff trying out their new acquisition: Microsoft's first-generation HoloLens (fig. 19). At this point, I knew little about any kind of AR other than what I had gleaned from watching students play *Pokémon GO!* on their mobile phones around campus. The staff's enthusiasm was infectious, so I wheedled my way into a demo from the technology manager. After balancing the HoloLens's bulky lenses over my own glasses, tightening the head straps, and practicing the hand gestures that controlled this first model, I launched *Fragments*, a crime drama from Asobo Studios that came preinstalled. I followed the instructions hovering in front of me, turning my head so the HoloLens's front-facing cameras could locate the headset within the space by mapping the surrounding geometric planes of the walls, floor, ceiling, and furniture. This task complete, *Fragments*'s digitally rendered content began to appear beneath my feet. First to come into focus was a shabby wood floor, overlaid onto the physical floor of the incubator. The digitally rendered wood floor was translucent, so I could see the pattern of the concrete beneath. Marveling at the effect, I leaned over to touch it just as a digitally rendered rat skittered across the wood floor, inches from my feet. I jumped, gasping at the realism of its movement. A nearby colleague, leader of a team designing a new style of (physical) office chair, looked at the spot on the floor where I

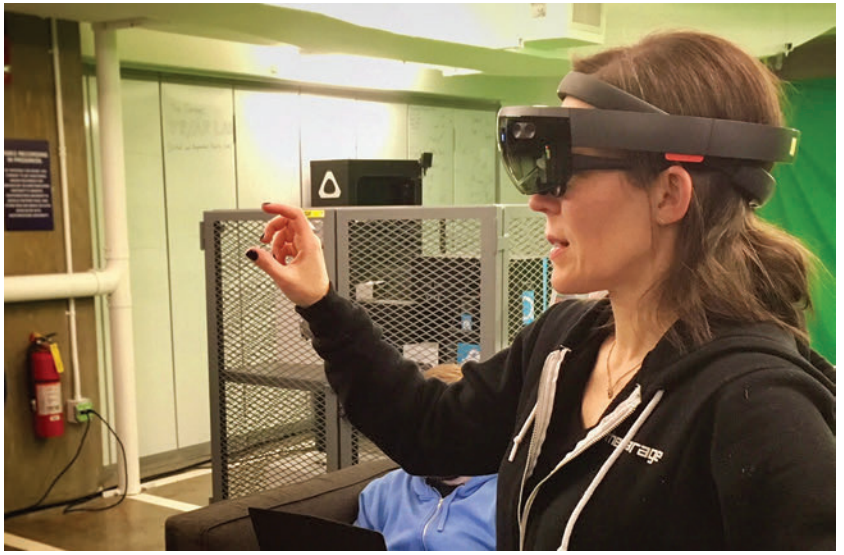


Fig. 19. The author wearing a HoloLens headset. Unlike a VR headset, a HoloLens allows a user to see the surrounding space at all times, as if wearing sunglasses. Here, I am using the "air tap" gesture, which the headset's outward-facing cameras recognize. This and other gestures allow users to interact with assets only they can see and that appear to populate the physical room. Photo by Alan Hunter © 2018.

was looking in horror. Not wearing a headset, he couldn't see or hear the rat. He looked back at me with skepticism. I waved him off as the next content appeared on the floor, this time in front of a physical couch in the lab. A young White boy, knees curled into his chest, was shaking and weeping as he cowered against the physical leg of the couch. Great. With his slight frame and too-short pants, he was a brown-haired version of my eldest son. The boy kicked at another rat that ran toward him, and the scene's final figure appeared: a lean, scruffy White man, scowling and holding a gun. With a desperate energy, he walked over to the boy, bent down to scream in his face, and fired several rounds into the floor beside the boy's little feet. The child howled even louder.

Panicked and appalled, I took the headset off. The technology manager grinned and asked, "Which one did you do, *RoboRaid*? The scorpions are awesome!" I shook my head and sank into the couch, staring at the spot where the terrified boy had been. In just a few moments, the embodiment and intrusion the HoloLens created in my own space left a vapor trail unlike other modes of storytelling I have encountered. I was overwhelmed, partly because I had not

prepared enough emotional armor for first-person immersion in jump scares, realistic rats, and an abducted child. While my free-floating memories are often tinged by stories I've read, watched, or created for stage and screen, the HoloLens was the first technology to attach a story to my own walls, and to put me in an embodied point of view within that story. Even more striking was the disjunction between seeing, hearing, and interacting in real time with an embodied, three-dimensional narrative nobody around me knew I was experiencing. Amplifying this sense of public aloneness was that it happened in a familiar, communal place—one where, some weeks, I spent more waking hours than in my own house. How could my own colleagues not have seen what I saw while we were standing together in a place where we shared a storage locker and had worked beside one another all semester?

I have only an outsider's understanding of the Portuguese concept of *saudade*, but the term seems to hint at the phenomenology of experiencing a story with AR—of longing and sadness rooted in public solitude, of moving through a familiar space that is haunted by entities at once embodied and not-embodied. This effect spoke to the production problem in *Agamemnon* that was still plaguing me: how to emphasize the public aloneness, duration, and own-homeness of Clytemnestra's grief. Amplifying this note in her character seemed possible with the HoloLens. Not only could this apparatus layer "there-not-there" entities onto a physical space, it could put the user in the first-person perspective of a principal character. As the video game and journalism industries have recognized for years, first-person perspective can "induce a sense of embodiment toward a virtual body, especially in terms of self-location and ownership" and encourage viewers to have "a deeper emotional response" to the subjects portrayed.[34] With an AR headset instead of a keyboard and monitor, we could invite users to inhabit a principal character's embodied first-person perspective at scale and in three-dimensional space, and thereby overwrite third-party depictions of that character with the user's lived experience of seeing, moving, and feeling *as* the character—of enacting "protagonist." Channeling my distress over *Fragments* into praxis, I made plans for *Bitter Wind* to be Fabula(b)'s next project.

Bitter Wind

To put the user in Clytemnestra's point of view, *Bitter Wind* first maps an invisible sixteen-foot hexagon onto the user's physical space, with the user at its

center. This hexagon is a far smaller playing space than that of the other case studies this book examines. For most productions at the new Globe, enterprising groundlings who don't mind glares can perambulate a 700-person yard. Attendees of *Sleep No More* had five warehouse floors of space to roam more or less at will (and with fewer glares), and in both *Finding Pandora X* and *Tempest*, the explorable space was infinite. In *Bitter Wind*, we countered the constraint a sixteen-foot perimeter places on the user's spatial exploration by removing time limits from the experience. This kind of temporal agency is not an affordance of theater in producer-controlled spaces, physical or digital, where performers, crew, and staff need attendees to leave, eventually. Allowing users to control how long they want to explore *Bitter Wind* was a design choice intended as a rejoinder to the "move fast and break things" ethos of the metaverse economy that gave rise to spatial computing.[35] Additionally, the non-intuitiveness of the HoloLens's controls and the absence of detailed instructions for moving through the interactions tend to make the experience last much longer than many users expect when they put on the headset. The combination of a tight perimeter and an unexpectedly lengthy and unhurried timeline further amplifies the phenomenology of enacting Clytemnestra, stuck in Argos for the duration of a war nobody expected would last so long.

Within this hexagon are visual assets drawn from *Agamemnon*, each positioned at a fixed location: fragments of stone walls and windows, the series of torches that alert Clytemnestra to Agamemnon's return, the palace door Agamemnon walks through to his death, and a mural that fills in with elements drawn from the backstory of the mythos (fig. 20). Once all the torches are lit and the mural is filled in, the door swings open to reveal Agamemnon in the bathtub with a knife suspended over his chest. The user must click the knife to stab his prone figure. Throughout the experience, a mournful, ghostly girl asset represents Iphigenia. She hovers in front of the user, her handful of lines the only spoken words in the experience. To move the user through the story, *Bitter Wind* capitalizes on a range of HoloLens affordances, such as its ability to detect its own proximity to physical walls and to discern the direction in which the user's head is pointed. With the assets pinned to fixed locations, cues such as knocking (stimulating users to turn in that direction) or glowing footprints on the floor (suggesting users should walk over to stand on them) encourage the user to pace back and forth in their physical space and look out *Bitter Wind*'s digitally rendered windows. In addition to serving the pragmatic function of triggering the next story beat in the experience, the

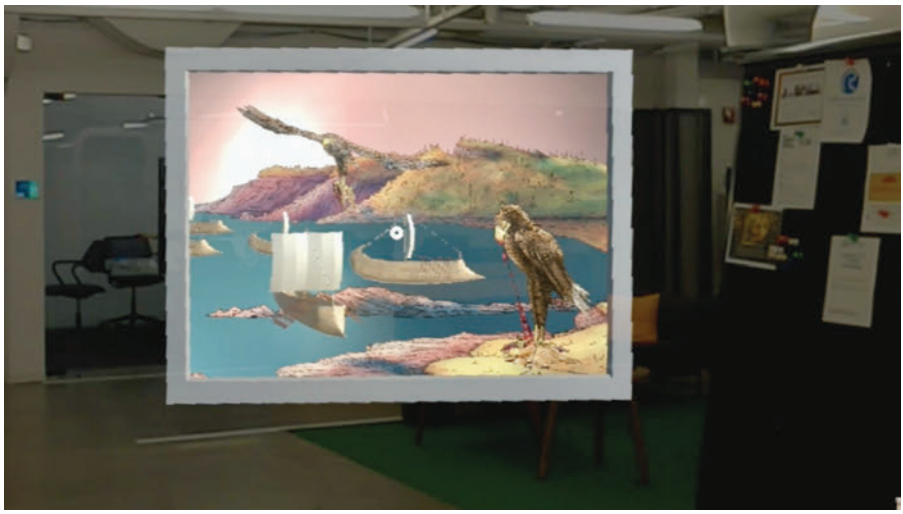


Fig. 20. *Bitter Wind*'s mural, filled in with pictorial elements from the Agamemnon mythos.

user's pacing and looking emulate Clytemnestra's ten-year wait for Agamemnon's return and set a baseline of movement on which the four production conditions of enactivity build.

A Historically Resonant Site and an Immersive Space

As I have described, the affordances of overlay and portability in environmental AR create the opportunity to design for site-specificity. Integrating site and content in this way theatricalizes a user's physical surroundings, converting these surroundings into an immersive performance space. In *Bitter Wind*, we leveraged this effect to draw into the dramaturgy of the experience any personal historical resonance that might characterize the space a user chooses for the experience. On *Bitter Wind*'s sound board of enactivity, then, the faders of historical resonance and an immersive performance space are inextricable and the loudest of the mix.

The intensity of the personal historical resonance *Bitter Wind* will have depends on where a user decides to deploy the experience. The options for this location are numerous, because the HoloLens is a self-contained, wi-fi enabled computer untethered from other devices. It can be used in almost any location

where a smartphone could be used.[36] This portability means the backdrop of *Bitter Wind*—the physical surroundings over which the digitally rendered windows and brick wall fragments are superimposed—will be whatever the user selects.[37] This choice can have a considerable impact on the affective register of the experience. For example, running *Bitter Wind* in a busy hallway of a conference hotel tends to amplify a sense of being alone while surrounded by people rushing past, their agendas unbothered by private grief. In contrast, running *Bitter Wind* in a space intimate and familiar to the user, like their living room, tends to more closely approach the own-homeness of Clytemnestra's grief that inspired the project.

Materializing grief as space in this way invites a phenomenological understanding of unresolvable grief that radiates from and permeates one's own walls. Using *Bitter Wind* in one's bedroom rather than a public space enfolds the smells, sounds, and memories of that room into the fiction, reinforcing the imbrication of home and grief Clytemnestra carries. Any physical objects that are present become tiny loci for the interpretive potency of AR's site-specificity to manifest. Physical objects are uniquely charged in such an experience because AR foregrounds their "thingness," to borrow from literary and material cultures theorist Bill Brown. Drawing on philosopher Martin Heidegger's distinction between thing and object, Brown posits that disruptions, such as an object breaking, illuminate the "thingness" we only glimpse behind the familiar object we typically look through, and that these disruptions cause us to pause and notice the details of the object anew.[38] As the above analysis of *Elements of Oz* explains, AR assets create such a disruption because they embed a clarity of signification that does not attend physical objects. Consequently, superimposing their otherness onto physical objects emphasizes the *thingness* of those objects. The more familiar an object is to the noticer, the sharper this jolt of awareness becomes, an effect we sought to leverage in *Bitter Wind*.

The first time I tested *Bitter Wind*'s visual assets, I was in the same home-away-from-home incubator where I tried *Fragments*. As I ran through our story beats, the interruption of a stabbed girl asset in front of a wall I'd passed a hundred times enlivened the wall's *wall-ness*. Juxtaposed with a porous, here-not-here asset, the wall's wood asserted its solidity (fig. 17). For the first time, I noticed its abstract pattern was comprised of holes one could stick a finger into, evoking a surface riddled with bullet holes or worn away, two scenographic possibilities that complemented *Bitter Wind*'s stylized antiquity nicely. At the end of what had been a long term, noticing this detail of pockmarking, of wear,

as the backdrop to Clytemnestra's grief made me feel a little more worn myself. The glare of fluorescent lights turned harsh and artificial, and the ceiling, rumbling with cars in the parking deck above us, seemed flimsy.

The power of AR assets to point up the thingness of physical surroundings is not limited to theatrical uses. Activating the AR "Live View" in the Google Maps mobile app superimposes onto the physical street a big digitally rendered arrow, the clean lines of which emphasize the asymmetrical, variegated imperfections of the physical world the user is trying to navigate. Google Maps intends only to be informational, however, so its assets do not implicate the user's physical surroundings into a fiction. But in story-based environmental AR like *Bitter Wind*, the user's physical objects are charged with the tension inherent in stage objects that, as performance theorist Alice Rayner identifies, arises from the push and pull between signification and materiality.[39] Returning to the hypothetical user deploying *Bitter Wind* in their own bedroom, the presence of storytelling assets like a ghostly girl would draw attention to the materiality of the user's personal items—maybe a hairbrush and crumpled pajamas—and implicate them as part of the story. What was just a hairbrush now is itself as well as a signifier of a hairbrush—perhaps even one that belonged to the girl the asset references. Moreover, this physical object brims with the potential of becoming a prop within the unfolding fiction. Achieving this status would require the user to handle it during *Bitter Wind*, because it is the actor's movement that transforms an object into the prop that is "at once itself and other than itself," as Shakespearean and performance theorist Andrew Sofer has argued.[40] Whether or not such objects do become props during an AR experience, they bear traces of the story when the experience ends. Much as the jolt of seeing an object's details afresh registers with greater force when it is familiar, so too does the echo of having been theatricalized linger longer in such items. The phenomenology of inhabiting one's own space, surrounded by familiar objects that hang on to the traces of Clytemnestra's grief, allows *Bitter Wind*'s users to take on the role of the bereft and much-maligned Argive queen not just by seeing as her, but by feeling as her for a moment.

The theatricalization AR confers on familiar objects allowed us to activate in *Bitter Wind* the "diachronic collaboration" that I have argued enactivity can extend to attendees.[41] By emphasizing familiarity as a felt sensation, *Bitter Wind* gave users access to a larger, vital aspect of ancient Greek playgoing other technologies cannot capture. In fourth- and fifth-century Athens, playwrights could rely on an attendee's deep knowledge of the mythoi, which they gleaned not

only from the state religion but also their experience as seasoned performers of the stories. As classicist Martin Revermann explains, the dramatic and dithyrambic choruses of each year's festival would have required over a thousand participants who were cast from all classes of Athenian citizens, leading to a dynamic among playgoers wherein "a substantial portion of them would be united through the theatrical experience of having performed in the theater of Dionysus themselves."[42] In other words, ancient Greek playgoers would have brought to the theater considerable foreknowledge of the events about to transpire on stage, a cultural expectation that would have driven a significant part of the dramatic tension in any production. In the twenty-first century, even if a house is filled with classics scholars, there is simply no way to recapture or replicate the depth and breadth of what Revermann calls the "theatrical competence" of ancient playgoers—that is, the intimacy and familiarity with the story necessary to create the dramatic tension ancient playwrights anticipated.[43] For a user to enact the protagonist archetype through a character from ancient Greek drama such as Clytemnestra, a comparable depth of familiarity must be present. Environmental AR makes this register possible. Layering a story like Clytemnestra's onto the user's own space can capture the phenomenology of being in a room where everything in sight is as woven into the fabric of daily life as the mythoi would have been in antiquity. In such a space, it is possible to grasp the weight of a grief so old and familiar it has become part of the walls.

A Canonical Source

Also pushed moderately high in the mixing board of *Bitter Wind* is the presence of its canonical source, the Agamemnon mythos. A branch of the Curse of the House of Atreus, the Agamemnon mythos was depicted across media in antiquity. Characters and scenes from this sprawling, multigenerational mythos are frequent subjects of representation on pots, mosaics, transcriptions of bardic narratives, and stage plays, with more than a few variations in the details. Of these multiple versions, *Bitter Wind* hews closest to Aeschylus' play *Agamemnon*, which is more sinister than other dramatic iterations. In Aeschylus' hands, Iphigenia really has died, unlike in Euripides' retelling, which has Artemis replace her with a deer at the last moment. Aeschylus also writes a Clytemnestra who does the stabbing herself, in contrast to *The Odyssey*, Homer's transcription of the bardic narrative, in which Aegisthus is the murderer and Clytemnestra only an accomplice.[44]

To acknowledge the intertextuality that informs the Agamemnon mythos, we folded into *Bitter Wind* elements from representations other than Aeschylus' drama. The deer in the opening sequence references Euripides' play, for example, while several visual elements throughout the experience were inspired by two pots that depict events bookending the onstage action of Aeschylus' play: a Paestan red-figure neck amphora, currently housed by the Getty Villa, which depicts Orestes' killing of Clytemnestra, and an Apulian red-figured volute-krater, currently housed by the British Museum, which probably depicts Euripides' unfinished *Iphigenia at Aulis* (fig. 21).[45]

Because of our limited budget and timeline, *Bitter Wind*'s design could accommodate only a few of the visual elements depicted in and described by the many instantiations of the Agamemnon mythos. To draft and prioritize this list, I operationalized the "semiotic approach to mythical names" classicist Marianne Hopman proposes as a method for distilling the semiotic constants of a specific mythical name from a given mythos's many variations.[46] Hopman describes her model through the example of Scylla, the sea monster of the Scylla and Charybdis mythos, who Hopman says must have the "conceptual domains" of dog, woman, and the sea to qualify as portrayal of Scylla.[47] According to Hopman's model, if someone digs up an ancient Greek pot with a painting of a monster that is clearly a woman and in a body of water, but no part of the rendering suggests dog, the absence of this third "conceptual domain" would disqualify that pot as a representation of Scylla.

