

Article

Innovating Shakespeare: The Politics of Technological Partnership in the Royal Shakespeare Company's *The Tempest* (2016)

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Abstract: This article examines the Royal Shakespeare Company's (RSC) recent focus on digital 'innovation' by analysing the relationship between their emerging digital-focused business practices and digital performance practice for *The Tempest* (2016). To assess this relationship, I first review the socioeconomic context of 21st century neoliberal UK economic policy that encourages arts organisations such as the RSC to participate in innovative digital production practices. I follow with a definition and deconstruction of 'innovation' as a key term in UK economic policy. I then demonstrate how the RSC has strategically become involved in innovation practices throughout the 2010s. I will then analyse the digital, motion-capture performance practices the RSC developed in partnership with Intel and motion-capture studio The Imaginarium for *The Tempest*. In doing so, I will demonstrate that *The Tempest* serves to legitimise the RSC's status as a competitor and collaborator in the wider digital economy.

Keywords: Shakespeare; innovation; live motion-capture; digital economy; Royal Shakespeare Company

1. Introduction

The Royal Shakespeare Company's (RSC) production of *The Tempest*, first staged at the Royal Shakespeare Theatre in Stratford-upon-Avon in 2016 and the Barbican Theatre, London in 2017 marks a significant moment in the RSC's production history. The production, directed by RSC Artistic Director Gregory Doran, includes the first use of live motion-capture technology for a principal character in a theatrical performance (Bogaev 2017). Specifically, *The Tempest* includes a computer-generated avatar version of Prospero's indentured sprite, Ariel, who is rendered in real-time through the performance of his human-actor counterpart, Mark Quartley. This technological feat was achieved through collaboration between the RSC, global hardware company Intel, and motion-capture studio The Imaginarium, and is heralded by each company as a significant achievement within their sector. Intel's press release states:

Performance capture technology developed by The Imaginarium Studios, typically reserved for pre-recorded content like video games and films, is powered by Intel to allow this digital avatar to interact with other live actors in real-time. To match the spontaneity of live theater, the avatar is created with 336 joints, the equivalent to recreating every joint in the human body, and is powered by a PC that has 50-million times more memory than the one that put man on the moon. (Intel Newsroom 2016).

Performance capture, otherwise referred to as motion-capture (mocap), is digital technology used to capture and record movements of humans, animals and objects and render these movements as three-dimensional data usually through computer-generated graphics (Kitagawa and Windsor 2008, p. 1). When a performer wears a motion-capture outfit or interacts

with other motion-capture technologies, their movement data is captured through infrared light reflection or electromagnetic sensors in real-time, and is processed and used to create an animated, computer-generated version of their performance.¹ While this technology has been used in film and video gaming, the ability to capture movement data, process, render, and digitally project that data in real-time is still a developing field, and is the field into which the RSC, Intel, and The Imaginarium are positioning themselves as forerunners. The combination of press materials, theatre programmes, and the production itself underline the extraordinary costs, access to specialised equipment, and expertise in Shakespearean theatre and motion-capture that is required to achieve this feat.

The RSC's work in live motion-capture onstage has created new dramaturgical and aesthetic possibilities for Shakespearean performance. From a business standpoint, *The Tempest* demonstrates the RSC's capabilities as an ideal arts-technology collaborator within the wider UK and global cultural industry because of its intersecting expertise in Shakespearean performance and digital innovation. This article examines the relationship between the RSC's emerging digital-focused business practice and its digital performance practice for *The Tempest*. I will first outline 21st century neoliberal UK arts policy that pressures arts organisations such as the RSC to participate in innovative digital production practices. I follow with a definition of 'innovation' as a key term in UK cultural policy, and demonstrate how the RSC has strategically become involved in innovation practices throughout the 2010s. I will then analyse the digital, motion-capture performance practices to demonstrate how the technology practically and semiotically functioned onstage. In doing so, I will demonstrate that *The Tempest* works to legitimise the RSC's status as a participant in the wider digital economy. Overall, the RSC's *The Tempest* serves as a significant case study demonstrating the impact of mixed-model funding on Shakespearean theatre institutions, the tension of risks and benefits that emerge from embracing the ideology and material practices of 'innovation', and how new digital technology can potentially be used dramaturgically to reinforce ideologies and power dynamics within *The Tempest*.