Whether painted on a pot, performed on a stage, or deployed in an AR experience, any representation of semiotic constants puts them into a hierarchy that vies for the beholder's attention. The Court Theater used the affordances of the stage—glossy black paint, stage lights, and central placement—to assert the importance of the door to the representation they created of *Agamemnon*. In contrast, the Apulian red-figured volute-krater in figure 21 uses the affordances of two-dimensional painting and the shape of a pot to emphasize the association of Iphigenia with a deer: A layering of their two heads aligns with the top third of the vessel at its widest part, and all of the other figures visible on this side of the volute-krater are looking in their direction. To further reinforce the importance of the girl's head overlaying a deer's head, the central figure, probably Agamemnon, points his dagger at them. In *Bitter Wind*, we used the affordances of both theater and AR to place Iphigenia at the center of the user's attention. The experience does include other semiotic constants of Agamemnon, such as a series of torches, Tyrian

Fig. 21. (*Left*) A Paestan red-figure neck amphora, currently housed by the Getty Villa, which depicts Orestes' killing of Clytemnestra. (*Right*) The Apulian red-figured volute-krater that probably depicts Euripides' unfinished *Iphigenia at Aulis*, currently housed by the British Museum. Image at right appears courtesy of The Trustees of the British Museum © 2024.

purple tapestries, a bathtub, a net, the door, and the images in the mural, but we programmed Iphigenia with the reliable focus pullers of pointing, having the only spoken lines in the experience, and rotating to face the user, wherever they stand. These affordances allowed us to emphasize the importance of Iphigenia's presence to Clytemnestra, thereby recuperating the maternal grief that is an overlooked element of this principal character.

A Production-Specific Economy

A production that requires participation and seeks to maintain a predetermined storyline must come up with other behaviors to replace the meaningfulness—the value—of participating by altering an unfolding narrative. As I describe in the introduction, this replacement manifests as a production-specific economy, wherein rewards that have value only within the production incentivize participants to complete identifiable tasks. In combination with the other conditions that cultivate enactivity, a well-defined production economy can provide a complex and satisfying way to participate. Within the economies I described in the previous chapters, one of the most valued and limited rewards is the opportunity to play a character who falls within the narrative, however briefly. At the new Globe, when a character has lines that include musing on occupations or relationships, the actor playing that character often points to one attendee as if they are the occupation or lover being named. Many a groundling has been singled out by the Porter in *Macbeth* as the "tailor" or "farmer" who are currently in hell. In *Sleep No More*, the subject of chapter 2, attendees also get to occupy narrative characters momentarily, as I did when I was invited to play the patient of the nurse and Hecate's handmaiden. Likewise, both social VR productions gave attendees tasks linked to acting out roles in their respective fictions. After telling us we were an ancient Greek Chorus, *Finding Pandora X*'s performers solicited verbal responses from some participants, while the *Tempest*'s performer invited a few attendees to play Miranda and Ferdinand in short mimed encounters while he narrated plot points.

Briefly occupying the subject position of a narrative character in these productions is different from enacting the archetype this book proposes. As the introduction describes, a participant's enactment of an archetype is vital to the dramaturgical cohesion of the production. The new Globe playhouse in London needs attendees to enact the archetype of *worshipper* to authorize materiality as historical authenticity. Punchdrunk's *Sleep No More* encouraged a range of archetypal roles, such as the *sleuth*, whose investigatory efforts were needed to confirm the existence of a coherent and solvable grand narrative tying together the production's disparate elements. In the era of Covid-19 lockdowns, Double Eye Studios's *Finding Pandora X* and Tender Claws's *Tempest* needed attendees to enact the *patron at the vanguard* who would support social VR as a possible future for theater. In contrast to these archetypes, which are necessary to the dramaturgical aims of their respective productions, any narrative

character offered as a reward—the farmer in *Macbeth*, Hecate's handmaiden in *Sleep No More*—was peripheral to the unfolding story in each case study. Given the maddening unpredictability of live humans, relegating the reward of playing a character to the margins is understandable for a production wishing to keep to a predetermined storyline, particularly in physical performance contexts. Playgoers invited to play a principal role at the new Globe could easily wreck a production.

However, as chapter 3 describes, digital technologies allow far greater control over how participants behave within an enactive scenario. Fabula(b)'s previous project, *Something Wicked*, leveraged this control over participation to allow users to occupy the subject position of a principal character without altering a storyline that is "railed"—that is, has one sequence of plot points, which users can only encounter, not change. As a follow-on to *Something Wicked*, *Bitter Wind* was an experiment in expanding the act of "playing a narrative character" from a momentary reward within a production economy to the primary reason for a user's presence in an experience, such that the narrative could not move forward if a user were not present to enact the archetype of "protagonist." If we were to reinforce this sense of inhabiting a principal character, we had to avoid attaching too strong a sense of reward to completing Clytemnestra's actions. Framing Clytemnestra's actions as tasks a user should complete to earn rewards would have turned *Bitter Wind* into a puzzle game, an activity with an affective register too cerebral for our goal of accessing the phenomenology of Clytemnestra's grief. Consequently, we designed the tasks and rewards that comprise a production-specific economy to register as necessary to *Bitter Wind* but not as an overpowering note in its mix of enactivity.

Tasks

Each action users complete in *Bitter Wind* is a task, technically, in that it is required for the experience to progress. These tasks include walking to designated locations within the invisible hexagon, turning one's head in the correct direction, and using the HoloLens "air tap" gesture to click on the correct digitally rendered object at the correct time.[48] No instructions appear in the headset for these tasks. Rather, we followed principles of intuitive design and placed glowing footprints on the floor where users needed to stand, used spatial sound cues and Iphigenia's pointing to draw the user's gaze in a specific direction, and put a flashing border around objects we wanted them to "air tap"—an indicator commonly used in two-dimensional digital experiences to signal that a user should click on the item being outlined (fig. 22).

Another task revolves around six pottery shards that fit together to make a pot, the design of which was inspired by the two pots described above. To access this image, users download a PDF from the *Bitter Wind* website and cut it into pieces. These shards move the experience forward by activating the HoloLens's affordance of object recognition. In the same way that smartphone cameras can recognize a QR code and open a website based on seeing the QR code's specific pattern, the HoloLens can be programmed to recognize unique patterns and trigger an action. Our intent with these shards was to ground the user in a physical experience and to materialize the fragmentary nature of knowledge production surrounding Greek antiquity. Given this intent, we originally designed this element as the 3D-printed version shown in figures 23 and 24 and the online trailer for *Bitter Wind*. To my chagrin, the paper version works much better, because the indentations in the 3D-printed shards create too many shadows for the HoloLens to recognize reliably.

The physical shards are linked to a digitally rendered mural that appears at one corner of the invisible hexagon. When *Bitter Wind* first launches, the mural shows only the ocean and mountains. At six points in the experience, a large, digitally rendered version of one of the shards appears, hovering a foot in front of the mural (fig. 24). A spatial sound cue of chimes announces the appearance of each shard, drawing the user's attention in that direction. Users are meant to hold up the physical shard that matches the digitally rendered version and walk forward until the physical and digital outlines match. When this task is complete, another chime sounds, the digitally rendered version disappears, and the next pictorial element of the mural appears, such as triremes, eagles, and a pregnant hare—all semiotic constants from the Agamemnon mythos that are meant to evoke other memories that might have plagued Clytemnestra over the last decade. This task is complex, and users first learn to complete it during *Bitter Wind*'s opening tutorial. If too much time passes before the user completes this or any task, the Iphigenia asset says "hurry" and points in the direction of the next action the user is supposed to take. As I have described, no penalties are levied and users can take as long as needed.

Once all the digitally rendered torches have flared to life and the mural is complete, a trireme sails out of the mural and tacks port toward and through the large digitally rendered wooden door. A flashing yellow outline appears around the door, now familiar to the user as an instruction to air tap the object it highlights. On the user's air tap, the door swings open to reveal Agamemnon, tangled in a net in a bathtub. Hovering over his body is a knife with a flashing

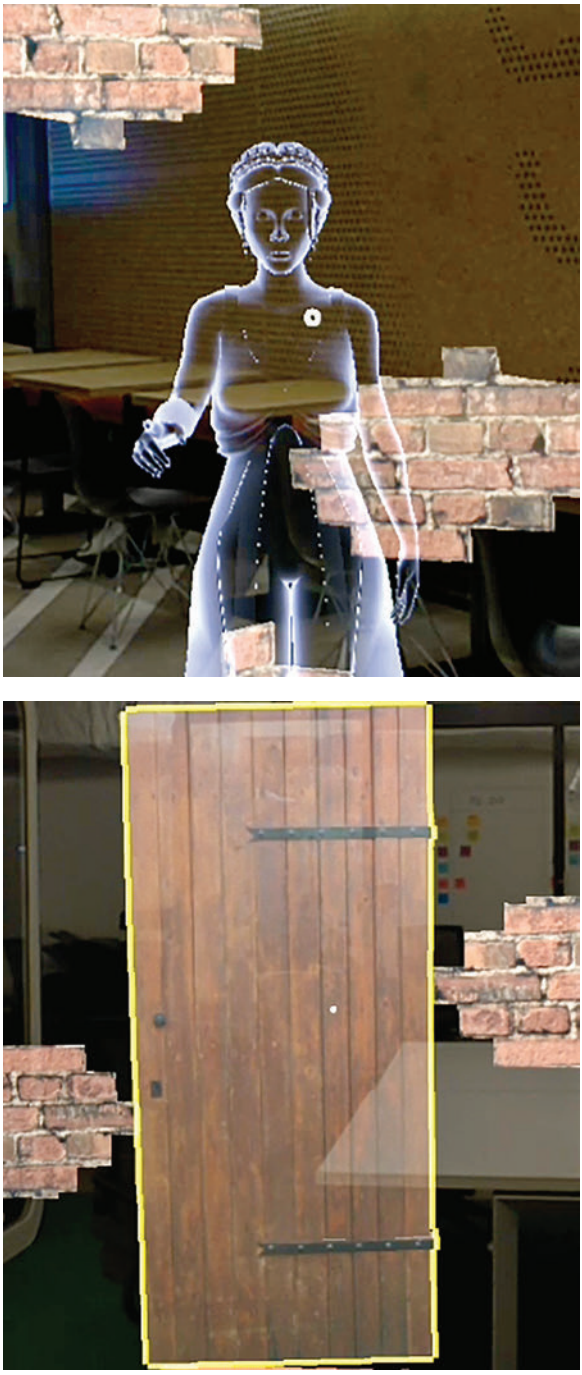


Fig. 22. Intuitive design elements, such as the ghostly girl pointing (*top*), a yellow flashing outline around an object (*bottom*), and glowing footprints (*top facing page*), let users know they should look in a certain direction, click an object, or stand in a certain location.

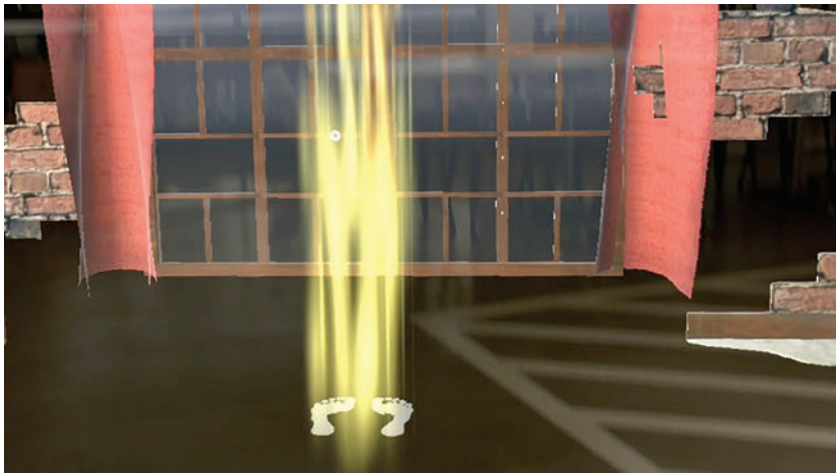


Fig. 23. Much like a QR code can trigger a smartphone to open a website, the unique pattern on each 3D-printed shard triggers the HoloLens to launch the next interaction in *Bitter Wind*.

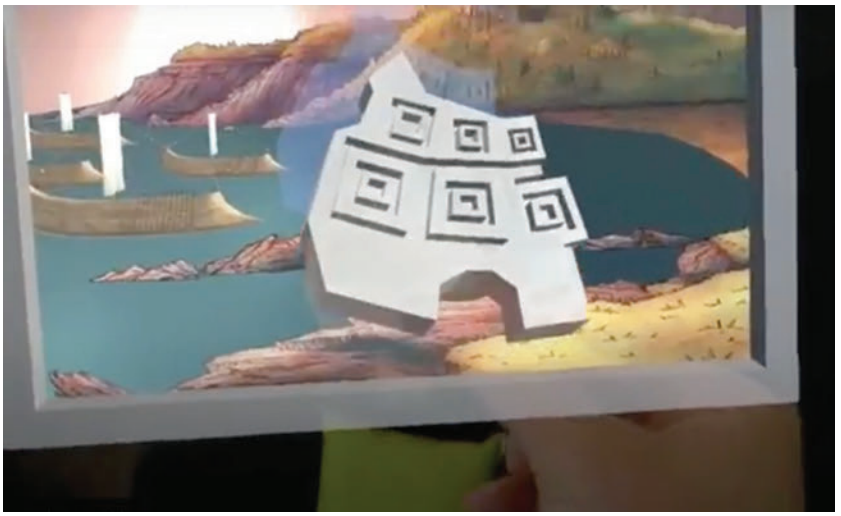


Fig. 24. To indicate that a user should approach the mural with the next puzzle piece, a chime sounds and a digitally rendered version of the correct piece floats in front of the mural.

yellow outline that users must click. This action causes the knife to stab Agamemnon's body and trigger a slow fade-out of all the assets. In their place appears a phrase repeated in a ring that encircles the user: "For answers, look to the past . . ." (fig. 25). By the final task, the integration of the user's narrative and dramaturgical positionalities into a new enactment of the protagonist of Clytemnestra is fully realized.

Rewards

Bitter Wind's simple reward system includes in-the-moment rewards inspired by video game design, such as a pleasant chime alerting the player that they have done something correctly, as well as the more substantive reward of getting to see new pictorial elements of the source narrative when they appear in the mural. The experience provides minimal explanation for how its many semiotic constants fit into the Agamemnon mythos. Instead, the aesthetics of *Bitter Wind* bear traces of ancient Greece, such as the triremes in the mural; Iphigenia's dress, which is reminiscent of a chiton; and her hair, which is styled after a pinned-up caryatid braid. This reward system resembles that of *Sleep No More*, in that it encourages users to repeat the experience multiple times to catch details they may have missed, and to look for explanations by consulting

Fig. 25. *Bitter Wind*'s closing message

outside sources. Unlike *Sleep No More*, however, repeat engagements with *Bitter Wind* are not monetized, as users can run the app as many times as they like after downloading it. For users especially interested in making all the connections between the digitally rendered elements and the semiotic constants of the Agamemnon mythos, repeatedly pacing *Bitter Wind*'s invisible hexagon, looking out its digitally rendered windows, and poring over the details of the mural are a potent evocation of the repetition that must also have attended Clytemnestra's actions over the ten years she waited for word that Agamemnon was sailing home from Troy.

(Nearly) Narrativized Intermediaries

Also important to the economy a production creates is the presence of narrativized intermediaries who hover between the quotidian world and the world of the story, explaining the rules of the system. Sometimes, intermediaries give explicit directions, as do the costumed staff members who onboard attendees in *Sleep No More* and the performer avatars in both social VR productions; other times they simply model best practices, as do the experienced groundlings at the new Globe in London. Narrativized intermediaries are the most muted component of the design of *Bitter Wind*, an outcome deriving in part from how new the HoloLens was when we created the experience. The first headset of its kind, the HoloLens was so new that my programmers liaised directly with the engineers on Microsoft's HoloLens team about the affordance of object recog-

nition, which was still in development and buggy. This industry connectivity proved to be the silver lining to my disproportionate attachment to 3D printing the pottery shards, because in a last-ditch effort to make the pieces work better, I posted queries in the two tech support forums that existed at that time for HoloLens. Thanks to the continued allure of ancient Greek tragedy, Microsoft's PR person for the HoloLens noticed my posts.[49] Our communication led not only to improved object recognition in the HoloLens, but also to Microsoft inviting my lead programmer and me to be part of the inaugural Women in Mixed Reality Initiative, a valuable opportunity for both of us.[50]

However, the downside of designing for the bleeding edge of paradigm-shifting technology is that few users know how to operate it. And, when it is as expensive as the HoloLens, even fewer have their own unit. Consequently, a handful of users well versed in using the HoloLens have experienced *Bitter Wind* in their own domestic spaces, but the more typical user is one who visits me in a space familiar to me, where I serve as the project's intermediary. This version of a narrativized intermediary ended up being far more didactic than the intermediaries responsible for scaffolding participation in *Sleep No More* and in both social VR productions I describe. That I deprioritized this intermediary role was a missed design opportunity. Even though AR headsets were new, *Bitter Wind* could have compensated for users' unfamiliarity by more thoroughly integrating the live intermediary (me) into the project's diegesis, perhaps drawing inspiration from *Finding Pandora X* and framing this role as a *coryphaeus*, or leader of the Chorus. Given Clytemnestra's power struggle with the Chorus in Aeschylus' *Agamemnon*, which revolves around the Chorus wanting to tell her how she should act, this choice would have strengthened the user's positionality as the Argive queen. Despite this missed opportunity, *Bitter Wind* makes a case for projects that leverage academia's economies of scale in order to experiment with the bleeding edge of technology.[51] Such experiments can be a form of digital praxis that is proactively inventive, rather than locked in the reactive mode that comes from being chained to technologies so dated that everyone has them.