2. From Public Good to Private Investment

Twenty-first century neoliberal UK government policy and business rhetoric frames the theatre industry as a cultural industry, made valuable to society by its 'public value'. This is derived from 1980s Conservative policy which generally perceived that "the arts, comprising activities heavily dependent on public subsidy, needed to be submitted to the 'discipline' of the free market through greater reliance on private sponsorship; and arts organisations needed to recuperate a greater proportion of their costs through the box office than through public grants" (McKinnie 2004, p. 186). According to the UK governmental Department of Culture Media and Sport (2001), artistic production in the 21st century has shifted from a mode of democratic participation to an industry which has "a potential for wealth and job creation through the generation and exploitation of intellectual property". The language for assessing culture has shifted into that of market value: choice, value for money, and personal value-added, which frames the public as a consumer of a product rather than an artistic critic or participant (McLuskie and Rumbold 2014, pp. 146, 153). The arts are transformed from a public good to a privatised component of the creative industries. This places arts organisations in the same competitive market as other industries such as advertising, architecture, design, and software development. As such, arts organisations are no longer considered a public good to be supported by the state. Instead, they must compete in a neoliberal private, commercial market in order to receive funding and generate revenue.

¹ The RSC and Intel utilised both optical-based and electromagnetic-based performance capture systems, meaning that Mark Quaterly's costume had to have electromagnetic sensors integrated into the suit, and that infrared cameras had to be installed in the performance space. More technical information can be found through XSens and Vicon, the two mocap companies whose equipment was used in the production. See ([Live XSens Motion Capture For Shakespeare Play n.d.](#); [Vicon Cameras Enable The Royal Shakespeare Company to Create the First Live Motion Capture Theatre Performance 2016](#)).

In combination with this ideological and political shift in the value of art, Arts Council England (ACE) funding was cut by 30% in 2010, forcing arts and theatre organisations to turn to a 'three-legged stool' with mixed-modes of funding across the public sector, private funding, and commercial income (Harvie 2013, p. 152). Theatre companies must now incentivise their work for private donors, philanthropists and commercial companies, which means that theatre companies must be able to appeal to businesses through the donors or sponsors' interests. Jen Harvie (2013) states, quoting Paul Glinkowski, a relationship between theatre companies and philanthropists and businesses in which theatre is dependent on external funders to remain in business puts theatre at risk of instrumentalization: this "new model implies a more active form of engagement in which the philanthropist develops a more hands-on relationship with the recipient of his or her funding" (p. 185). This dynamic runs a risk of a dominating corporate focus on 'social impact and capital gain', in short marketizing and privatising theatre (Harvie 2013, p. 185). Theatre companies become vulnerable to the direction of their commissioning or sponsoring investors, as non-compliance with their requests can mean having their funding denied or revoked. Investors "often principally seek viability, with the result that arts organisations can end up prioritising blockbuster events and sacrificing other priorities" (Harvie 2013, p. 185).

These are the contexts in which the RSC has partnered with major corporations throughout the 2010s, including Intel. The RSC has a history of using the three-legged stool model for major blockbuster events: their partnership with British Petroleum (BP) during the 2012 London Cultural Olympiad is a prominent example, and demonstrates many parallels with their partnership with Intel for *The Tempest* in 2016. BP served as the 'Founding Presenting Partner' for the World Shakespeare Festival which was artistically directed by Deborah Shaw of the RSC (Bennett 2016, pp. 165–66). As Susan Bennett observes, BP's "role as the 'Founding Presenting Partner' of the World Shakespeare Festival refocused the public's attention on the impacts of the (once national) petroleum company for British people and British culture rather than on its environmental misadventures 5000 miles away" (Bennett 2016, p. 166). While the RSC and other artistic contributors to the World Shakespeare Festival benefit from BP's funding and major-brand support, BP accrues what Bennett (2016) describes as "the appearance of commensurability with the cultural institution ([British] museum) as the national repository of the world's treasures and with the cultural asset (Shakespeare) considered a national and, indeed, global superstar" (p. 169). BP benefitted not only from repositioning itself as a contributor to major British cultural events, but from using these cultural events as a distraction from or demonstration of repentance for its disastrously harmful practices. In turn, the RSC receives funding and brand endorsements, which reinforces its own identity as a major global cultural influence and a prominent symbol of British national identity and culture.

Many of the above characteristics of neoliberal funding structures can be seen in the RSC's partnership with Intel. Their financial and creative partnership for *The Tempest* (2016) takes this partnership model a step further because the major commercial sponsor also became a hands-on participant in the creative production of their investment, specifically a live theatrical production. As I will discuss below, *The Tempest* was also framed as a blockbuster event, and required many years of research, funding, and staff dedication across the RSC, The Imaginarium Studios (who are credited in *The Tempest theatre programme* (2017) as 'associates' for their work in designing and developing the Computer-Generated characters), and Intel (who in contrast are credited in *The Tempest theatre programme* (2017) as 'collaborators'). Intel VP Global Brand and Media Mike Dyer and Chief Marketing Officer Steven Fund have stated that the company's involvement in *The Tempest* was part of their larger project of expanding Intel's brand. Fund reports in a *New York Times* article, "Intel wasn't 'getting credit for all of the experiences that we enable'. Not enough people realize, he said, that Intel's various processors and other technologies beyond PC chips play some role in all sorts of creative experiments in realms including fashion and art and science and medicine" (Walker 2016). Whereas BP used their sponsorship with the RSC to distract consumer attention from previous behaviours and repair a global reputation, Intel is attempting to expand an already-positive global reputation

by shifting itself into the ‘experience economy’, in which it can claim credit for both their material products and the cultural experiences themselves.² Intel’s Press materials frame *The Tempest* production as the culmination of a collaborative project:

Intel, the RSC and The Imaginarium Studios have dedicated more than a year of research and collaboration to deliver this unprecedented use of technology in a live classical theater production. It is the latest example of what’s possible when Intel technology meets a passion for telling stories with great artistry ([Intel Newsroom 2016](#)).

Working with cultural industries such as film, music and theatre is implicitly framed as a symbiotic relationship between Intel and the chosen arts organisation; the arts organisation receives the materials needed to be innovative and contribute to the cultural economy, while Intel receives credit for being contributors to cultural innovation. The RSC’s projects function as Intel’s portfolio example of their participation in both ‘social impact’ and ‘capital gain’ ([Harvie 2013](#), p. 185). In turn, the RSC becomes a viable partner for future projects with similar companies. While potentially symbiotic, the dynamic is also predominantly instrumentalist, as the RSC must (and has) completely restructure and reprioritise its business and artistic work to be incentivising to Intel.

3. Innovation as a Business Model

The RSC-Intel partnership also demonstrates another ethical risk: that, as [Harvie \(2013\)](#) argues, these structures of mixed-model funding risk “exploiting arts to perform innovation and entrepreneurialism and foster inward investment” (p. 187). *The Tempest* production was used to demonstrate to potential technological investors and sponsors that the RSC can produce an innovative product that has an easily replicable, modifiable mode of production. ‘Innovation’ is a means through which arts organisations can produce or prove their cultural public value according to the wider market definitions. As Michael Shane [Boyle \(2016\)](#) discusses, innovation has been understood by a wide range of cultural theorists and literary scholars as something—an idea, a technology, a practice, a system—that has been renewed rather than invented, usually by being applied to a new social context. Boyle writes, “an innovation can only be grasped as such in relation not just to what it supplants or modifies but to other innovations with which it coordinates to generate systematic and historical change” (p. 18). The effect of innovation can only be measured in relation to the systemic contexts in which it is employed. This an essential ideological framework for examining the RSC-Intel partnership, as the partnership did not yield the invention of a new technology, but a new application for an already existing technology. The development of live motion-capture technology onstage required structural, pragmatic changes in how the RSC, Intel, and The Imaginarium Studios worked with each other in collaboration.

In the UK, ‘innovation’ is used as a keyword across public policy and business marketing strategies to advocate for a framework of commercial production centred on an investment in digital technology. The National Endowment for Science Technology and the Arts (NESTA, now known as Nesta) remains a driving force in investing in, developing, and producing research and resources for ‘innovation’ in the cultural industries. Nesta began as a source of public endowment for commercial venture capital funds and non-commercial investments in individuals and groups across multiple sectors, and became a charity in 2012 ([Our History n.d.](#)). Nesta has funded academic research in public policy and multiple evidence reports including “The Adoption of Digital Technology in the Arts” (2017), which argues for the integration of digital technology into arts organisations’ business structures. The report was

² These corporate partnerships have also evoked counter-protests. For example, protestors including activist group Reclaiming Shakespeare Company (RSC) interrupted the World Shakespeare Festival performances to criticise BP, and to encourage audiences to tear the BP logo from their theatre programmes ([Bennett 2016](#), p. 166). These activists, and scholars including Bennett and Courtney Lehmann, raise questions about how audiences can resist these neoliberal practices that are becoming essential to theatre production in the UK. [Lehmann \(2017\)](#).

authored by Golant Media Ventures (GMV), an innovation agency with whom the RSC consulted in 2012 (which will be discussed further below). In the report, GMV argues that:

Innovation requires a sustained impact, a change in business models, in methods, in operations, in how things are done going forwards. Part of innovation is the need to capture tacit knowledge, to make new approaches repeatable and shareable, and to embed this novelty within a context of sustainability and resilience. (p. 30).

An innovation is simultaneously sustainable, replicable, disruptive, and suitable for mass-production. It is both 'sustained' and 'a change'. Boyle's definition is not necessarily commodity or output-oriented, but GMV's statement here demonstrates a linear projection towards a progressive goal: a new model, a new product, new information, all which can be reproduced on a mass scale. An innovation is beneficial for its adaptability and replicability because it can be applied in multiple contexts and sectors, for a variety of commodities.