A Physical Stone Is Stony

Whether a production uses AR to enhance onstage action, as did *Elements of Oz*, or to operationalize enactivity, as does *Bitter Wind*, this emergent technol-

ogy introduces promising opportunities to deconstruct canonical sources and reiterate archetypal relationships. Making theater with AR also introduces substantial challenges. As multiple humanists have warned, increased opportunities for individuated, even personalized engagement come at the cost of increased surveillance and data-mining.[52] Also challenging is funding the expertise required to use AR in theater, an industry where revenue from ticket sales or grant funding is unlikely to match the salary expectations of experienced programmers. In his recounting of the list of personnel required to create *Ozvision*, The Builders Association's lead designer and programmer notes that "what began as an effort to reduce the scale of the show (by limiting the physical build on stage and relying more on AR for scenic visuals) ended up ballooning into one of the larger departments in the production."[53] Certainly, the challenge of funding and managing the labor for immersive technology has attended all of my lab's work, including *Bitter Wind*.[54]

As the pace of AR's evolution and adoption escalates, capitalizing on its interpretive possibilities for theater and performance requires attention not only to the challenges this technology poses, but to the unique ways it makes meaning. In this vein, I close with Russian Formalist (and proto-semiotician) Viktor Shklovsky's argument that the purpose of art is "enstrangement," or the sensation of perceiving a familiar thing anew by interrupting the hypnosis of automatization.[55] Often aphorized into "make a stone stony," Shklovsky's concept is worth perceiving anew by interrupting its familiarity with length:

> This is how life becomes nothing and disappears. Automatization eats things, clothes, furniture, your wife, and the fear of war. . . . And so this thing we call art exists in order to restore the sensation of life, in order to make us feel things, in order to make a stone stony. The goal of art is to create the sensation of seeing, and not merely recognizing, things; the device of art is the "enstrangement" of things and the complication of the form, which increases the duration and complexity of perception, as the process of perception is, in art, an end in itself and must be prolonged.[56]

In the wake of World War I and the shocking scale of killing and destruction its mechanical automatization introduced, it is not surprising that Shklovsky calls for art to slow down perception and encourage the beholder to comprehend, through a contemplation of its materiality, a thing as a signifier of itself. Here in the twenty-first century, the automatization that permeates daily life for many

people is digital.[57] With digital culture devouring so much of today's "sensation of life," it is worth remembering that AR's potency derives in large part from its reminder that a *physical* stone is stony. In a time when the physical environment is ever more tenuous and precious, I find merit in a theatrical future that draws our attention to this environment by transforming it into scenography for Greek tragedy, for winged monkeys, for whatever story inserts itself into our devices and onto our walls and calls us to participate.

Coda

My ears are ringing. It's late May in 2024, and for the first time in more than two centuries, the trillion cicadas of Broods XIX and XIII have emerged simultaneously in the Midwest.[1] Amplifying their outsized presence is that it's far too hot outside for May, even for St. Louis. And the hotter it is, the louder cicadas sing. They prefer wooded areas, so city dwellers have probably escaped their befuddled dive-bombs and the endless, undulating high-tone of their chorus, which lands somewhere between the sound cannons used for crowd control and dragging (a trillion) wire-brush drumsticks along a sidewalk. But trees abound in my neighborhood and on campus, so even indoors I am rarely without the wall of sound these prehistoric beauty queens generate. Their constant shrill—sometimes a medium hum, sometimes setting off the noise meter on my watch, warning of permanent hearing damage if I sit under this magnolia tree a minute longer—is an apt timestamp for the summer I am drafting this coda. Only weeks ago, campuses across the United States saw their largest and most divisive protests in decades.[2] Only a few months from today, we will see the next presidential election, which promises to be more contentious than the last. Understanding what it means to participate mindfully against a backdrop of ceaseless screaming has never seemed more urgent.

The foregoing chapters have focused on participation in the (somewhat) quieter environs of theatrical experiences. By analyzing four twenty-first-century performance contexts—the reconstructed "new Globe" playhouse in London, the open-world theater of Punchdrunk's *Sleep No More*, pandemic-era productions in social virtual reality (social VR), and experiments with augmented reality (AR)—my analysis has identified how participation in a theatri-

Fig. 26. Newly emerged cicadas in May 2024

cal experience can be "enactive." Enactivity describes the dynamic that arises from encouraging attendees to participate in a production in a way that is vital to the dramaturgical cohesion of the show but does not alter the trajectory of the unfolding narrative. Such participation puts attendees in the subject position of enacting an archetype, the nature of which can be identified by attending to the behaviors a production incentivizes. Across its chapters, this book has traced four of the production conditions that, when combined, are especially effective for fostering this dynamic of enactivity: a historically resonant site, a canonical source, an immersive space, and a bespoke economy that assigns value to tasks and other behaviors that have nothing to do with changing the unfolding storyline. While enactivity relies on the presence of all four conditions, different productions might feature them at varying levels. To visualize these variations, I have used the metaphor of a mixing board, wherein each condition appears as a separate "fader." Sliding each fader up or down—

i.e., intensifying or dampening this condition in a production—inflects the archetypal role attendees are encouraged to enact.

At the new Globe playhouse in London, for example, pushing the fader of historical resonance to its limit encourages the archetype of *worshipper*, and the fulfillment of this role authorizes materiality as historical authenticity. In contrast, one of the archetypal roles Punchdrunk's *Sleep No More* encouraged during its long run was the *sleuth*, whose investigatory efforts confirmed the existence of a coherent and solvable grand narrative that tied together the production's disparate elements. In the second half of the book, I have considered digital performance contexts, exploring the new opportunities for participation that arise from the unique affordances of spatial computing technologies like VR and AR. Social VR, for example, allowed companies like Double Eye Studios and Tender Claws to continue making theatrical work during the Covid lockdowns that began in March 2020. In their respective productions, *Finding Pandora X* and *Tempest*, each company asked attendees to enact the role of *patron at the vanguard*, whose support authorized social VR as a possible future for theater in a time of crisis. In the final chapter, I describe how enactivity inheres in AR to such an extent that, when a production uses this technology, attendees enact roles like *cinematographer* and *director* even when they occupy a traditionally Wagnerian positionality of sitting in a darkened house, as in The Builders Association's *Elements of Oz*. And through an analysis of my own praxis in creating *Bitter Wind*, an adaptation of Aeschylus' *Agamemnon* for the HoloLens, Microsoft's AR headset, I explored how designing explicitly with and for enactivity allows users to enact the archetype of *protagonist*—in this case, Clytemnestra—and thereby productively disrupt the long representational history of a canonical character.

A framework of enactivity lends itself to a range of scholarly analysis, such as comparing attendee behavior in different productions staged in the same immersive context, as in chapter 1's explanation of the possible reasons twenty-first-century attendees of the new Globe do not get as rowdy as their early modern counterparts. Likewise, rereading landmark productions through the lens of enactivity can shed new light on their cultural functions, as does my reconsideration of environmental theater in the 1960s in lower Manhattan, described in the introduction. Thinking with enactivity in the classroom might find students drawing a mixing board for a participatory performance of their choosing and, using the framework I propose here, making a case for the archetypal role that production invites attendees to enact. Additionally, as I explain in the

introduction, while the four conditions I describe in each case study of this book are foundational to this dynamic, they are not an exhaustive list of the ways production choices can foster enactivity. Another pedagogical use for this concept would be to invite students to add to this list for the production they have chosen to analyze, thereby encouraging them to draw connections between concrete production choices and the possibilities for reception.

Beyond academic applications, the stakes are high for understanding the dynamic this book traces. In any participatory event, the presence of these four production conditions makes a measure of enactivity probable, if not unavoidable. Canonical sources and historically resonant sites are charged with decades, centuries, even millennia of not only production and visitation, but deployment as reaffirmations of a dominant culture, and sometimes, its cudgels. Whether by design or accident, a tinderbox can be created by relocating the potency of such stories and places off of the proscenium stage and into an immersive space attendees can inhabit, and then incentivizing these attendees to enact predefined behaviors that register as dramaturgically vital to the unfolding experience. Identifying in advance the likelihood that an event will amplify all four faders can allow us to prepare more adequately for the possibility that a crowd will enact an archetype in destructive ways.

Consider the "March to Save America" rally that took place on January 6, 2021, in Washington, DC, which culminated in thousands of rioters breaking into the Capitol building to try and reinstate Donald J. Trump as president and create all manner of other mayhem. For months in advance, the organizers of the rally besieged their target demographic with invocations of canonical sources like the American Revolution and the Bible.[3] Once attendees were on site, they were immersed in the historical resonance of a downtown area where nationalist architecture dominates every vista, and again flooded with discourse, flags, signs, and even costumes invoking the American Revolution and the Bible, as well as a range of other canonical sources, from Norse mythology to the Nazi party.[4] With these three conditions in place, the introduction of rewards in the form of attention on social media and from political leaders pushed the dynamic on the ground into destruction. Viewing these participatory actions through a critical lens of enactivity suggests that they arose not out of spontaneous violence, but from production conditions that encouraged the enactment of multiple archetypal roles: *patriot*, *crusader*, *anarchist*.

A participatory dynamic that encourages attendees to enact archetypal roles does not have to be destructive. Managed responsibly, it can lead to out-

comes that build community. Many sports events, for example, take place in the historically resonant setting of a home stadium where canonical stories of team lore, the multisensory immersion of an arena, and incentives such as boosting the morale of one's preferred players, distracting the opposition, or appearing on the Jumbotron have encouraged many an attendee to act the part of *superfan* by showing up in costume, shouting, and performing dances. As sociologist Marci Cottingham has traced, this participation can generate a "collective effervescence" pronounced enough to provide superfans with a reservoir of "emotional energy" for life events beyond sports, such as funerals and weddings.[5] Whether an attendee's enactive participation is prosocial or problematic, most urgent about this dynamic is that, in a live event, the consequences play out on bodies in real time. A comprehensive understanding of enactivity is therefore relevant well beyond the fields of theater and performance studies.

Axiomatic in the field that grounds this book is that performance fulfills the cultural function of rehearsing alternate futurities. Performance can ask "what if?" and through the distillations and exaggerations of art, spotlight the dangers and opportunities of enactivity in participation. With a critical eye aimed at illuminating the producers across sectors who encourage ever more participation even as they deploy a range of strategies to shape that participation toward their own ends, we can be mindful of how we act our parts in the futures to come.

Glossary

asset

In the technology industry, an umbrella term that indicates any of the digitally rendered components—visual, haptic, audio—of an experience.

augmented reality (AR)

AR technologies superimpose digitally rendered content onto the user's physical surroundings so that this content seems to inhabit the physical environs. The visual effect AR creates of "augmenting" one's surroundings is similar to that of the acetate transparencies some readers may remember from the days of overhead projectors in the classroom. More recent cultural references to this effect include the gesture-controlled, free-floating computer interface depicted in the 2002 film *Minority Report* or the overlay of data Iron Man can see in the facemask of his exosuit as he flies through the sky. Some AR apps run on smartphones and tablets, using the apparatus's camera to create an overlay, as does the popular game *Pokémon GO!*.[1] Other AR apps run on headsets, the transparent lenses of which allow users to see digitally rendered assets overlaying their physical surroundings.

digitally rendered (or computer-generated)

I use these terms interchangeably to describe elements in a theatrical experience that are created entirely from code (cf. physical). These terms avoid the confusion inherent in "virtual" versus "real," a binary rendered false by a phenomenological understanding of anything a user experiences as "real." (See also *physical*)

guardian (or boundary)

A term from the technology industry, the guardian (or boundary) of a VR headset is a perimeter of a few feet in any direction, which the headset can sense. This boundary functions as a safety mechanism, ensuring users do not walk into a wall, trip on a couch, or wave their arms and knock a coffee cup off the desk. If a user wearing the headset gets too close to the guardian, their view of a digitally rendered environment is replaced by the passthrough view of their physical surroundings. (See also *passthrough view*)

hologram

Holograms are created by light beams and are visible without a screen or lens.[2] While a hologram could be an asset in an experience, not all assets are holograms.

mixed reality (MR)

The technology industry's use of this term began in in 2015, when Microsoft released the first publicly available AR headset, the first-generation HoloLens, using "mixed reality" to emphasize its computational robustness compared to that of smartphones and tablets. In every innovation cycle since, the difference has only shrunk between AR-enabled smartphones and headsets like the HoloLens, making "MR" progressively less useful as a way to differentiate these devices based on complexity. Importantly, the technology industry's use of MR is unrelated to the way performance theorists have long used the term to describe productions that significantly integrate all manner of digital technology, such as the work of the theater collective Blast Theory.[3] Due to this confusion and the ever-shrinking computational differences between headset and smartphone AR, this book does not use the term MR.

passthrough view

In a VR headset, a live feed of the user's physical surroundings, as captured by the headset's outward-facing cameras.

physical (or corporeal)

To indicate elements of the user's surroundings not created from code, I use "physical," "corporeal," or the materials from which an object is fashioned (e.g., "wood," "paper," etc.; cf. digitally rendered). These terms avoid the confusion inherent in "virtual" versus "real," a binary rendered

false by a phenomenological understanding of anything a user experiences as "real." (See also *digitally rendered*)

postdigital

Per Matthew Causey, Web 2.0 has led to our current condition of "a social system fully familiarized and embedded in electronic communications and virtual representations, wherein the biological and the mechanical, the virtual and the real, and the organic and the inorganic approach indistinction."[4] That is, digital and nondigital phenomena have become so entangled that they can no longer be considered in isolation. In such a condition, Causey argues, "any notion of a virtual, televisual, or post-organic theatre is redundant terminology, in that theatre and performance in digital cultures *cannot not be* these things; it would be similar to naming current performance practices as electric theatre or live theatre."[5] (See also *Web 2.0*)

spatial computing

An umbrella term in the technology industry, "spatial computing" indicates all iterations of AR and VR. Often used interchangeably with or in place of XR. Like many terms in this sector, multiple contested definitions exist.

virtual reality (VR)

A term from the technology industry indicating technologies that attempt to entirely overwrite the visual and audio elements of a user's physical surroundings with digitally rendered content. This is accomplished through headsets that fully enclose the user's visual field, as in the Meta Quest 2 described in chapter 3, or with room-sized installations called cave automatic virtual environments (CAVEs), where projection-based displays cover every wall, as in the Immersive van Gogh exhibits that became popular during the Covid-19 pandemic. Although both words in this term and their combination deserve critique, "virtual reality" has been a standard term for too long to dislodge.

Web 2.0

A collective term for the technological developments that took place between 2004 and 2008.[6] Before Web 2.0, the internet of the early 1990s was isolated from the physical world, a "transcendent elsewhere, someplace other than the world we normally inhabit," as digital humanist Steven E. Jones recalls, that people could plug into for a while before returning to the

drab limitations of their meat-sack lives.[7] Beginning in 2004, a veritable Pandora's box unleashed Facebook, Twitter, Google Books, GPS for mobile phones, Google Maps, the iPhone and Android phones, and 3D printing on the public. By 2008, these developments had created what Jones calls "a new consensual imagination of the role of the network in relation to the physical and social world."[8] Rather than being separated from the physical world, the internet had permeated it. (See also *postdigital*)

XR

Like "spatial computing," XR is an umbrella term from the technology industry, where it is used to indicate all iterations of AR and VR. Multiple definitions exist; in some, X is short for "extended," while others use X as it is used in algebra, where it indicates a factor whose value is missing or unknown. Because of this lack of definitional clarity, this book uses "spatial computing" instead of XR.

Bitter Wind *Walkthrough*

Bitter Wind requires a first-generation HoloLens and a physical space at least sixteen feet in diameter. The HoloLens contains several sensors that can detect a range of triggers, such as changes in the user's coordinates within a space, the direction in which a user turns their head, the presence of a unique visual pattern, such as a QR code, and a gesture called an air tap. To perform this gesture, the user first focuses on the digitally rendered small white dot (the cursor) that is always visible within the HoloLens at the center of the user's field of view. Then, they rotate and tilt their head gently until the white dot is hovering over the asset they want to select. Then, they hold their right hand within the field of view of the HoloLens's front-facing cameras, thumb and index finger extended and the remaining three fingers folded down, forming a backward L. Finally, they tap their index finger down to the thumb, which remains stationary. The tap functions like the click of a mouse, selecting whatever the white dot was hovering over. In action, the gesture is as non-intuitive as it sounds. Several of the story beats described below happen in response to these various triggers.

Bitter Wind allows users unlimited time to figure out what they are supposed to do next. If more than fifteen seconds pass without the user making the required motion, the Iphigenia asset says "Hurry" one time and points in the direction of the next expected action. There is no option to return to a previous story beat.

Before launching *Bitter Wind*, the user prints out the accompanying image of six pottery shards, either on paper or with a 3D printer. The shards fit together in the shape of an amphora. Each shard has a distinct outline and pattern.

The user powers on the HoloLens and follows the directions on the launch screen, slowly rotating 360 degrees so the headset's many sensors can map the

planes of the physical space. This allows the headset to calculate its location in relation to these planes. This task complete, the user selects *Bitter Wind* from the home screen and taps to place the app in the room.

A sound cue of plucked strings plays. Eight lit torches appear around the user. Words appear in an archaic, stylized font: "Remember that here / the story is all around you. / You must walk into your memories. / You will find only questions. / To begin, reach out to match / the pottery shard in your hand to its ghost. / . . . get closer."