The "Adoption of Digital Technology in the Arts" report (Golant Media Ventures 2017) also frames innovation projects as vital to the survival of the arts industry. The introduction is written in urgent, declarative language, stating that:

Innovation is more important than ever for the publicly-funded arts sector. [. . .] the march of technological progress means that audiences are bringing new expectations in terms of ways to connect with arts organisations and the content they produce. Without being able to adopt new digital technologies in transformational ways, arts organisations will be left behind and lose their relevance to society. (p. 6).

Innovations produce cycles in which new technologies emerge that then overwrite previous technologies, creating internal contradictions within the market. This definition echoes Joseph Schumpeter's theory of creative destruction in capitalism. Schumpeter writes, capitalism "incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one" (Schumpeter [1942] 2008, p. 83). Innovations drive capitalism because capitalism relies on the constant cycles of destruction and recreation of economic structures and products. According to these definitions, innovation is a self-perpetuating form of pressure on creative markets that has been artificially constructed as an impetus for further capitalist production. Technology is ideologically framed and sold as a material that creates novel disruptions to previous patterns of production. However, by this very model, it is not that arts organisations will organically lose their relevance to society, but that they will be made irrelevant by the destruction of previous funding structures and the establishment of digital technology as the driving economic value, unless they become contributors to the new economic structure. This framework presents an ultimatum for arts organisations and makes participation in 'innovation' a matter of a company's life or death.

The RSC has systematically worked to adapt to these emerging pressures, fostering partnerships as a form of resilience within new emerging funding structures. In 2012, the RSC consulted with Golant Media Ventures to design a more digitally-focused modus operandi. GMV defines themselves on their website as:

an innovation agency for the creative, cultural, digital and public sectors, advising on creating new products, services and experiences, and developing their underpinning business models; generating new revenues, reaching new users and creating organisational capability to deliver successfully. (Golant Media Ventures n.d.a)

GMV consults with cultural organisations and transforms them into innovators by making their business structure output- and outcome-focused. The RSC is a prominent case study on their website. RSC Executive Director Catherine Mallyon testifies on their website: "GMV were able to relate every aspect of our strategy to a wider policy and market context and then recommend practical and enjoyable ways of using digital, data and innovation to enable its delivery" (Golant Media

Ventures n.d.b). In other words, GMV reframed and restructured the RSC's current development and business management practices to make their outputs fit better into the rhetoric of innovation—focused on 'delivery' of a product, developing 'public value' from providing a social service that matches consumer demands, and reaching or creating new audiences and consumers through the new products or knowledge it produces.

This strategy re-evaluation included drafting a document called "Our Plan": a business strategy for the RSC that "Identified specific objectives for digital and data that would underpin and enhance the achievement of the RSC's revenue and public benefit goals" and "[c]reated the RSC's Digital Innovation Framework, to provide the right foundations to support innovation". The goal of this framework is:

never having to say no to ideas because of issues relating to technology, rights or our organisational capability. [. . .] The workstreams within it focus on user experience, data and research, intellectual property rights and information standards. They all encourage cross-departmental working and allow the Company to track strategic benefits. (Golant Media Ventures n.d.b)

In short, the RSC is working towards financial and organisational stability and growth so that it may afford access to expensive technologies. This has involved commoditising their intellectual property and forging commercial partnerships. *The Tempest* production played a major role in this process. *The Tempest* production process became a model for future productions aiming to use the same live motion-capture technology. RSC Head of Digital Development Sarah Ellis explains, "We created a pipeline and I think that other people will use it in the future and apply it for themselves" (Vice Media n.d.). Their collaborative process with Intel and the Imaginarium Studios is reported in the Research and Development report, *Space to Play: Making Arts and Technology Collaborations Work* (Gorton 2017). The report presents their workflow and methods of cross-company communication throughout the rehearsal and development process as their most widely beneficial outcome. The report also discloses that *The Tempest* was part of their Partnership Implementation Plan in 2016, which demonstrates that forging partnerships with innovative technological companies in which there is an exchange of resources, social capital, and/or finances is essential to the RSC's new business model.³ According to the report, *The Tempest* production served as a form of innovation defined as "creative and systematic work undertaken in order to increase knowledge—including knowledge of humankind, culture and society—and to devise new applications of economic, cultural or social value of available knowledge" (Gorton 2017, p. 42). The report identifies *The Tempest* as a form of 'experimental development', a form of innovation "which is directed to producing new products, experiences or processes or to improve existing products, experiences or processes" (Gorton 2017, p. 42). According to this structure, the fundamental value of *The Tempest* production is economic and professional rather than artistic; it is derived from the company's ability to produce new developing systems for the delivery of knowledge-goods to consumer-audiences. The theatrical event is a means to a larger end and is inherently one component of a wider research project. The production's value is no longer the theatre site or event itself, but the data and knowledge about collaborative arts and technology projects that can be used by other arts and technological companies for further use in other cross-sector contexts.