A sequence intended as a tutorial begins. The shape of Pottery Shard One appears below the words. The user selects Pottery Shard One from the printed shards in their hand. The user walks forward, holding out the printed shard. When the outline of the physical shard matches the outline of the digitally rendered version, a completion chime sounds. The words disappear.

Several new assets appear, their design suggesting the user is inside an ancient room. To understand the placement of these assets, imagine a watch face with a dial sixteen feet in diameter, lying on the floor. When the app launches and places its assets, wherever the user is standing at that moment becomes the center of the dial, where the minute and hour hands would connect to the face. The assets of *Bitter Wind* appear not on the floor but in midair, hovering over where the numbers of this hypothetical dial would be. Unless described otherwise below, all assets remain fixed in their positions; they do not reorient as the user walks through the space (fig. 27).

Positioned at ten, twelve, and one o'clock are floor-length windows framed in rustic wood and with wood mullions. The window at twelve o'clock has dark red curtains drawn across it. Directly behind the user (at six o'clock) is a two-foot-tall mural that shows a small shoreline and mountains. At eight o'clock is a large door of brown planks of wood bound with strap hinges made of wrought iron. Filling in the spaces between these assets along the invisible perimeter are several three-foot segments of worn brick walls. Together, the wall fragments and other assets define the outer perimeter of the *Bitter Wind* space.

If a user looks at the window at the twelve o'clock position for more than two seconds, the red curtains open and the story begins in earnest. At the user's left, in the ten o'clock position, a spatial sound cue of insistent tapping begins. The tapping increases in volume until the user looks left. This movement triggers the appearance of a thick yellow border around the window at the ten o'clock position. The border blinks at a steady rate. The user air taps the window. Upon this gesture, the window swings open, its hinges creaking.

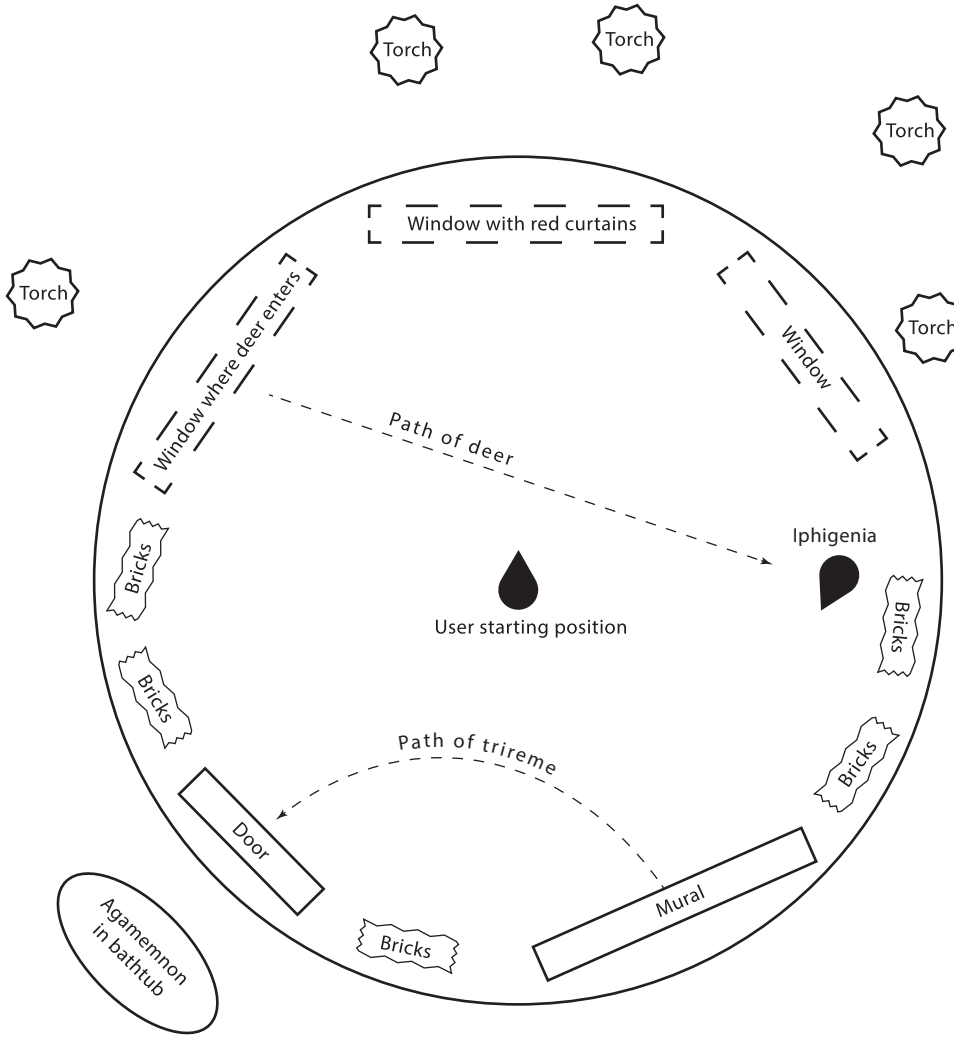


Fig. 27. Layout of the assets in *Bitter Wind*

An animated translucent gray deer enters from the window, crossing slowly in front of the user to the other side of the playing space. Its hooves make a clattering sound.

The deer stops at the three o'clock position. At the user's left, in the ten o'clock position, a spatial sound cue of a torch flaring to life activates. The sound is accompanied by the animation of a torch bursting into flame beyond the still-open window at ten o'clock. Also visible in the distance beyond each window and torch is a gray mountain range.

The user turning their head toward this torch triggers Iphigenia's first line.[1]

IPHIGENIA
They begin to light the beacons you set.
Troy has fallen.
The first torch . . . he returns.
Hurry!

This head turn also triggers the appearance of the Iphigenia asset, which replaces the deer at the three o'clock position. Like the deer, the Iphigenia asset is a translucent gray, with minimal details. She wears a dress styled after a chiton, and her hair evokes a caryatid braid, pinned up. Her only animations are a gentle floating motion and lifting her arm to point forward. Her mouth does not move when she speaks. She remains in this location for the duration of the experience.

Iphigenia's spoken line is also a spatial sound cue, which emanates from the location of her asset. On hearing Iphigenia's voice, most users turn in her direction immediately and notice that she has replaced the deer. Other users do not turn toward Iphigenia, instead exploring other aspects of the space. Regardless of how long they explore, nothing happens until the user turns their head toward the three o'clock position, where Iphigenia floats.

When she first appears, Iphigenia's face is pointed toward the mural at the six o'clock position. A spatial sound cue of plucked strings plays from the location of the mural. If more than two seconds pass before the user follows her gaze to look at the mural, she speaks her "Hurry" line and raises her arm, pointing toward the six o'clock position.

1. The sound of the torch is so startling and clearly from this direction that every user I've witnessed has turned their head immediately. As a fail-safe, we designed this sequence such that the sound of the torch flaring continues, increasing in volume, until the user turns in this direction.

IPHIGENIA
Memory is a fragment of a picture.
All you have are fragments.
Hurry!

Hovering in front of the mural is a large digitally rendered version of Pottery Shard One, the same shape that appeared in the opening tutorial.

As before, the user walks toward the shard asset, holding out the printed version until the outlines of physical and digitally rendered shards match.

An ominous music sting of violins plays. The digitally rendered shard disappears. Five triremes appear in the ocean, their sails flat.

IPHIGENIA
There was a great battle.
There was a war.
Many were lost.
A great many.

The open window at the ten o'clock position slams shut with an accompanying spatial sound cue. When users turn their head in that direction, they see that a shaft of yellow light has appeared in front of the twelve o'clock window. At the base of the shaft of light are footprints. The user walks to the footprints. When they are close enough to the footprints, the second torch in the series flares to life. It is visible in the distance beyond the twelve o'clock window.

A sound cue of plucked strings comes from the mural, this time with a longer melody. The outline of Pottery Shard Two now hovers in front of the painting. Some users understand right away that they should repeat the action of selecting the correct printed piece and lining it up with the digitally rendered version.

If more than five seconds pass without this action, Iphigenia points at the mural and speaks her "hurry" line.

When the user matches the physical version of Pottery Shard 2 with its digitally rendered version, the music sting of violins plays and the digitally rendered shard disappears. A spatial sound cue of children's laughter comes from the mural.

A rabbit appears in the mural, sitting on the cliff in the bottom right corner of the frame. The rabbit's belly is disproportionately round.

IPHIGENIA
I'm lost.
I was lost before the war.

From the twelve o'clock window comes the spatial sound cue of the third torch flaring to life. When the user turns in this direction, the window flies open. The shaft of light and footprints remain in front of this window. The action of the user walking to these footprints to look out the window at the torches triggers Iphigenia to turn toward the user and speak her next line.

IPHIGENIA
Even you could not save me.

A sound cue of plucked strings with an even longer melody comes from the mural. The outline of Pottery Shard Three hovers in front of the mural. The user repeats the action of selecting the corresponding physical shard and walking forward until its outline matches the outline of the digitally rendered version. The sound cue of violins plays and the digitally rendered shard disappears.

In the upper right corner of the mural, two eagles appear, one brown and one white. The piercing sound of an eagle's cry comes from the mural. The eagles are in flight, their talons outstretched toward the rabbit. Iphigenia turns back toward the mural.

IPHIGENIA
He won the war.
He *was* the war.

A spatial sound cue plays of the window at twelve o'clock slamming shut and the window at one o'clock opening. In front of the window at one o'clock are the footprints and a shaft of light. When the user walks to these footprints to look out the window, the fourth torch flares to life.

A spatial sound cue of an eagle's piercing cry plays from the mural. On the mural, the image of a sitting rabbit fades out, replaced by an image of the rabbit running. The motion of the user turning their head toward the mural triggers Iphigenia's next line.

IPHIGENIA
You've set so many beacons, mother.
He's close.

A sound cue of plucked strings even longer than the last comes from the mural, where the outline of Pottery Shard Four hovers. When the user matches the outline of the printed version with the outline of the digitally rendered version, the violins sound and the digitally rendered shard disappears.

A lengthy spatial sound cue of a rabbit screaming horribly comes from the mural. The image of the rabbit running is replaced by an image of the rabbit bloody and torn in two, with half-eaten bunny fetuses tumbling from its body. The image of the eagles in pursuit is replaced by an image of the white eagle flying away with the lower half of the rabbit and the brown eagle sitting on the cliff at the lower right of the mural, pulling at the rabbit's entrails with its beak. The sails of the triremes billow.

IPHIGENIA
(*weeping*)
For the war, he took me from you.

Whenever the user next turns their head toward Iphigenia, they will see she is again facing the user rather than the mural. She now has a large knife in her chest. Like the first window, the knife is highlighted with a blinking yellow border. The user air taps on the knife. It slides out of Iphigenia's chest with a slithering sound and disappears.

Iphigenia points to the window at one o'clock, which is still open, with the shaft of light and footprints still in front of it. The user walking to these footprints to look out the window at the torches triggers the fifth and final torch to flare to life. It is the closest to the windows. The window slams shut.

The sound cue of plucked strings, longer still, comes from the mural where the outline of Pottery Shard Five hovers. When the user matches the outline of the printed version with the outline of the digitally rendered version, the violins play and the digitally rendered shard disappears.

IPHIGENIA
My father has returned.
You must prepare his way.
Lay the tapestries.

When the user looks in the direction of the twelve o'clock window, a thick yellow border appears around the red curtains. When the user air taps the tapestries, they disappear from the windows and reappear on the floor. The plucked strings sound cue plays at length, this time accompanied by the ominous violins. The tapestries on the floor create a pathway that leads to the wooden door at eight o'clock.

The motion of a user turning their head toward the door triggers a spatial sound cue of liquid dripping onto a hard surface, coming from behind the door. This dripping sound lasts through the rest of the experience.

Eventually, users notice that the mural shows the outline of the sixth and final pottery shard. When the user matches the outline of the printed version with the outline of the digitally rendered version, the violins sound and the digitally rendered shard disappears.

A spatial sound cue of a strong wind comes from the mural. The wind continues through the end of the experience. One of the triremes turns ninety degrees, its prow facing the user.

IPHIGENIA
Open the door.

The trireme sails out of the mural, across the space in front of the user, and tacks port to sail through the closed door at the eight o'clock position. The door is highlighted with a blinking yellow border. The user air taps the door, which swings inward. The sound cue of ominous violins plays.

Behind the door is a bearded man lying in a clawfoot bathtub. A fishing net covers much of his body. Like Iphigenia and the deer, this tableau is rendered in translucent gray with minimal detail. Over the chest of the bearded man hangs the knife from Iphigenia's chest. It is highlighted by a blinking yellow border. When the user air taps the knife, it sinks into the man's chest. A spatial sound cue of a blade hitting bone emanates from the bathtub.

The Iphigenia asset fades out.

The remaining assets fade out slowly. From all directions, a sound cue of

wind intensifies. The sound cues of plucked strings and violins play. Words appear in the air in the same archaic, stylized font as appeared in the opening tutorial, along with the series of torches. This time, the font spells out one phrase, repeated in a circle around the user: "For answers, look to the past." After fifteen seconds, the words fade out and the experience ends.

Production credits:
Project director, Elizabeth Hunter
Project manager and programmer, Nick Segreti
Lead programmer, Don Herweg
Technical artist, Paul Sullivan
Additional art, Diana Kogan
Music and sound designer, Andrew Edwards

Notes

Prologue

1. The site broke ground in 1881, but nothing remains of its first blast furnaces. Most of the extant structures date to 1927–31, when the site replaced its earlier technologies with mechanized equipment. Sloss Furnaces, "History."

2. An archive of production photography and videos can be found at www.shakespeareatsloss.org. "Shakespeare at Sloss."

Introduction

1. Certeau, *The Practice of Everyday Life*, dedication.

2. With an exception for the subtitle, a concession to marketing clarity, I use the terms "attendee" and "participant" throughout this book to emphasize that a participatory production requires actions different from those associated with, and embedded in, etymologically, the terms "spectator," "audience member," "observer," or "witness."

3. This book focuses on English-language productions in the Global North that are intended primarily as entertainment rather than scenarios that operationalize participation explicitly to promote social change or therapeutic and educational outcomes, such as Augusto Boal's forum theater, El Teatro Campesino, or drama therapy. I also do not engage with "simmings," a category of participatory experience that has grown in popularity in the cultural heritage and job-training sectors. In a simming, individuals or small groups take part in scripted or guided improvisational simulations of scenarios such as the escape of an enslaved person, a border crossing, or the physical effects of advanced age (e.g., donning vision-obscuring goggles). In the field's first substantive analysis of the ways in which performance practices shape these events, Scott Magelssen interrogates the claim simmings make to "a different kind of efficacy and social change than other media through affective, embodied practice" (3). As Magelssen describes,

such experiences do not always deliver on this promise. Magelssen, *Simming*. Similarly, Natalie Alvarez explores the differences between immersions where "empathy becomes instrumentalized in a way that leads to very misleading intimacies with the cultural others they often imaginatively totalize" and those that are "a form of sustainable activism that seeks to redress the combined forces of colonialism, neoliberalism, and racism." (3) Alvarez, *Immersions in Cultural Difference*. Though the framework I develop here holds promise for future examination of these experiences, their lengthier examination is beyond the scope of my focus on scenarios intended to be theatrical entertainment.

4. For further analysis of the mainstreaming of participatory theater in the Global North, see especially Kennedy, "The Open-Stage Movement." Kennedy traces modernist efforts to close the "mystic gulf" that Richard Wagner and other auteurs opened between audience and performance in the late 1800s with seating, a darkened house, and a lit performance area. A genealogy of participatory practices in Western art is also the project of Kwon, *One Place after Another: Site-Specific Art and Locational Identity*, as well as Claire Bishop's edited collection, *Participation*, which looks from the Futurists, through the "coherent and well-theorized body of work" (15) that emerged in the late 1960s avant-garde, to more recent performance art. For discussions of ways in which mainstream, popular theater began to incorporate audience participation in the decades thereafter, see Alston, *Beyond Immersive Theatre*, as well as the introduction of the collection Scott Magelssen and I co-edited, *Enveloping Worlds: Toward a Discourse of Immersivity*.

5. The Shakespeare Globe Trust, "Annual Report and Financial Statements for the Year Ended 31 October 2019."

6. Brantley, "33 Ways to Remember the 2010s: Spectators No More"; Lang, "'Sleep No More' Sets Final Performance After Closure Was Delayed a Year (EXCLUSIVE)."

7. Definitions of terms pertinent to the technology industry appear in the glossary. Though experiments in spatial computing remain on the fringes of theatrical production, the technologies they incorporate are evolving rapidly from science fiction to broad consumer adoption, making them more available to theater-makers by the month. For example, between the drafting of this manuscript and its revision, major developments in spatial computing include the announcement, circulation, and (lackluster) reception of the first Apple Vision Pro headset and the announcement of its second generation, as well as the release of Meta's answer to the Apple Vision Pro, the Quest 3 headset, which operationalizes the passthrough feature for more than safety, allowing users to switch between VR and AR on the same device, and, a year later, the Quest 3S at a lower price point. Plumb, "The Apple Vision Pro May Have Tanked—but Spatial Computing Is Still the Future, Deloitte Says"; Tilley, "Apple Headset Stalls, Struggles to Attract Killer Apps in First Year"; Kamen, "Meta Quest 3 Review"; Stein, "Meta Quest 3S Review: The Best Cheap Ticket to Mixed Reality."

8. My identification of the pragmatic vs. dramaturgical boundaries of a show remediates the model of inner and outer frames Susan Bennett outlines in her landmark

analysis of theater audiences. Whereas Bennett is interested in identifying the overlap of inner and outer frames as a way to understand how audiences assign meaning to a production, I am interested in identifying the separation between pragmatic and dramaturgical boundaries as a way to understand how productions assign meaning to their attendees. Bennett, *Theatre Audiences*.

9. White, *Audience Participation in Theatre: Aesthetics of the Invitation*, 57.

10. My use of "enactive" derives from the theatrical notion of enacting a role. For clarity, it is worth noting two uses of this term outside of theater and performance. The first, "enacting words" (or "enacting formula" or "enacting clause") is a legislative term for the opening words in a bill that state the source of its authority and express the intent that it be law, e.g., "Be it enacted by the Queen's most Excellent Majesty, etc." Law and Martin, "Enacting Words." The second, "enactivism," is utilized by theories of embodied cognition to express "the view that cognition emerges from or is constituted by sensorimotor activity"—a position this theater and performance scholar-artist finds entirely reasonable. Shapiro and Spaulding, "Embodied Cognition."

11. This book's disciplinary stance is part of my larger project to emphasize to adjacent fields (e.g., film and media studies, anthropology) the necessity of a theater and performance studies framework in analyses of twenty-first-century participation across immersive contexts, physical and digital. One of the less elegant ways this emphasis manifests in this book is that when I mention a scholar in the main text, I indicate their disciplinary perspective. By design, theater and performance theorists constitute a majority of these citations. Readers familiar with these scholars may find this identification unnecessary or repetitive. However, providing this information reinforces to readers in adjacent fields the need for a theater and performance lens in this inquiry. Identifying a scholar's discipline only if they are *not* from theater and performance studies would suggest, however subtly, that I assume all readers share my disciplinary orientation, and that the framework I propose here is relevant only therein. Consequently, I sacrifice a measure of readability in the interests of sustained legibility across disciplines.

12. Bishop, "Jung's Reading of Plato and the Timaeus."

13. Frye, *Anatomy of Criticism*, 365.

14. States, "The Persistence of the Archetype," 336.

15. Harmon, *A Handbook to Literature*. For analyses of archetypes as compared to stereotypes or stock characters, see Stevens, *Archetype Revisited*, and Roy, *Women, Stereotypes and Archetypes*.

16. The new Globe opened in 1997. However, this was four years after the public gained access to the World Wide Web. This technological development and an avalanche of others like it in the last five years of the twentieth century make the new Globe far more of a twenty-first- than a twentieth-century performance context.

17. See the glossary for a definition of this and other terms related to digital culture.

18. According to Ihde, "Technologies transform our experience of the world and our perceptions and interpretations of our world, and we in turn become transformed in this process. Transformations are non-neutral." Ihde, *Postphenomenology and Technoscience*, 44.

19. Writing in 2016, Causey describes the "postdigital" as "a social system fully familiarized and embedded in electronic communications and virtual representations, wherein the biological and the mechanical, the virtual and the real, and the organic and the inorganic approach indistinction." That is, digital and nondigital phenomena have become so entangled that they cannot be considered in isolation. Causey, "Postdigital Performance."

20. Bay-Cheng, "'When This You See.'"

21. In proposing a critical framework intended for expansion rather than comprehensive explication, I am indebted to Bay-Cheng, Parker-Starbuck, and Saltz, *Performance and Media*, for, in the realm of theater and digital media, modeling the construction of methodologies as "fluid and dynamic structures, capable of responding effectively not only to the current examples . . . but also incorporating new forms as they emerge" (2–3).

22. The condition I am calling "historical resonance" shares characteristics but is not interchangeable with site-specificity. As Mike Pearson and Michael Shanks describe, site-specific works are in their design and execution "inseparable from their sites, the only contexts within which they are intelligible" (23). The aesthetic or political intentions of the case studies I examine are not as imbricated with their sites as are those Pearson and Shanks would characterize as site-specific. Pearson and Shanks, *Theatre/Archaeology*. Other important perspectives on site-specific performance include Birch and Tompkins, *Performing Site-Specific Theatre*, as well as Ferdman, *Off Sites*.

23. Bourdieu, "Cultural Reproduction and Social Reproduction."

24. Bourdieu, *Outline of a Theory of Practice*. The ripple effects of too much desire to cultivate such a habitus by flocking to heritage sites is now and will continue to be a consideration for theater-makers in the Anthropocene. Collins, "Should We Stop Visiting Historic Sites?"

25. Worthen, *Shakespeare and the Force of Modern Performance*, 99.

26. Chaudhuri, *Staging Place*, 138, original emphasis. In this definition, Chaudhuri is referring to modern plays. As Tompkins has pointed out, Chaudhuri's concept is also useful to understanding the role of place in performance more broadly, an applicability I argue is especially pertinent to sites that are highly recognizable, either because they are historically significant or for other reasons. Tompkins, "Re-Readings."

27. Where "texts" is broadly construed. Duffett, *Understanding Fandom*, 216.

28. Sullivan, "Immersive Macbeth in Shanghai."

29. The one exception is The Builders Association's *Elements of Oz*, which comprises part of chapter 4's analysis of AR. Though it is not Shakespearean or from ancient Greece, the source of *Elements of Oz* surely registered as canonical to its audience. This

source was MGM's 1939 film adaptation of L. Frank Baum's novel *The Wizard of Oz*. Starring Judy Garland (and others), the film holds a place of authority in the Western canon of film not entirely unlike that held by Shakespeare's oeuvre and ancient Greek tragedies in the Western canon of theater.

30. Bristol, *Shakespeare's America, America's Shakespeare*; Nakamura, "Against the Flows of Theory"; Tran, "The Top 20* Most-Produced Playwrights of the 2019–20 Season."

31. According to Gary Taylor, "Shakespeare provides the best specimen in English, one of the best specimens in any language, for investigating the mechanisms of cultural renown" (6). Taylor, *Reinventing Shakespeare*. On the more pragmatic side of theater, Dennis Kennedy explains the continued appearance of Shakespeare on contemporary stages: "[E]ven a producer with an uncommercial heart must recognize that Shakespeare holds a unique post in the business end of theater making" (247). Kennedy, "The Open-Stage Movement." For a wide-ranging examination of the many ways in which ancient Greek tragedy remains "indisputably part of the Western cultural paradigm," see Liapis and Sidiropoulou, *Adapting Greek Tragedy*.

32. Henderson, *Collaborations with the Past*, 8, 13.

33. Schneider, *Performing Remains*, 15.

34. Schneider, *Performing Remains*, 2.

35. Some of the same sources that trace a history of audience participation also trace the twenty-first-century mainstream adoption of practices that fall under the umbrella of "immersive." These include Alston's *Beyond Immersive Theater*, which links the popularizing of immersive theater to the rise of the experience economy, and Hunter and Magelssen, *Enveloping Worlds: Toward a Discourse of Immersivity*. See also Alston, "Reframing Immersive Theatre," and Worthen, "Free Reign? Designing the Spectator in Immersive Theatre." For the first in-depth scholarly analysis of the qualities that constitute immersivity in theater, see Machon, *Immersive Theatres: Intimacy and Immediacy in Contemporary Performance*.

36. McAuley, *Space in Performance*, 26.

37. Freshwater, *Theatre and Audience*, 18.

38. Machon, *Immersive Theatres: Intimacy and Immediacy in Contemporary Performance*, 75.

39. Gibson, *The Ecological Approach to Visual Perception*, 119.

40. That said, after several months of user feedback, Microsoft added a remote control to the HoloLens accessories as a backup for users who could not master its nonintuitive gestures.

41. Davis, *How Artifacts Afford*.

42. Johnson, "The Embodied Meaning of Architecture," 36, original emphasis.

43. Paavolainen, "From Props to Affordances," 118.

44. Veltruský, "People and Things in the Theatre," 148.

45. Worthen, *Shakespeare, Technicity, Theatre*, 22.

46. Other illustrative uses of affordance theory in theater and performance studies include Tribble, *Cognition in the Globe*; Sedgman, "Ladies and Gentlemen Follow Me, Please Put on Your Beards"; Lupton, "The Affordances of Hospitality."

47. These components of task, reward, and intermediary have much in common with theories of theater as a "playable media form," as Gina Bloom puts it in her analysis of gaming culture and playgoing in early modern England. Bloom, *Gaming the Stage: Playable Media and the Rise of English Commercial Theater*.

48. With apologies to the legion of economists surely reading this book, who will be dismayed by my surface-level appropriation of complex concepts.

49. Despite best efforts and political fantasies, a pure version of either model has yet to prove effective or possible. Chang, *Economics*.

50. For a focused analysis on participatory productions as an expression of neoliberal, capitalist economic models, see Alston, *Beyond Immersive Theatre*.

51. I.e., not legal tender. It could be argued that an attendee might sell an object that can only be procured as a reward within a production, like the plastic ring Hecate gave me in *Sleep No More*, but this seems a small market.

52. See especially 241–90 in Cialdini, *Influence, New and Expanded*.

53. White, *Audience Participation in Theatre: Aesthetics of the Invitation*; Bloom, "Videogame Shakespeare: Enskilling Audiences through Theater-Making Games."

54. Rancière, "The Emancipated Spectator," 280.

55. Rancière, "The Emancipated Spectator," 271.

56. Schechner, *Environmental Theater*, 44.

57. Schechner, *Environmental Theater*, 77.

58. Schechner, *Environmental Theater*, 41.

59. Rothenberg, "New Models, New Visions: Some Notes Toward a Poetics of Performance," 14. More recently, Claire Bishop's genealogy of participatory performance since the 1960s is predicated on an assumption that "[a]n aesthetic of participation therefore derives legitimacy from a (desired) causal relationship between the experience of a work of art and individual/collective agency" (12). Bishop, *Participation*. Similarly, Helen Freshwater characterizes participatory performances wherein attendees can only "give responses which are clearly scripted by social and cultural convention" as "disappointing and mendacious," whereas "meaningful forms of audience participation and engagement" would include "offering them real choices, giving them a sense of ownership, or the opportunity to make a meaningful contribution to the work's development" (76). Freshwater, *Theatre and Audience*. And according to Josephine Machon, increased agency for participants as "'guest-performers'" and "collaborators and co-creators" in the productions she analyzes makes immersive theater "a democratizing force" (150). Machon, *Immersive Theatres: Intimacy and Immediacy in Contemporary Performance*. For contrasting perspectives on the value and function of agency, see Reason, "Participations on Participation: Researching the 'Active' Theatre Audience," which outlines measures of participation in performance that do not rely on agency, as well as Salter,

Alien Agency, which considers how "the actions and behaviors of 'nonhuman' objects, things, processes, and forces" have agency and can "exert powerful effects and *affects* on our bodies, souls, and world" (original emphasis, 4).

60. Smith, "The Ghosts of SoHo."

61. Oliver, *The Mỹ Lai Massacre in American History and Memory*.

62. Blühdorn and Butzlaff propose this conceptual lens as a counter to the limitations of "post democracy" or "post politics," which they critique for "romanticizing an alleged golden age of democracy" (373). Blühdorn and Butzlaff, "Democratization beyond the Post-Democratic Turn." Cf. Crouch, *Post-Democracy*.

63. Blühdorn and Butzlaff, "Democratization beyond the Post-Democratic Turn," 377.

64. Ulbricht, "Scraping the Demos. Digitalization, Web Scraping and the Democratic Project." For an analysis of big data as it pertains to theater and performance, see Miguel Escobar Varela, *Theater as Data* (Ann Arbor, MI: University of Michigan Press, 2021), which provides a much-needed methodological guide for the field.

65. Thaler and Sunstein, *Nudge*.

66. Schechner, *Environmental Theater*, 45.

67. Abramson, *The History of Television, 1942 to 2000*; U.S. Department of Commerce Bureau of the Census, "No. 934. Utilization of Selected Media 1950 to 1982," 555.

68. Hardman, "Walkmanology."

69. Writing in 2006 as Web 2.0 was really gathering steam, Henry Jenkins describes how emerging technologies like social media were enabling and encouraging consumers of media to consider themselves contributors to, even co-producers of, content, a shift in media practices that augured a widespread cultural condition "where the power of the media producer and the power of the media consumer interact in unpredictable ways." He was quite correct. Jenkins, *Convergence Culture*, 2.

70. Zaiontz, "Narcissistic Spectatorship in Immersive and One-on-One Performance," 407.

71. Zaiontz, "Narcissistic Spectatorship," 408.

72. Schechner, *Environmental Theater*, 42. As John Tytell describes, an unregulated dynamic also characterized the work of avant-garde pioneers The Living Theatre, where cofounder Judith Malina was restrained and sexually assaulted by four attendees during a performance of *The Rite of Universal Intercourse*. Reversing this attendee/performer dynamic in the company's production of *Antigone*, some of the performers sexually assaulted a female student protestor by taking her offstage and groping her. Tytell, *The Living Theatre*.

73. Stanley Kubrick's psychological thriller *Eyes Wide Shut* follows the misadventures of regular people who get in over their heads at an elite underground sex club in New York City. For comparisons of the film's iconography with *Sleep No More*, see Flaherty, "Dreamers and Insomniacs"; Brantley, "Shakespeare Slept Here, Albeit Fitfully." For reports of misconduct in the production, see Soloski, "The Problem with Immersive

Theatre"; Jamieson, "Performers and Staffers at 'Sleep No More' Say Audience Members Have Sexually Assaulted Them."

74. Machon, *Immersive Theatres: Intimacy and Immediacy in Contemporary Performance*, 100.

75. To date, theater and performance studies scholarship in digital humanities (DH) has tended to focus on the also necessary work of establishing taxonomies or conducting external analyses of finished projects. Important contributions include Debora Caplan's overview of the state of DH in the field, "Notes from the Frontier"; Sarah Bay-Cheng, Jennifer Parker-Starbuck, and David Z. Saltz's *Performance and Media*, which incorporates multiple taxonomies in a flexible critical framework for the scholarly evaluation of theatrical work that significantly incorporates digital technologies, and Miguel Escobar Varela's handbook on quantitative methodologies for creating theater and performance studies DH work, *Theater as Data*. One example of behind-the-scenes analysis of a theatrical DH project from its creators is Bloom et al., *Experimenting with Shakespeare*, which describes Gina Bloom's motion-capture Shakespeare game, *Playing the Knave*.

76. The University of California at Santa Cruz's Department of Performance, Play & Design, the Ohio State University's Department of Theater, Film, and Media Arts, and Texas A&M University's School of Performance, Visualization, & Fine Arts have recently joined the list of such programs. For a discussion of the labor needs and other pragmatics that have defined the work of Fabula(b), see Hunter, "The Human Labor of Digital Humanities—a Note from the Trenches of Fabula(b) Theatre + New Media Lab."

Chapter 1

1. For full production credits of the 2023 *Macbeth* at the new Globe, see Shakespeare's Globe, "Macbeth | What's On."

2. Cooke, *Above London*, 41.

3. One insightful account of the journey to the new Globe in London is the edited collection of Shakespeare scholars J. R. Mulryne and Margaret Shewring, which includes contributions from key artistic, scholarly, and architectural partners. *Shakespeare's Globe Rebuilt*.

4. *Queen Opens Replica of Globe Theatre*.

5. Ryuta, Carruthers, and Gillies, *Performing Shakespeare in Japan*; Gurr, "Shakespeare's Globe: A History of Reconstructions and Some Reasons for Trying"; Ko, "Globe Theater Replicas." Since 2012, a Globe reconstruction has even been under way in Detroit, Michigan, where repurposed shipping containers form the tiered seating galleries that ring the open yard. Giaimo, "Staging Shakespeare in Shipping Containers."

6. Worthen, *Shakespeare and the Force of Modern Performance*, 29.

7. When Wanamaker died in late 1993, only four audience bays and a temporary stage version of his life's work had been completed, but his devotion to the project created enough momentum to carry through its opening three and a half years later.

8. "Fax from John Orrell to Jon Greenfield, cc to Andy Gurr, Michael Holden and Mark Rylance (Mark Rylance's Copy), Re. New Plan"; original emphasis. Core members of the new Globe team included Theo Crosby, the original architect; Andrew Gurr and John Orrell, scholars of early modern playgoing; actor and director Mark Rylance, who served as the new Globe's artistic director from 1995 to 2005; Jon Greenfield, site manager until Crosby's death in 1994 and the project's architect thereafter; and Michael Holden, CEO of the Shakespeare Globe Trust. As the new Globe's correspondence archive reveals, the project suffered no shortage of input, solicited and unsolicited, from a host of high-profile artists, scholars, and society personages who all had something to say about Shakespeare.

9. The first Globe playhouse was built in 1599 by the Lord Chamberlain's Men, the company for which William Shakespeare often wrote and of which he was part owner. After a misfired cannon in a production of *Henry VIII* caused the playhouse to burn to the ground in 1613, the company (by then under the patronage of King James as "the King's Men") rebuilt the Globe on the same foundations. In 1642, Parliament ordered the closure of all playhouses, and by 1644 the Globe had been demolished entirely to make room for tenement housing. Key historical analyses of the 1599 and 1613 Globes include Gurr, *Playgoing in Shakespeare's London*; Gurr, *The Shakespearean Stage*; and Dustagheer, *Shakespeare's Two Playhouses*.

10. The Shakespeare Globe Trust, "Annual Report and Financial Statements for the Year Ended 31 October 2019." Completed in 2016, the 340-seat Sam Wanamaker Playhouse was modeled after a typical indoor Jacobean playhouse, with seating in an intimate, three-quarters round and lighting from beeswax candles. This venue does not figure into this chapter's analysis because key affordances of the space—lighting that illuminates only a few patrons on either side of the stage and seating only on benches (i.e., no groundlings)—create a dramaturgical separation of attendee from performer that is antithetical to the dynamic this book traces.

11. As characterized by London theater critic Michael Coveney, whose extensive career perhaps forgives his patriotic bias. *London Theatres*. For an accounting of the new Globe's impact, see the Shakespeare Globe Trust, "Annual Report and Financial Statements for the Year Ended 31 October 2019."

12. Shakespeare Globe Trust, "Annual Report and Financial Statements 2022"; Shakespeare's Globe, "Virtual Tour."

13. Comparing total income from the year ending October 31, 2019, to the year ending October 31, 2023. Shakespeare Globe Trust, "Annual Report and Financial Statements for the Year Ended 31 October 2019"; Shakespeare Globe Trust, "Annual Report and Financial Statements 2023."

14. "Fax from John Orrell to Jon Greenfield, Cc to Andy Gurr, Michael Holden and Mark Rylance (Mark Rylance's Copy), Re. New Plan" (original emphasis); Carlson, *Theatre Semiotics: Signs of Life*, 84.