4. Justifying *The Tempest* with a History of Innovation

Since most of the benefits of the RSC's new business model manifest in a business-to-business context, the RSC needed to integrate its new innovative practice into its established brand as

³ The RSC also formed multiple partnerships throughout the 2010s which have strengthened its organisational capabilities and access to various digital technologies. For full production details of the RSC's two most prominent digital projects, *Such Tweet Sorrow* (2010) produced with digital design company Mudlark on Twitter and *A Midsummer Night's Dreaming* (2013) in partnership with Google+, see (Sullivan 2018).

an international icon and national institution of Shakespearean theatre while still appealing to its established audiences and new target audiences. *The Tempest* performance demonstrates to audiences that the RSC's new expertise in experimental digital technology supports and enhances their established Shakespearean performance expertise. This was achieved through asserting in advertising materials that there are two forms of historical legacy that which the RSC is continuing by experimenting with new technology: a historical lineage of technological innovation in theatre, specifically starting from Jacobean masques, and an assumed lineage of Shakespeare's drive for innovation in the Elizabethan–Jacobean theatre industry.

For the former, Artistic Director Gregory Doran focused specifically on the Jacobean masque, calling them in *The Tempest programme*, “multimedia events of their day, using innovative technology from the Continent to produce astonishing effects” (Ellis 2017, p. 4). RSC Head of Digital Development Sarah Ellis (2017) evokes canonical authority in her programme article, saying that the production “champions that canon of innovation whilst looking towards future possibilities” (p. 4). She cites the technologies of candlelight and the Victorian ‘Pepper’s Ghost’ illusion as major examples of a “canon of innovation” (p. 4). The programme also highlights Director of Design Stephen Brimson-Lewis’ set design and costuming to reinforce this notion of a canon of innovation. The set design draws aesthetic inspiration from Inigo Jones’ designs for court masques in the 1610s (White 2017, pp. 10–11). The production programme includes a page in which the set designs for *The Tempest* are placed side by side with Jones’ perspective scenery design for an early Jacobean masque (White 2017, pp. 10–11). The reader is meant to see the similarities between Jones and Brimson Lewis’ work in design and special effects, and therefore their shared innovative craftsmanship across 450 years. These early modern designs and technical theatrical techniques are the foundation on which the digital design elements are used in *The Tempest*, practically and ideologically linking past and present together.

Doran and Ellis also frame *The Tempest* as a continuation of Shakespeare's personal innovative legacy by making the production part of the RSC's 400th anniversary celebration of Shakespeare's death (The Royal Shakespeare Company 2016). The production was framed as an iteration of Shakespearean authorial intention. Ellis writes in *The Tempest programme*, “The technology and ideas presented in this production of *The Tempest* respond to the ambition of Shakespeare's own time through the lens of 21st century technologies” (Ellis 2017, p. 4). Doran also explains in a *New Yorker* article, “So we wanted to think about what the cutting-edge technology is today that Shakespeare, if he were alive now, would be saying, ‘Let’s use some of that’” (Pollack-Pelzner 2016). This logic requires accepting several embedded assumptions: one, that the distinctions between Jacobean masques and Shakespeare's theatrical work can be collapsed; two, that Shakespeare strived for innovation in the same contemporary definition of the term; three, that British theatre has a singular positivist narrative of competitive participation in the development of new, better technologies; and therefore, that the RSC is continuing to fulfil Shakespeare's desires and ethos. By linking together early modern theatrical innovation and Shakespeare as a canonical figure with the production's use of new motion-capture technology, Doran has rhetorically constructed a symbiotic relationship between Shakespeare's legacy and the RSC's contemporary cultural relevance. Doran constructs Shakespeare's continued cultural relevance in 21st century terms as an ‘innovator’ while also justifying the RSC as innovator responding to Shakespeare.

I also argue that by framing *The Tempest* production as a continuation of the Jacobean masque genre, Doran draws a one to one comparison between the politics of the monarchist masque and *The Tempest*; *The Tempest* upholds and honours the RSC as a masque historically honoured and reinforced the power of its monarch. Journalist Daniel Pollack-Pelzner (2017), similarly notes in his review of *The Tempest* that, “Where the old masques glorified royals, this [*Tempest*] mostly glorifies Intel (which declined to disclose the terms of its financial arrangement with the R.S.C.; promotional materials for “The Tempest” cite the astronomic cost of the masques in King James I's court).” As financier and provider of materials, as well as a creative collaborator, Intel is positioned within *The Tempest* project akin to King James I's relationship to his production designer, Inigo Jones. The production is

advertised as an achievement made possible by Intel's technology, as masques were made possible and exist for and by the monarch's commission.