15. Known locally as Kronborg Castle, the site has leaned so far into its specific iconic identity with its summer festivals that UNESCO has named it a world heritage event. UNESCO, "Hamlet Live at Kronborg Castle."

16. Carlson, *Theatre Semiotics: Signs of Life*, 88.

17. Schneider, *Performing Remains*, 31.

18. See the introduction for a longer discussion of the ways I extend Henderson's concept to enactivity in participation. Henderson, *Collaborations with the Past*.

19. The introduction also includes a longer discussion of my use of this model. Chaudhuri, *Staging Place*.

20. Since 1834, the site of the 1599/1614 Globes has been occupied by Anchor Terrace, a row of eight three- to four-story residences that originally served high-level employees of the local brewery of the same name. In 1989—about the time Wanamaker finally had enough funding to purchase a site for his reconstructed Globe—the footings of the 1599/1614 Globes were discovered beneath the complex's parking lot. On this discovery, the Anchor Terrace property owners and the Museum of London promptly petitioned English Heritage to declare the 1834 building a Grade II Ancient Monument. With Anchor Terrace forever protected from demolition, Wanamaker's best remaining option was a lot 750 feet to the west that was being used as storage for garbage trucks. What might have seemed a disappointment had a happy ending, as the new Globe's perch directly on the Jubilee Walk makes the playhouse a part of London's riverside skyline with a distinction the Anchor Terrace site could not have achieved. Hildy, "Reconstructing Shakespeare's Globe: Progress, Problems and Politics."

21. Gurr, "Shakespeare's Globe: A History of Reconstructions and Some Reasons for Trying," 46.

22. Carlson, *Theatre Semiotics: Signs of Life*, 86.

23. Fisher, "To Some Brits, Bard's a Bore, Not Worth a Quiet Moment."

24. Parking in central London is notoriously difficult. Importantly, the real estate designed and controlled by Shakespeare's Globe is award-winning for its cross-modal, detailed attention to accommodations and accessibility. But a person with disabilities may find it more challenging to get there than to other sites. Blue Badge Style, "Shakespeare's Globe."

25. Although early modern London's theater districts were probably livelier than those in which many playgoers lived, the presence of a few playhouses did not always convert an early modern neighborhood into a pure bacchanal. As William Ingram and Mark Bayer have demonstrated, districts such as Bankside and Shoreditch also featured residential areas and a range of businesses more staid than a bawdy house. Ingram, "Neere the Playe Howse." For colorful descriptions of early modern Bankside's many entertainments, see Weis, *Shakespeare Unbound*, and West, *Common Understandings, Poetic Confusion*. For the foundational impact gaming establishments had on early modern playgoing, see Bloom, *Gaming the Stage: Playable Media and the Rise of English Commercial Theater*. For a visual representation of the geographic proximity of these many diversions, see Jana Jackson's ground-breaking digital humanities resource, "The Map of Early Modern London."

26. Larsen, "The Tate Modern and the Battle for London's Soul"; Gurr, "Shakespeare's Globe: A History of Reconstructions and Some Reasons for Trying," 33.

27. Larsen, "The Tate Modern and the Battle for London's Soul."

28. In 1951, for example, Royal Festival Hall opened on the site just west of Waterloo Bridge. Over the next seventeen years, multiple concert halls and galleries were added to the site; today, it is known as Southbank Centre, Europe's largest arts complex. Also important to South London's development was the establishment of the National Theatre's permanent home, which opened next door to Southbank Centre in 1976, after many delays.

29. Riddaway, *Borough Market*.

30. Scott, "The Magnificent New Tate Modern Opens with 50% Female Solos and More Non-Western Artists."

31. The year 2002 marked Millennium Bridge's second opening. The bridge first opened on June 10, 2000, but closed within two days for lengthy modifications thanks to an unexpected swaying caused by the physics of its sleek design and the presence of more than 90,000 enthusiastic pedestrians. Ehrlich and Clout, "London: Reconstruction after World War II."

32. Cooke, *Above London*, 41.

33. Holland, "Hotel Review: CitizenM London Bankside."

34. Larsen, "The Tate Modern and the Battle for London's Soul."

35. Cooper, "10 Cool Things to Do in Southwark."

36. Triptych Bankside, "Availability."

37. Gurr, "Shakespeare's Globe: A History of Reconstructions and Some Reasons for Trying," 46.

38. According to the public-facing data provided by the Indicators of Global Climate Change (IGCC) initiative, a self-organized group of fifty leading scientists from forty universities and government laboratories across the world, the human-induced rise in global temperature from 1850 to 1996, the year Gurr would have penned his observations on the weather, was 1.19°F. From 1996 to the time of this writing, 2023, this rise has almost doubled, adding another 1.08°F to the planet's temperature. Forster et al., "Indicators of Global Climate Change 2022"; climatechangetracker.org, "Indicators of Global Climate Change for Policy Makers." The pace of global sea level rise has also (more than) doubled in the last decade, 2013–2022, compared to the rate of rise from 1993–2012. Farge, "Pace of Rise in Global Sea Level Has Doubled, UN Climate Report Says."

39. Greater London Authority, "Climate Change and Weather."

40. For an open-air theater, new radical instabilities in the weather have no small impact on the pragmatics and dramaturgy of a production. While further discussion is beyond the scope of this analysis, it is worth noting the compelling work in the emerging area of the Anthropocene and Shakespeare's plays in performance, such as William H. Steffen's *Anthropocene Theater and the Shakespearean Stage*, which, among other analyses, considers how the Anthropocene changes the dramaturgical impact of a natural storm (rather than one staged with special effects) in an open-air theater like the new Globe. Other contributions to this important new subfield are the 2018 special issue of

Shakespeare Bulletin edited by Randall Martin and Evelyn O'Malley, "Eco-Shakespeare in Performance," which considers "how Shakespeare scholars and theater practitioners can make ecological relations and environmental politics a motivating concern of twenty-first century productions"; and Jennifer Mae Hamilton's *This Contentious Storm*, which mounts an ecocritical reading of the performance history of *King Lear*'s thunderstorm scene.

41. An exception being St. George's Cathedral, an early Gothic building in London. Gutted by an incendiary bomb, it was rebuilt in a Gothic Revival style in the 1950s. Bright, *Southwark in the Blitz*.

42. Pallasmaa, "Body, Mind, and Imagination: The Mental Essence of Architecture," 53.

43. Woods, "Audiences at the Old Globe and the New," 1539.

44. New Globe attendees familiar with England's tumultuous history during the Protestant Reformation are likely to find even more religious overtones in attending a replica of a playhouse that was first erected only forty years after a series of bloody arguments between Roman Catholics and Protestants over who had the right way to perform the canonical text known as the Bible.

45. Practitioners expressing a particular dislike of the mock-up's placement of pillars and heavens included legendary director Sir Peter Hall, who, after an "extremely depressing" workshop experience, concluded "I cannot believe in a theatre which wilfully excludes about one-third of the spectators from the experience"; Original Shakespeare Company cofounder Patrick Tucker, who felt "strongly that the canopy over the stage had a very threatening and oppressive effect"; and Laurence Olivier Award–winning actor Julian Glover, who lamented that "no actor can saunter onto the stage, but must 'enter,' and when on it, be much on the move, and employ physical gesture to reinforce his argument (a much laughed-at method today)." "Photocopy of Letter from Sir Michael Perry to Sir Peter Hall"; Tucker, "Faxes from Patrick Tucker of the Original Shakespeare Company to Marina Blodgett"; "Photocopy of Handwritten Letter from Julian Glover to Barry Day, with Attached Letter Annotated by Julian Glover of a Letter He Received from an American Teacher, Carla Stockton, 22 August 1995."

46. "Fax from John Orrell to Jon Greenfield, Cc to Andy Gurr, Michael Holden and Mark Rylance (Mark Rylance's Copy), Re. New Plan"; original emphasis.

47. Gurr, "Shakespeare's Globe: A History of Reconstructions and Some Reasons for Trying," 35.

48. Gurr, "Shakespeare's Globe," 35–36.

49. Orrell, "Fax from John Orrell to Andy Gurr," 4.

50. My concern here is less with academic contexts, which for some time (in the humanities, anyway) have acknowledged the social construction of facts, historical or otherwise. Rather, my concern is with the public critique of academia (and the humanities, specifically) as responsible for the "post-truth" era of fake news and alternative facts, because we advocate for thinking critically and destabilizing the objectivity of

attributes such as "historical authenticity." Included in this backlash is a return to popular conceptions of truth as singular, discoverable, and neutral, an overcorrection I find polarizing and worrisome.

51. See especially Gurr, *Playgoing in Shakespeare's London*, 51–57.

52. Harry Hunks was the name given to one of the captive, tortured bears mentioned in early modern documents related to bear-baiting. Hawkes, "Harry Hunks, Superstar," 13; original emphasis.

53. Hawkes, "Harry Hunks, Superstar," 13.

54. This caveat is evident in published works, such as *Rebuilding Shakespeare's Globe*—a collaboration between the new Globe's two lead scholars, Andrew Gurr and John Orrell—and throughout the archive of correspondence among members of the design team.

55. The first several seasons of the new Globe featured a series of performance experiments known as Original Practices, the ephemerality of which sets them beyond the scope of my focus on spatial affordances. However, even in these experiments, materiality functioned as the engine for discovering historical authenticity. For obvious reasons, it was feasible only to recreate objects that would have affected early modern performers, such as buttons, underpants, makeup, etc., not conditions that would have affected them, such as bad dental health. See especially Hawkins, *Shakespeare in Elizabethan Costume*; Dessen, "'Original Practices' at the Globe: A Theatre Historian's View." A notable exception to performances that staged authenticity through materiality was the "Original Pronunciation" experiment, led by David Crystal and Tim Carroll, which sought to pronounce the dialogue the way it might have sounded in early modern London. The limited nature of this experiment—three performances of *Romeo and Juliet* in 2004—is evidence of how much authority the new Globe attached to nonmaterial expressions of authenticity. Lodewyck, "Look with Thine Ears."

56. "Photocopy of Letter from Sir Peter Hall to Sir Michael Perry (Cc to Mark Rylance and Lord Birkett) Re Globe Stage Discussions."

57. Causey, "Postdigital Performance."

58. Even as the board credited Rice with drawing new audiences and "huge creative and critical acclaim," they objected to her use of modernized staging practices that diverged from what they saw as the theater's mission "to explore the conditions within which Shakespeare and his contemporaries worked." According to the organization's blog post, "Statement regarding the Globe's future Artistic Direction," the practices the Board found objectionable were supplementary sound and lighting cues: "Whilst the realisation of Emma's vision has been a vital part of our continuing experimentation as a theatre, we have now concluded that a predominant use of contemporary sound and lighting technology will not enable us to optimise further experimentation in our unique theatre spaces and the playing conditions which they offer." Shakespeare's Globe, "Press Release"; Shakespeare's Globe Blog, "Statement Regarding the Globe's Future Artistic Direction."

59. Another instance of historical authenticity bending in the face of financial solvency.

60. For a historiography of the profound impact of artificial lighting on spectatorship, see Camp, "Technologies of Performance: Architecture, Scenery, Light."

61. Dobson, *The Making of the National Poet*; Taylor, *Reinventing Shakespeare*.

62. For Shakespeare's plays, many of these arguments have to do with First Folio acting, which advocates following the typography, spelling, and layout of the First Folio printing of the plays as if—much like the materiality of a playhouse—iron gall ink on rag paper has, as Don Weingust insists, the "moral authority" to unlock definitive insights into Shakespeare's plays. As Stephen Orgel and Paul Menzer have observed, however, even the materiality of the First Folio embeds disagreement over versions, because early modern printing practices were so unstable that copies in the same print run could have variations in spelling that changed the meaning of lines. Weingust, *Acting from Shakespeare's First Folio*, 7; Menzer, "Review of Acting from Shakespeare's First Folio"; Orgel, *Authentic Shakespeare and Other Problems of the Early Modern Stage*.

63. Wanamaker, "Fax from SW to Michael Launchbury, Theo Crosby, Diana Devlin, Graham Jackson"; original emphasis.

64. Akbar, "'I'm Not Saying Shakespeare Is an Anti-Black Racist. But . . .'—the Festival Tackling an Incendiary Issue."

65. The introduction includes a discussion of this framing of "reward" as separate from the intrinsic gratification of seeing a play. Within the concept of a production economy, rewards are discrete, attainable, discernible to others, marked as valuable, and within the purview of the production to bestow.

66. "Banker" instead of "farmer" was one of two substitutions this production made in the Porter's speech at Act 2, Scene 3; the other was "fake-news spreader" in place of "equivocator," an early modern dig at the Jesuits that probably would not have registered with nonspecialist attendees in the twenty-first century.

67. Provided they take those selfies before the show starts or during intermission, lest they provoke an usher's scolding.

68. Carroll, "'Practising Behaviour to His Own Shadow,'" 44.

69. Paul Prescott's "Inheriting the Globe," for example, reports on several such gaffes and the ensuing critique they earned in print from snarky theater critics.

70. Gurr, "Foreword," xvii.

71. Carroll, "'Practising Behaviour to His Own Shadow,'" 44, 40–41.

72. Cohen, "Directing at the Globe and the Blackfriars: Six Big Rules for Contemporary Directors," 219.

73. As the tomato was not cultivated in England until the late 1590s, the shorthand of groundlings with rotten tomatoes is probably an anachronism, an inconsistency Alan C. Dessen has also pointed out. Riddaway, *Borough Market*; Dessen, "'Original Practices' at the Globe: A Theatre Historian's View."

74. Paulus, "It's All about the Audience," 341.

75. Jenkins, *Convergence Culture*.

76. As I have described elsewhere, Paulus can be credited with inspiring much of this habituation, at least in the United States. Hunter, "Farewell, Fond Pageant: Remount and Representational Space in *The Donkey Show*."

77. For a quantitative analysis linking the rise of robotics and AI with the global decline in religion across a range of demographics, see Jackson et al., "Exposure to Automation Explains Religious Declines."

Chapter 2

1. To date, this production has been the best-known and financially successful of Punchdrunk's many immersive adaptations of canonical texts. Before arriving to New York, *Sleep No More* premiered in London's Beaufoy Building in 2003. Then, in 2009, Diane Paulus—newly appointed as artistic director of the American Repertory Theater and, as the previous chapter describes, recently disappointed in her groundling experience at the new Globe—brought the production to the Old Lincoln School in Brookline, Massachusetts, for a five-month sold-out run. Based on this success, Randy Weiner, theater producer and Paulus's husband, partnered with producer Jonathan Hochwald and real estate developer Arthur Karpati to form the production company EMURSIVE, which brought *Sleep No More* to the warehouse on West 27th Street. In 2016, the company opened a version of *Sleep No More* in Shanghai, altered slightly to incorporate Chinese myths, and which is still running as of this writing. After announcing the closure of New York City's *Sleep No More* in early 2024 and extending the run four times, Punchdrunk and EMURSIVE finally closed the show in early 2025. Gardner, "*Sleep No More*, Beaufoy Building, London"; Slade, "Meet Emursive, The Company Behind 'Sleep No More,' the Off-Broadway Production That's Been Sold Out for Three Years"; "Studies of Particular Works"; Sullivan, "Immersive Macbeth in Shanghai." Production credits for *Sleep No More*'s multiple iterations can be found at "Punchdrunk."

2. Although the details of individual vignettes changed, the show's premise remained consistent throughout its run. My descriptions are based on several visits to the production's New York City installation from January through May of 2017. For scholarly accounts of *Sleep No More*'s many variations within individual vignettes, see Westling, *Immersion and Participation in Punchdrunk's Theatrical Worlds*; Hopkins, *Sleep No More and the Discourses of Shakespeare Performance*; Prince, "Intimate and Epic *Macbeths* in Contemporary Performance"; Biggin, *Immersive Theatre and Audience Experience*, 2017; Machon, *The Punchdrunk Encyclopaedia*.

3. Primary among these was Hitchcock's film *Rebecca*, the story and visuals of which focus on the new Mrs. de Winter as she navigates the mazelike Manderley estate and is besieged by the endless possessions of the previous Mrs. de Winter, Rebecca, who died under mysterious circumstances. *Sleep No More*'s scenography, also dominated by a mazelike layout and an avalanche of objects, embedded many direct references to

objects portrayed in the film. Comparisons have also been drawn between *Sleep No More* and the films *Vertigo*, *The Shining*, and *Eyes Wide Shut*, among others. Cartelli, "Punchdrunk's *Sleep No More*: Masks, Unmaskings, One-on-Ones."

4. See the introduction for a longer discussion of Gareth White's model of the "horizon of participation" audiences perceive. White, *Audience Participation in Theatre: Aesthetics of the Invitation*.

5. For analyses of this phenomenon, see Flaherty, "Dreamers and Insomniacs"; Ritter, "In the Body of the Beholder."

6. "Program Handbook."

7. *Rebecca*.

8. "Program Handbook."

9. Much of this scholarship is cited throughout these pages. See also MIT Media Lab, "Remote Theatrical Immersion: Extending *Sleep No More*"; "The Big Sleep No More."

10. Brantley, "33 Ways to Remember the 2010s: Spectators No More."

11. In video game studies, "open-world" is sometimes used interchangeably with "sandbox" or "free-roaming." Among the better-known open-world structures are the *Grand Theft Auto* games, where players can choose not to complete missions or score points and just wander the digitally rendered city. In contrast, well-known linear structures include the first three *Bioshock* games, which require players to engage enemies or die, and to complete each mission in a set order. Gabbiadini et al., "Grand Theft Auto Is a 'Sandbox' Game, but There Are Weapons, Criminals, and Prostitutes in the Sandbox"; Packer, "The Battle for Galt's Gulch."