However, if, as Stephen Orgel argues, "the masque represents the triumph of an aristocratic community, at its center is a belief in the hierarchy and a faith in the power of idealisation" (Lindley 1984, p. 2), then I argue that *The Tempest* represents the triumph of the equivalent aristocratic community: the RSC is the hub of collaborative corporate partners who together desire to symbolise the highest authority on digital technology in Shakespearean performance. Masques were a form of Jacobean court entertainment, and the lavishness of the performances were meant to reflect and assert King James I's ability "to control and transform the very world around him, and the introduction of perspective scenery further strengthened the metaphor of supremacy embodied in masques" (White 2017, p. 11). They were for and organised by royalty and aristocracy, with specially selected artists (like Inigo Jones) and musicians as the masque's creators, all of whom catered to royal aesthetic preferences and reproduced royal ideology. Every component of the early Jacobean masque was embedded with iconography and symbolism, from the performers' movements and dances, to the costume colour; Ravelhofer (2006) states, "The colours of floor and furniture coverings emphasized hierarchies" (p. 159). The start of the masque was marked not by the appearance of actors onstage, but by the monarch's entrance into the performance space (Lindley 1984, p. 136). Altogether, the masque form and the material components of its spectacle are encoded with signifiers that reaffirm and glorify the monarch's wealth and political power.⁴

Although Intel's logo appears on all the public-facing promotional material, the production, in the unification of all its theatrical components, is a glorification of the RSC's theatrical influence and technical capabilities. According to the logic embedded within this overall marketing campaign, established and new target audiences are meant to be taken in by the desire for spectacle, and the desire to see what upholding and advancing Shakespeare's innovative vision looks like on the RSC stage. Audiences are meant to value the RSC's interpretation as canonical because the production draws from historical research, and an assumed Shakespearean authorial intention. Audiences are also meant to be excited witnesses to *The Tempest* as a new historic moment in contemporary theatre. Most importantly, they are meant to understand that such an event is only possible because of Intel and the RSC's expertise.

5. Digital Technology in Practice

If we are to accept the one-to-one parallel drawn between the politics of the masque and this production of *The Tempest*, then the question remains of how the performance itself—and the heralded technology—operated, contributed to the overall dramaturgy and narratological interpretation of the text, and how this reinforces the image of central power and authority that the RSC aims to construct. This section provides a close reading of the production as I witnessed it at the Barbican Theatre, London in 2017. Although there are many other major digital components to the production, I will focus on what the *Space to Play: Making Arts and Technology Collaborations Work* report (Gorton 2017) refers to as the production's four key technology elements: the projection-mapping in the masque of the goddesses (Act 4, Scene 1), Ariel's evil harpy form generated through live body and facial motion-capture (Act 3, Scene 3), the projected motion-tracking hellhounds (Act 4, Scene 1), and the live motion-capture Ariel avatar. As a whole, the technologies in these scenes serve as instrumental performances of Prospero's power and control over his island and its inhabitants. Throughout, technology is used to perform Prospero and Ariel's magic, making the technology a form of control and discipline within the play,

⁴ The connection between *The Tempest* and masques is also tenuous: the play is not a masque, but contains a masque-like scene. While there is academic precedence for analysing *The Tempest* as a critique of the masque genre (see: Lindley 1984), I note Doran's tendency is to relate the innovative masque of 'Shakespeare's time' to Shakespeare directly, despite Shakespeare's minimal contribution to the genre.

as well as a colourful theatrical spectacle.⁵ Prospero, with digital magic, rules over the ‘primitive’, analogue characters, notably Caliban. This through-line of conveying power over others represented dramaturgically through technological spectacle also reinforces the one-to-one comparison between this production and the Jacobean masques which Doran aims to emulate.

The Tempest production design used digital projections cast onto an enormous, unchanging set. The rotting hull of an enormous shipwrecked vessel resembling the Tudor ship *Mary Rose* framed the proscenium Barbican stage, with the ship’s internal walls hugging each side ([The Royal Shakespeare Company 2017](#)). The stage had a transparent floor with jagged lines scattered across it, resembling cracked and dried sand. An upstage screen filled the stage. The motion-capture avatar Ariel was projected onto two different moving mesh screens—a spiral one called ‘the vortex’ and the other ‘the cloud’ that was filled with theatrical smoke and could be raised, lowered, and moved laterally across the stage—create the illusion of a flying digital avatar ([Bogaev 2017](#)). Since the set was predominantly comprised of digital elements, the play’s settings could be brought onstage instantaneously through digital projection, as if conjured magically from thin air. Thus, every component of the production is one that can be controlled through magic, reflecting Prospero’s powerful ability to control not only the behaviours of those on the island, but their very environment.