12. Marvin Carlson, for example, notes that promenade was part of medieval theater and the Hindu Ramilla, as well as more recent examples such as *Tamara*, which launched in Toronto in 1981 and played multiple locations for several years. Carlson, "Immersive Theatre and the Reception Process." See also Fuchs, "Theater as Shopping"; Edmonson, *America Under the Influence*; and the chapters focused on historical instances in Hunter and Magelssen, *Enveloping Worlds: Toward a Discourse of Immersivity*.

13. Worthen, "Free Reign? Designing the Spectator in Immersive Theatre," 305.

14. Alston, *Beyond Immersive Theatre*, 133; see also Alston, "Reframing Immersive Theatre."

15. Zaiontz, "Narcissistic Spectatorship in Immersive and One-on-One Performance," 407.

16. Zaiontz, 408. See also Alston's analysis of one-on-one performances, in which he develops the concept of "narcissistic participation" to describe the attendee's "desire for intimacy in audience participation, premised on self-projection, which can never be fully achieved" (115). Alston, "Reflections on Intimacy and Narcissism in Ontroerend Goed's Personal Trilogy."

17. Prince, "Intimate and Epic *Macbeths* in Contemporary Performance," 254.

18. With thanks to Jessica Dietrich-Marsh and Alan Hunter for their adventurous spirits and insights.

19. Alston, *Beyond Immersive Theatre*, 129.

20. "Program Handbook," 6. Although fan-generated schematics of the McKittrick's floor plan abound online, Punchdrunk has thus far declined to publish an official version. I do not include links to unauthorized versions or attempt my own in part because maps would imply a fixity misrepresentative of the numerous adjustments the show made to its layout over its lengthy run. Moreover, a map seems at cross-purposes with the highly individualized sense of place disorientation the production intended to cultivate, which my analysis here both describes and evokes.

21. As Machon notes, this approach is a hallmark of Punchdrunk's oeuvre. Machon, "Space and the Senses," n.p.

22. Many readers may recall how striking it was during the height of the pandemic for so many people to lose their sense of smell as an early sign of having contracted Covid-19—so much so that one quantitative analysis of Amazon reviews complaining that scented candles had no scent demonstrated a correlation with spikes in infection rates. Beauchamp, "This Candle Has No Smell." As the 3 percent of Americans who struggle with anosmia know, causes of losing one's sense of smell are not limited to Covid-19. "Quick Statistics About Taste and Smell | NIDCD."

23. Drobnick, "Volatile Effects: Olfactory Dimensions of Art and Architecture," 270.

24. Drobnick, "Volatile Effects," 270.

25. Banes, "Olfactory Performances," 35.

26. Cloninger, "GltchLnguistx: The Machine in the Ghost/Static Trapped in Mouths," 24.

27. Kaye and Giannachi, "Acts of Presence," 91.

28. Kaye and Giannachi, "Acts of Presence." See also Betancourt, *Glitch Art in Theory and Practice*.

29. Greene, "NYC Theatre-Goer Gets Kicked in Head at 'Sleep No More.'"

30. Biggin, *Immersive Theatre and Audience Experience*, 2017, 85–89. See also the foundational text in game design, Salen and Zimmerman, *Rules of Play*, from which Biggin draws the framework of different modes of interactivity she identifies in Punchdrunk's aesthetic.

31. For discussion of the "voyeur" archetype Punchdrunk's larger body of work encourages, see Maples, "The Erotic Voyeur," and Papaioannou, "Immersion, 'Smooth' Spaces and Critical Voyeurism in the Work of Punchdrunk."

32. Wozniak, "The Value of Being Together? Audiences in Punchdrunk's *The Drowned Man*," 318.

33. Bloom, "Videogame Shakespeare: Enskilling Audiences through Theater-Making Games."

34. White, *Audience Participation in Theatre: Aesthetics of the Invitation*.

35. Much has been written about the Punchdrunk mask. I will add only that while

its collective anonymizing of participant faces did strike a thematic note and gave the whole enterprise a voyeuristic feel, the mask also served a practical purpose. In the low light of the performance floors, the mask ensured performers could use their peripheral vision to see attendees, and thereby preserve the production's design of performers looking past rather than at them. Many vignettes took place in tight quarters, where, despite the obvious physicality and speed of the performers, attendees still packed themselves too close. An attendee without a bright white mask would have blended into the shadows more easily and gotten kicked (which still happened). Additionally, at a tempo that suggested they were mid-ballroom dance, performers regularly dashed into a space to connect with a scene partner arriving from elsewhere. If a performer had to pause and look at a maskless face that resembled a scene partner, this effect of an interrupted dance resuming midstride would have been ruined, as would the effect of performers looking past and not at attendees. So while the mask did have an aesthetic impact, its most important function was technical. Greene, "NYC Theatre-Goer Gets Kicked in Head at 'Sleep No More.'" For a discussion of the thematic effects of the Punchdrunk mask, see especially Cartelli, "Punchdrunk's *Sleep No More*: Masks, Unmaskings, One-on-Ones"; Papaioannou, "Immersion, 'Smooth' Spaces and Critical Voyeurism in the Work of Punchdrunk."

36. "Program Handbook," 21.

37. Certainly, legal complications would have attended any direct use of characters from properties still under copyright, an issue not relevant for Shakespeare's works.

38. "Program Handbook," 21.

39. Sofer, *Dark Matter*, 4.

40. Walker, *Site Unscene*, 5.

41. Worthen, *Shakespeare Performance Studies*, 128. See also Worthen's earlier analysis of *Sleep No More*—one of the earliest scholarly engagements of the show—which reads in part like a detective's steno pad of the connections between *Macbeth* and the production's scenography. Evident beneath Worthen's foundational insights in this article is the master sleuth's delight at collecting every Easter egg *Sleep No More* could invent. Worthen, "The Written Troubles of the Brain."

42. For a brief history of "fabulous invalid" as the colloquial term for Broadway, see Shearer, "Fabulous Invalids."

43. Thanks to D. J. Hopkins for tipping me off to Google Maps's support of this fiction. Entering "Sleep No More" on this app brings up the descriptor "Film-noir Macbeth in a 1930s hotel"—a historical inaccuracy other navigation apps do not include.

44. Chaudhuri, *Staging Place*, 138, original emphasis.

45. From established publications like Lonely Planet to user-generated forums such as Tripadvisor, *Sleep No More* was a regular feature in suggested itineraries for New York City. Lonely Planet, "New York City Travel Stories"; New York City Tourism + Conventions, "9 Things to Know Before You See Sleep No More"; Tripadvisor, "Sleep No More—All You Need to Know BEFORE You Go (2024)."

46. The continuing fallout from Chelsea's gentrification is summarized in Navarro, "In Chelsea, a Great Wealth Divide."

47. Those especially haunted by their rave days may want to know their memories are not failing them on the address; the *Sleep No More* complex took over a couple addresses, subsuming the street number for Sound Factory/Twilo into what is now 530 West 27th Street. For a brief history of the brief candle of Club Row, see Wilner, "From Paris to Prostitutes."

48. I draw here on Marvin Carlson's foundational theory of "ghosting" in theater and performance. *The Haunted Stage*.

49. Alston, *Beyond Immersive Theatre*, 133.

50. It was just water, of course.

51. Bayley, *Shakespeare and Tragedy*, 184.

52. See the introduction for a longer discussion of this quality and my extension of it from theater-makers to playgoers. Henderson, *Collaborations with the Past*, 8.

53. Email forwarded to the author, July 28, 2024.

Chapter 3

1. The glossary includes definitions of relevant terms from the technology industry. Tender Claws, whose projects have appeared in festivals such as Cannes and Sundance, staged *Tempest* from July to September 2020, with a brief remount in March 2021. These performances were remote, in that attendees used VR headsets at home (or wherever) rather than meeting up at a location where headsets would be provided to them, such as a museum or arcade. The first show Tender Claws staged in this app was *The Under Presents*, a social VR version of the open-world structure discussed in the previous chapter, wherein headset-wearing users freely explored a digitally rendered space. As of this writing, users can still explore *The Under Presents*, but if they had logged in during one of the live runs in 2019, they might have run into avatars controlled by live performers—much like *Sleep No More* attendees stumbled on performance vignettes in progress. Baker, "The Tempest Returns to The Under Presents for a Limited Time"; Damiani, "'The Under Presents' Is a Novel Exploration of VR and Live Immersive Theatre." After premiering at the all-remote Venice International Film Festival in July 2020, *Finding Pandora X* ran in March 2021 at SXSW film festival, also remotely. From May through December of 2021, an additional twenty-one performances were accessible to users at home. The project has won multiple awards, including a Golden Lion. Gabardi, "Interview with Groundbreaking VR Director Kiira Benzing for 'Finding Pandora X.'" Full production credits of *Tempest* can be found at https://tenderclaws.com/tempest-credits, "Tempest Credits," and for *Finding Pandora X* at https://www.imdb.com/title/tt12814600/, "Finding Pandora X."

2. Tender Claws, "Tempest."

3. Double Eye Studios, "Finding Pandora X."

4. Gabardi, "Interview with Groundbreaking VR Director Kiira Benzing for 'Finding Pandora X'"; Tender Claws, "Tempest: About the Show."

5. As explained in the introduction, when distinguishing between elements of a social VR experience, I use the dichotomy of "physical" vs. "digitally rendered/computer generated" rather than "real" vs. "virtual/digital." Using "digitally rendered" or "computer generated" as the opposite of "physical" for an element's constitutive materials avoids the phenomenological confusion of using "real" in contradistinction to anything. I do, however, use the term "virtual reality" when referring to the medium in question. Although this term is problematic from a phenomenological standpoint (i.e., what is so virtual about an experience someone is really having?), it is too ingrained to replace. Marks, *Touch*.

6. Popat, "Missing in Action," 357. See also Matthew Causey and Oliver Grau's discussions of the ways in which theater artists have created representations for a three-dimensional field-of-view for millennia. Causey, *Theatre and Performance in Digital Culture*; Grau, *Virtual Art: From Illusion to Immersion*.

7. Or, as any mathematicians following along might point out, "in 4π steradians of space," because "360 degrees" would describe looking at the circumference of a flat circle from the vantage point of its center, not the field of vision one would have from the center point of a sphere, which is a three-dimensional shape. Despite the brainiac appeal of "4π steradians," I do not try to improve on the more popular and comprehensible term "360-degree view," other than in this endnote. One example of a VR theatrical experience that limits the headset-wearer's point of view to a series of fixed spots is Commonwealth Shakespeare Company's *Hamlet 360: Thy Father's Ghost*. Produced in 2019 as a collaboration with Google and Sensorium, *Hamlet 360* situates the viewer in a predetermined series of diegetic locations drawn from Shakespeare's *Hamlet*. Once situated in each fixed spot, spectators can look around *in 4π steradians* at the elaborately decorated set while a (recorded) scene plays out in front of them, but they cannot interact with any of these elements or perambulate the space. For a discussion of the dramaturgical impact of *Hamlet 360*'s fixed-spot perspective, see Bushnell and Ullyot, "Shakespeare and Virtual Reality."

8. Space limitations preclude further discussion of these experiences, but the concept of enactivity this book proposes would be a helpful framework for understanding how the affordances of room-scale VR differently influence user participation from that possible in headset VR.

9. See especially Christin Essin's discussion of the labor behind the several competing versions of this installation. "Immersive van Gogh."

10. Birringer, "Augmenting Virtuality."

11. Bishop, "The Void Is Building a Star Wars Virtual Reality Adventure."

12. For a sense of the scale of this many ticket sales to a live, theatricalized event in five years, consider that the subject of the previous chapter, Punchdrunk's *Sleep No More*—widely considered one of the more commercially successful immersive produc-

tions in the twenty-first century—is credited with having two million attendees total over its fourteen-year run. Lang, "'Sleep No More' Sets Final Performance after Closure Was Delayed a Year (EXCLUSIVE)"; Debruge, "Sundance Film Festival Embraces Virtual Reality with 2017 New Frontier Program"; Solsman and Stein, "At Tribeca, VR Is Something You Have to Feel to Believe"; "THE VOID—Step Beyond Reality"; Porges, "Inside The Void's Fully Immersive 'Star Wars' VR Experience."

13. Bown, White, and Boopalan, "Looking for the Ultimate Display: A Brief History of Virtual Reality."

14. Anderson and Rainie, "The Metaverse in 2040"; Morgan, "Long Read."

15. Among researchers, social VR spaces are referred to as Collaborative Virtual Environments (CVEs). Gaudiosi, "This Company Created the First Social Platform for Virtual Reality"; Han et al., "People, Places, and Time: A Large-Scale, Longitudinal Study of Transformed Avatars and Environmental Context in Group Interaction in the Metaverse."

16. For a concise state-of-the-industry review of current major platforms and an evaluation of their relative usability from an HCI perspective, see Liu and Steed, "Social Virtual Reality Platform Comparison and Evaluation Using a Guided Group Walkthrough Method."

17. Warnke et al., "Going Beyond with Extended Reality: Let There Be Change."

18. Altspace VR is just one example of the roller-coaster of invention, acquisition, dormancy, revival, and eventual abandonment a VR platform can experience when a tech corporation like Microsoft takes over. Roth, "AltspaceVR Is Shutting Down as Microsoft's Mixed Reality Division Shrinks."

19. One exception is Actors Theater of New York, who staged short performances on AltspaceVR for several months in 2018. AltspaceVR, "Actors Theater of New York City."

20. In my own backyard of the United States, 35 regional theaters shuttered permanently between early 2020 and 2023, with considerable shortfalls in revenue and attendance continuing through this writing. Pierson et al., "Theatre in Crisis"; Mondello, "Across the U.S., Regional Theaters Are Starting to Transform. Here's Why"; Bahr, "72 Regional Theaters, One Shared Crisis"; Spingler et al., "Curtains Up: Critical Factors Influencing Theater Resiliency"; Paulson, "A Crisis in America's Theaters Leaves Prestigious Stages Dark."

21. A sample of the scholarship tracing these pandemic-era efforts includes Hunter, "'We Are Not Making a Movie': Constituting Theatre in Live Broadcast"; Worthen, "Zoom; or, Obsolescence"; Allred, Broadribb, and Sullivan, *Lockdown Shakespeare: New Evolutions in Performance and Adaptation*; Aebischer, *Viral Shakespeare*.

22. The ways that social VR disrupts definitions of "local" is a subject I have discussed at length in "Social VR and the Reinvention of 'Local' in Theatre."

23. For a list of jobs considered "essential" during the coronavirus crisis, see Torpey, "Essential Work."

24. For a representative sample of industry chagrin, see Webb, "The Reason Virtual Reality Still Hasn't Taken Off"; Roose, "This Should Be V.R.'s Moment. Why Is It Still So Niche?"

25. McNulty, "The Theatergoing Habit Is Broken. How Do Venues Get People Back in Seats?"; Paulson, "Hitting Theater Hard"; Butler, "American Theater Is Imploding before Our Eyes"; David, "Subscription Numbers Have Plummeted across the Country, but There Might Be Hope."

26. In Shakespeare studies, see especially Rowe, "Shakespeare and Media History"; Lanier, *Shakespeare and Modern Popular Culture*; Jenstad, Kaethler, and Roberts-Smith, *Shakespeare's Language in Digital Media*; in Classical receptions, see Rollinger, *Classical Antiquity in Video Games*; Apostol and Bakogianni, *Locating Classical Receptions on Screen* (cf. my introduction here, which includes a discussion of the problematic hegemonies that can be perpetuated by relying on a classically Western canon for legitimization).

27. Feeling enfolded into the magic of *The Tempest* was an oft-noted response to experiencing this play in the context of social VR. Bushnell, "Liveness in Virtual Early Modern Theatre"; Sullivan, "Immersion in a Time of Distraction: The Under Presents Tempest."

28. Sophocles, *Fragments of Known Plays*, LCL 483: 10–11.

29. Although this hood covers the eyes of each Chorus avatar, it does not appear within the first-person perspective; it is visible only on other Chorus members.

30. Revermann's excellent discussion of the cultural significance of ancient playgoing and the involvement of playgoers in productions can be found in "The Reception of Greek Tragedy from 500 to 323 BC"; "The Competence of Theatre Audiences in Fifth- and Fourth-Century Athens."

31. Hesiod, *Theogony and Works and Days*.

32. Wallace, "Why Did Hope Remain in Pandora's Jar?," 56.

33. Kenaan, "Who Cares Whether Pandora Had a Large *Pithos* or a Small *Pyxis*?"

34. Hesiod, *The Poems of Hesiod*, 112, l. 76.

35. Hesiod, 112, ll. 86–89.

36. It was a "chained to a rock with an eagle eating out his perpetually regenerating liver for eternity" kind of terrible.

37. Wallace, "Why Did Hope Remain in Pandora's Jar?," 55.

38. Thucydides, "Sixteenth Year of the War, 416–15 [V 84–116, VI 1–7]," 382, section 103.

39. Thomas, "There's a Name for Tech's Attitude Problem." For a representative discussion of the tech industry's pernicious misogyny, see Chang, *Brotopia*.

40. "Big Tech and the Online Child Sexual Exploitation Crisis"; "Disinformation Nation"; Nix, Zakrzewski, and Tiku, "The Movement to Diversify Silicon Valley Is Crumbling amid Attacks on DEI."

41. See the introduction for a longer discussion of Henderson's concept, which I

extend to ancient Greek drama and audiences. Henderson, *Collaborations with the Past*, 8.

42. McAuley, *Space in Performance*.

43. Schechner, *Essays on Performance Theory, 1970–1976*, 121.

44. Carlson, *The Haunted Stage*, 133.

45. Tompkins, *Theatre's Heterotopias*, 3.

46. Tender Claws, "Tempest"; Double Eye Studios, "Finding Pandora X."

47. Brantley, "33 Ways to Remember the 2010s: Spectators No More"; Porges, "Inside The Void's Fully Immersive 'Star Wars' VR Experience."

48. Part of an extreme contraction in the tech industry overall since 2022, layoffs have been especially pronounced in sectors related to the metaverse, such as spatial computing. Bobrowsky, "The Metaverse Is Quickly Turning into the Meh-Taverse"; *Economist*, "Game Over for Virtual Reality?"; Vanian, "VR Market Keeps Shrinking Even as Meta Pours Billions of Dollars a Quarter into Metaverse."