Prospero and Ariel’s first encounter (Act 1, Scene 2) captured the aesthetics of the entire show, and established the dynamics between human and digital performance elements. When Prospero (played by Simon Russell Beale) first summoned Ariel, chimes tinkled, and a humanoid sprite projected on the moving ‘cloud’ netting darted high over Prospero’s head. Ariel was bright blue, veiny, and ethereal, and left a slight blue shadow behind him as he moved, with skin like dry cracking soil. His face was that of his human counterpart, actor Mark Quartley, who initially stood in darkness upstage. As Quartley spoke Ariel’s lines, he began to emerge from the darkness, walking slowly downstage with a birdlike gait, always on tiptoe. When his and the avatar’s movements could be seen together, Quartley seemed to be the puppeteer, with the avatar moving in near-synchronised response to his movements, clarifying the avatar’s liveness. This scene demonstrates the multiple power dynamics at play technically for the actors onstage, and within the play’s narrative that are both hierarchical and interdependent. For one, the relationship between the actor and the motion-capture technology is interdependent: Quartley’s mocap suit provides freedom of movement to do his work, but also costumes him into the skin of an indentured character who, using his magic, is working towards freedom. The avatar itself cannot exist without Quartley’s bodily movements, and in turn, Quartley must shape his performance to work within the parameters of the motion-capture technology. Quartley’s costume, and his relationship with his digital-avatar as puppeteer and puppet, is analogous to Prospero’s relationship with Ariel. Prospero must exploit Ariel’s magic to maintain control over the island, his daughter Miranda, and Caliban, and Ariel is dependent on Prospero for his freedom. While Prospero relies on Ariel’s magic to maintain control, he is still positioned as the ruler, with his wooden staff in hand, who conducts and controls the instruments of power around him.

The avatar-Ariel appeared as an instrument of Prospero’s will for the magical scenes of vengeance and punishment, including the summoning of a great harpy, and hellhounds. Ariel’s magical transformations serve to terrorise Alonso and his men, and subdue and neutralise the mutinous Caliban—who is portrayed by Joe Dixon here as part-monster, with a portly belly, greyish skin, and spiny back. Caliban is called monstrous, and the scale of his influence seems feeble in comparison to the grand scale of Ariel’s transformations, and Prospero’s instantaneous power to change a landscape, cause pain, and summon monstrous creatures. Even the language used to describe the motion-capture’s functionality—tracking, capturing—echoes the themes of power and discipline throughout the play. When King Alonso was

⁵ Although the production disengages from a post-colonialist reading of the play-text as previous RSC productions have done, I argue that the dramaturgical use of digital technology as magic can also be read through a post-colonialist lens. While a full analysis of digital technology in this production as a symbol of imperialism and colonialism would extend beyond the scope of this article, I flag it here as necessary scholarly work to be done in the future.

burned by the illusionary feast set as a trap for him, an enormous, digital, grotesque grey harpy appeared on the upstage projection screen. Quartley appeared on the side of the stage at the mid-level of the ship's hull, perched like a bird, and raised and lowered his arms as if he were flapping his wings. As he moved, the harpy moved with him. For this scene only, Quartley also wore facial motion-capture equipment so that the harpy's sinister, cruel bird-like face moved to match Quartley's mouth shapes. The apparatus gave Quartley the semblance of a digital puppeteer in which his body and face were the controllers of the digital avatar-marionette. The immediacy of response between Quartley's movements and the ethereal harpy also reinforce the sense of his omnipotent power, as if Ariel can respond to any given situation and exert control over it. This spectacular power took on a different motion-capture-based dynamic when Ariel worked with Prospero to set hellhounds on the mutinous Trinculo and Stephano, led by Caliban (Act 4, Scene 1). This time, the upstage backdrop glowed bright red and filled with an animation of fanged and yellow-eyed hellhounds. These transparent stage floor turned to a deep red colour, transforming the environment into a hellish landscape. Ensemble cast members chased the trio off the stage, with images of barking hellhounds projected onto the drums they carried. This effect was achieved through 27 motion-tracking cameras which were installed around the theatre to follow the movement of actors (Paulson 2017) in real-time. The tracking projections contribute to the overall sense of Prospero's omnipotence through constant surveillance.