49. Ihde, *Bodies in Technology*, 4.

50. Especially visible in making theater with AI is Annie Dorsen, whose *Prometheus Firebringer* activates the strategy this chapter has described of using ancient Greek tragedy to lend gravitas to a new technology. Collins-Hughes, "Our Techno Future Is Here." For an overview of robots and theater as well as a deep dive into a recent experiment, see Sajadieh and Wolfe, "Designing Interrogative Robot Theater."

51. Parker-Starbuck, *Cyborg Theatre: Corporeal/Technological Intersections in Multimedia Performance*, 37.

52. Posner, "The Dramaturg(ies) of Puppetry and Visual Theatre," 336, original emphasis.

53. Popat, "Missing in Action," 375.

54. Giannachi, *Virtual Theatres*, 123.

55. Popat, "Missing in Action," 377.

56. Bushnell, "Gesture and Performance in Virtual Reality," 12.

57. Posner, "The Dramaturg(ies) of Puppetry and Visual Theatre," 337.

58. Recent advances in AI-assisted coding may streamline this challenge significantly.

59. Stephen Wittek used 360-degree cameras in this way to create videos of performances at the Blackfriars Playhouse in Staunton, Virginia, that are viewable in VR headsets. Wittek, "Shakespeare-VR."

60. Pöhlmann et al., "The Effect of Motion Direction and Eccentricity on Vection, VR Sickness and Head Movements in Virtual Reality."

61. Popat, "Missing in Action"; Hansen, *Bodies in Code: Interfaces with Digital Media*. The last few years have seen efforts to create add-ons to VR masks and haptic gloves that, in the spirit of Aldous Huxley's feelies, propose to overwrite the wearer's smell, taste, and touch with producer-controlled stimuli. Whether these efforts stall out like flying cars or reinvent participation, they promise to keep scholars of performance

in the business of critique for years. Gedeon, "We Tried a VR Haptic Suit That Simulates Being Shot and Stabbed at CES 2023—Here's What Happened"; Hadero, Yamat, and Associated Press, "Metaverse Ventures Bring Smell and Taste to Virtual Reality at CES 2023."

62. Giannachi, *Virtual Theatres*, 134.

63. Una Chaudhuri, *Staging Place: The Geography of Modern Drama*, 138, original emphasis.

64. For an explanation of this position, see O'Callaghan, *Multisensory Philosophy of Perception*.

65. States, *Great Reckonings in Little Rooms: On the Phenomenology of Theatre*, 8.

66. Piris, "The Co-Presence of the Performer and the Puppet in Solo Performances," 22.

67. Bushnell, "Liveness in Virtual Early Modern Theatre," 29.

68. Bloom, "Videogame Shakespeare: Enskilling Audiences through Theater-Making Games."

69. Sofer, *Dark Matter*.

70. With gratitude to Gina Bloom for reminding me about this moment in the production. Aebischer and Nicholas, "Creation Theatre and Big Telly's *The Tempest*: Digital Theatre and the Performing Audience."

71. Kilkenny, "Workers at Indie Game Studio Tender Claws File for Union Election."

72. Klein, *The Shock Doctrine*; Borak, "The Means of Gaming Production"; Parvini and Contreras, "How 'Crunch' Time and Low Pay Are Fueling a Union Drive among Video Game Workers."

73. Artists like Whitney Houston, Maria Callas, Roy Orbison, and Elvis Presley, for example, all died many years before they could have consented to twenty-first-century concerts featuring holograms of them performing for a live audience. Perhaps in response to such "digital resurrections," some living artists, such as the band members of ABBA and KISS, are proactively collaborating on the creation of live shows performed by their own holograms. Myers, "'It's Ghost Slavery'"; Rose, "Whitney Houston Hologram Used without Permission from Estate"; Sun, "Kiss Unveil Digital Avatars at Final Ever Show"; Noble, "AI Generated Elvis Coming To London in 2025." For humanistic perspectives on this emergent phenomenon, see especially Kneese, *Death Glitch*; Sutherland, *Resurrecting the Black Body*.

Chapter 4

1. See the glossary for definitions of terms from the technology industry.

2. Vermeir, "The Magic of the Magic Lantern (1660–1700)"; Loew, "Tangible Specters"; Posner, "Spectres on the New York Stage: The (Pepper's) Ghost Craze of 1863"; Ifeanyi, "The Hologram Concert Revolution Is Here, Whether You Like It or Not"; Pollack-Pelzner, "Two Ways to Bring Shakespeare into the Twenty-First Century."

3. Ganz, "How That Tupac Hologram at Coachella Worked"; Ifeanyi, "The Hologram Concert Revolution Is Here."

4. Pollack-Pelzner, "Two Ways to Bring Shakespeare into the Twenty-First Century."

5. Astle, "*Elements of Oz*"; Isherwood, "Review." A similar effect characterized Gary Galbraith's *Imagined Odyssey* (2017), a dance adaptation of Homer's *Odyssey*. A HoloLens headset was distributed to each member of the eighty-person audience, with which they could see digitally rendered glowing orbs, trees growing through the floor, and comet trails of fire surrounding the physical dancers. Robison, "Dancing with Holograms."

6. This canonical source is MGM's film version from 1939 of Frank L. Baum's novel *The Wizard of Oz*. The film's place in the Western canon of film is similar to the place in the Western canon of dramatic literature held by Shakespeare's oeuvre and the extant ancient Greek dramas.

7. *Bitter Wind* was programmed by Nick Segreti and Don Herweg, with Paul Sullivan as technical artist and Drew Edwards as music supervisor. Diana Kogan contributed additional art, and I wrote and directed *Bitter Wind* and voiced Iphigenia. Support came from the Center for Interdisciplinary Research in the Arts at Northwestern University, and from Microsoft. Short trailers of *Bitter Wind* and its development are online at www.elizabethbradleyhunter.com

8. "Hologram"; Kovach, "Microsoft's New HoloLens Headset Is Very Similar to a Secret Product Google Has Invested In."

9. Performance theorists' use of "mixed reality" predates the release of the first HoloLens. Benford and Giannachi, *Performing Mixed Reality*; Rouse, "MRx as a Performative and Theatrical Stage"; Weijdom, *Mixed Reality and the Theatre of the Future*.

10. At the time of this writing, only headsets feature spatial sound, tessellation, and assets that are 3D, animated, and can be walked around. These features allow headsets to augment the user's physical environment with more complexity than is possible with a smartphone. However, it seems likely that either the computing power of smartphones will catch up, or the headsets will shrink into glasses and replace smartphones altogether. Given the pace at which the tech industry releases new devices, these citations will be media archaeology before their ink dries, but for a time stamp of these innovations from the industry-leading 2024 Consumer Electronics Show, see Fink, "AR Glasses Push Limits at CES 2024."

11. Lower-priced headsets have since become available, such as Meta's Quest Pro (released in 2022 for $999), Quest 3 (released in 2023 for $499) and Quest 3S (released in 2024 for $299). These headsets can run VR apps such as those described in the previous chapter or AR apps. To superimpose digital assets on the physical environment, the Quest headsets use the "passthrough" view, a live feed of the user's physical surroundings as captured by the headset's front-facing cameras. Even at the lowest of these price points, few theater companies would be able to purchase, store, maintain, and replace headsets for more than a handful of attendees. The financial challenges of exploring AR

headsets in live theater were felt keenly by the 2023 Bayreuth Festival, where an AR-enhanced *Parsifal* suffered multiple budget setbacks due to equipment. Rogers, "At Wagner's Festival, New Technology Reveals a Leadership Rift."

12. Full production credits are online at The Builders Association, "ELEMENTS OF OZ (2015–2019)."

13. "The Builders Association," 2023.

14. After premiering in Montclair State University's 2015 Peak Performances season, the show had a three-week run at 3LD Art and Technology Center in Manhattan in December 2016 and a two-day remount in December 2019 at New York University as part of the Skirball Center's year-long celebration of the 50th anniversary of Stonewall. Isherwood, "Review"; Stouffer, "This 'Wizard of Oz' Experience Beams Dorothy to Your Smartphone"; Parenteau, "Elements of Oz"; NYU Skirball Center, "The Builders Association," May 15, 2019.

15. Isherwood, "Review"; Parenteau, "Elements of Oz."

16. Parenteau, "Elements of Oz."

17. Bartley, "A Review of The Builders Association's Elements of Oz"; Masura, "Digital Theatre in Action."

18. Chaudhuri, *Staging Place*, 138.

19. See the introduction for a discussion of the origin and broad applicability of the concept of affordances.

20. McMillin, *The Musical as Drama*, 20.

21. McMillin, *The Musical as Drama*, 7.

22. Watts, "An Augmented Reality Version of *The Grinning Man*."

23. Royal Shakespeare Company, "3D Seven Ages of Man Listed as One to Watch"; Watts, "An Augmented Reality Version of *The Grinning Man*."

24. This is not to say only AR can grant users this directorial control. During the pandemic lockdown, "snail mail" services such as the US Postal Service and FedEx delivered theatrical experiences wherein the solo audience member decided which physical space to use as a backdrop for the unfolding action and controlled its real-time aspects. What differentiates AR, as the previous section discussed, is the layer of space between user and physical surroundings the technology adds. Green, "When the Audience Is Stuck at Home, the Play Is in the Mail"; Considine, "Turn Off Your Phone, Check Your Mailbox."

25. Causey, "Postdigital Performance," 438.

26. Pearson and Shanks, *Theatre/Archaeology*, 23. Other important perspectives on site-specific performance include Tompkins and Birch, *Performing Site-Specific Theatre*, as well as Bertie Ferdman's proposed term "off-site" as a corrective to the way "site-specific" has been "co-opted by neoliberal culture economies" in the decades since its appearance in scholarship. Ferdman, *Off Sites*, 5.

27. For full production credits, see "Agamemnon—Court Theatre."

28. Taplin, *Greek Tragedy in Action*, 22.

29. Iphigenia was the eldest child of Clytemnestra and Agamemnon. Ten years prior to the opening scene of Aeschylus' play, Agamemnon slaughtered Iphigenia as a sacrifice to the gods so the winds would pick up and the Greek fleet could sail to Troy, get Helen back from her lover/kidnapper Paris for Menelaus, and take the Trojans' riches, which Greece had long coveted. Clytemnestra, not at all on board with this plan, began plotting her revenge that day.

30. Aronson, "Their Exits and Their Entrances," 332.

31. For comprehensive and highly accessible production histories of Aeschylus' play from antiquity through the twenty-first century and the ways its many characters and themes have been depicted across pots, paintings, film, and digital objects, see Macintosh and Kenward, *Agamemnon, a Performance History*; and Macintosh et al., *Agamemnon in Performance 458 BC to AD 2004*. For an overview of the patriarchal bent to Clytemnestra's reception history, see Wolfe, "Woman, Tyrant, Mother, Murderess." As Mark Griffiths has traced, critical recognition of the gender politics in the *Oresteia* did not surface among classicists until the 1970s. Griffith, "Critical Approaches to Aeschylus, from the Nineteenth Century to the Present." Although a comprehensive account of feminist engagements of Clytemnestra on the postmodern stage is beyond the scope of this article, it is worth noting that Ariane Mnouchkine and Le Théâtre du Soleil's 1992 *Les Atrides* is often recognized as an early example of such, even if, as Robert Bethune notes, the question of gender was "a secondary motif" to the production's focus on the hidden costs of ending revenge killings. Bethune, "Le Théâtre du Soleil's *Les Atrides*."

32. For an overview of Fabula(b)'s projects and structures, see Hunter, "The Human Labor of Digital Humanities—a Note from the Trenches of Fabula(b) Theatre + New Media Lab."

33. For the complementary scholarship explicating *Something Wicked*, see Hunter, "Enactive Spectatorship, Critical Making, and Dramaturgical Analysis."

34. Gorisse et al., "First- and Third-Person Perspectives in Immersive Virtual Environments," 1; Sánchez Laws, "Can Immersive Journalism Enhance Empathy?," 214.

35. For the title of his sharp critique of major tech companies, Jonathan Taplin borrows the slogan invented by Mark Zuckerberg, founder of Meta (previously, Facebook). Meta stopped using this slogan in 2014, but a cursory look at the havoc social media and other technology companies have wrought on sectors from politics to the ecosystem to interpersonal communications suggests the ethos behind the slogan persists. Taplin, *Move Fast and Break Things*.

36. To orient itself in space, the HoloLens uses its outward-facing cameras to scan its surroundings, mapping the contours of stationary planes such as walls, doors, the

floor, furniture, etc., and creating stable anchor points for itself within this map. Some physical spaces are difficult for the HoloLens to map. In environments like an empty, underlit black box studio or an open field with waving grass, the absence of discernible, stable planes can be difficult for the headset to process with accuracy.

37. Provided it includes a sixteen-foot-wide room, a design misstep that is first on the list of future changes.

38. Brown, "Thing Theory"; Heidegger, *What Is a Thing?*

39. Rayner, *Ghosts*, 73.

40. Sofer, *The Stage Life of Props*, 29.

41. See the introduction for a longer discussion of Diana E. Henderson's term and my extension thereof. Henderson, *Collaborations with the Past*, 8.

42. Revermann, "The Competence of Theatre Audiences in Fifth- and Fourth-Century Athens," 112.

43. Revermann, "The Competence of Theatre Audiences in Fifth- and Fourth-Century Athens."

44. As Edith Hall has noted, ancient depictions of the mythos that assign this much agency to Clytemnestra are comparatively rare. Hall, "Aeschylus' Clytemnestra versus Her Senecan Tradition."

45. Hart, "Iphigenia in Aulis on the Stage and in Art."

46. Hopman, *Scylla—Myth, Metaphor, Paradox*, 8. Strictly speaking, Hopman is writing about names that are mythical—i.e., godly and fantastical, such as Zeus or one of the many monsters that populate the mythoi—rather than historical figures such as Clytemnestra and Agamemnon. I contend that semiotic constants are a useful analytic whenever a designer needs to sift through a critical mass of conflicting iterations with fragmentary and equally conflicting provenance, in order to create one representation of a canonical source.

47. Hopman, *Scylla—Myth, Metaphor, Paradox*, 12.

48. See the *Bitter Wind* walkthrough after the glossary for a description of this gesture.

49. Also, she was an alumna of the university then hosting my lab.

50. Stoner, "Microsoft Mentors Two Northwestern Women in Emerging Tech Field."

51. See also Bloom et al., *Experimenting with Shakespeare*, which theorizes the role of experimentation in the creation of the motion-capture project *Play the Knave*.

52. Bay-Cheng, "'When This You See'"; Morrison, *Discipline and Desire: Surveillance Technologies in Performance*; Causey, "Postdigital Performance."

53. Astle, "*Elements of Oz*."

54. For a longer discussion of these pragmatics, see Hunter, "The Human Labor of Digital Humanities—a Note from the Trenches of Fabula(b) Theatre + New Media Lab."

55. Published in 1917, Shklovsky's term first appeared in print in Cyrillic with a typo, which he sometimes preserved to create the very effect the word is meant to convey. As explained in the translator's note to the edition I cite here, although *ostranenie*

most closely approximates the definition of the Cyrillic term, this romanization erases an important part of the material history of Shklovsky's concept. Similarly, translating the Cyrillic into English as "defamiliarization" or "estrangement" incorrectly conflates it with Bertolt Brecht's *Verfremdungseffekt*. In recent years, Shklovsky's term has been transliterated for English readers as "enstrangement" to acknowledge its material history. Shklovsky, "Art, as Device."

56. Shklovsky, 162.

57. Easy access to digital technology remains far from universal. As of this writing, a third of the world's population is not connected to the internet. "Widening Digital Gap between Developed, Developing States Threatening to Exclude World's Poorest from Next Industrial Revolution, Speakers Tell Second Committee."

Coda

1. Ortiz, "Up to a Trillion Cicadas Are About to Emerge in the U.S."

2. These events are so personal to academic readers that I have opted to cite only Wikipedia. No citation is neutral, but the crowd-sourced, regularly updated nature of Wikipedia allows for a multiplicity of viewpoints and links to a range of analyses. "List of Pro-Palestinian Protests on University Campuses in 2024."

3. With thanks to CNN senior correspondent Donie O'Sullivan for his insights on this event, gleaned from years of on-the-ground investigation of the intersection of social media, rallies, MAGA, and Christian nationalism. Donie O'Sullivan, unpublished video interview with author, April 5, 2024.

4. AP News, "Christianity on Display at Capitol Riot Sparks New Debate"; Yousef, "The Bizarre Outfits at the Capitol Weren't Just Costumes. They Were a Message."

5. Cottingham, "Interaction Ritual Theory and Sports Fans." See also Dohrmann, *Superfans*.

Glossary

1. Widely recognized as the app that established the broad appeal of mobile AR for entertainment, *Pokémon GO!* (2016) saw $200 million in sales and 130 million downloads in its first thirty days on the market. See Javornik, "The Mainstreaming of Augmented Reality." For a range of scholarly perspectives on the game, see Hjorth and Richardson, "Pokémon GO."

2. "Hologram"; Kovach, "Microsoft's New HoloLens Headset Is Very Similar To A Secret Product Google Has Invested In."

3. Performance theorists' use of "mixed reality" far predates the release of the first HoloLens. For more information, see Benford and Giannachi, *Performing Mixed Reality*; Rouse, "MRx as a Performative and Theatrical Stage"; Weijdom, *Mixed Reality and the Theatre of the Future*.

4. Causey, "Postdigital Performance," 432. For a theater and performance perspective on the confusion digital representations can create between fact and fiction via deepfakes, see the epilogue to Hunter, *Playing Real*.

5. Causey, "Postdigital Performance," 440.

6. For the first widely circulated use of the term, see O'Reilly, "What Is Web 2.0."

7. Jones, *The Emergence of the Digital Humanities*, 19.

8. Jones, *Emergence of the Digital Humanities*, 25.

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www.judiciary.senate.gov/committee-activity/hearings/big-tech-and-the-online-child-sexual-exploitation-crisis

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