The masque scene in which Prospero summons Iris, Juno, and Ceres to bestow gifts upon his daughter Miranda and her newlywed husband Ferdinand displayed complex, richly coloured projections and costumes, conveying the generous, compassionate side of Prospero's power. Iris wore a vivid, rainbow-coloured Elizabethan-style dress with a skirt of coloured strings and what appeared to be red and blue coloured fibre-optic cables. When she spoke of "Ceres, most bounteous lady, thy rich leas / Of wheat, rye, barley, vetches, oats and pease; / Thy turfy mountains, where live nibbling sheep" (Shakespeare 2007, Act 4. Scene 1 lines 67–69, pp. 38–39), the stage floor and backdrop filled with three-dimensional projection-mapped, richly coloured Impressionist style animations of pea and corn fields, and a purple mountain range. Ceres' white dress unfurled to become a screen onto which digital projections of flowers and leaves swirled. Juno then emerged from upstage centre in a light, airy blue Elizabethan dress. As she stood, projected images of peacock feathers seemed to radiate from her. These vivid displays were designed for pure pleasurable consumption, and to demonstrate that even goddesses can be summoned by Prospero's 'present fancies' (Act 4, scene 1). Prospero's power is exerted not through acts of violence or discipline, but through benevolent displays of luxury and wonder. The wearable technologies within the goddess' costumes and the set's rich, vibrant colours create a sense of other-worldliness. The digital projections create impossible worlds as a meta-theatrical demonstration of the RSC's ability "to control and transform the very world around [them]" as Jacobean masques were meant to do for their monarchs (White 2017, p. 11).

While I read these digital spectacles as performances of hierarchical power dynamics within the play, Intel and the RSC frame the digital technology as a means for creating literalised interpretations of the Shakespearean text. I agree with Daniel Pollack-Pelzner's review (2017), in which he writes, "But the result was a disappointing literalism that insisted on visualizing Shakespeare's word-painting". Although the spectacles are impressive in their bright colours, complexity of execution, and novelty, each effect serves to illustrate Shakespeare's words directly, rather than as a complicated, abstracted, or metaphoric representation of the text's themes. The exception to this is Ariel's avatar, which serves as a captivating double to the human performance. The direct relationship between human and avatar counterpart complicates the notion of liveness onstage, as well as self-hood and presence.⁶ I will explore elsewhere the practical complexities of this human–avatar relationship, and how it complicates dichotomised understandings of humans versus technology in performance.⁷ For the rest of the

⁶ For examples of the diversity of discussion of digital technology and liveness in RSC Shakespearean performance, see: (Aebischer 2019; Aebischer et al. 2018; Sullivan 2017).

⁷ Such journalistic articles that evoked this dichotomy include: (Hemming 2017; Cavendish 2016; Billington 2016).

digital *mise en scène*, I agree with Pollack-Pelzner's critique that literal interpretation is not necessarily novel or complex—it is an instruction or demonstration of what Shakespeare's words mean that sets boundaries on the imagination, ironically in contrast to the intention of integrating digital technology into the production.

Intel however, does not see literalisation as a negative. Intel's press release frames staging literal interpretation as an exciting discovery. At last, the release celebrates, the impossibly spectacular feats that Ariel performs—diving, swimming, turning into a harpy, or pure fire—can be seen onstage rather than through imaginative suggestion (*iQ by Intel 2016*). For Intel, the actualisation of Shakespeare's words is what makes the technology so wonderful: it makes Shakespeare's words come to life in ways that were previously impossible.

Similarly, Doran explains in an interview (Bogaev 2017) that the technology works to enhance the text with visual imagery, to amplify the language rather than overpower. This dynamic between text and technology is meant to complement the wonders of new technology while always reverently upholding the magnificence or wonder of Shakespeare's original language. Doran says, "The beating heart of the play had to be the relationships, the texts and the relationships between the actors, and the magnificence of the technology could only enhance that if it was true at the centre" (Bogaev 2017).

I argue that these dramaturgical justifications have been made predominantly to support the companies' business-related motivations for *The Tempest* project. Using the motion-capture's literal, visual capacities in a diverse array of effects is the optimal way to demonstrate the functionality and potential applications of Intel's technology. In turn, positioning the technology as spectacular in its own right while always still in service to the text reinforces the RSC's established reputation as a national institution of Shakespearean theatre.⁸

6. Conclusions

Overall, *The Tempest* production is a demonstration of innovation, and the dialectical nature of innovation. Innovation, like Schumpeter's creative destruction, relies on the co-existence and replacement of one structure with a new one. In turn, the innovation cannot be perceived as such on its own, as it relies upon being perceived as and used differently from that which it replaces. With *The Tempest*, the performance needed to place the new motion-capture technology alongside the established human-centric Shakespearean performance practices for the audience to 'see' the innovation at work onstage. This tension between human and digital, new system and tradition, also serves as a metaphor for innovation. The production must be methodologically examined as an innovation as Boyle (2016) describes it—in relation "not just to what it supplants or modifies but to other innovations with which it coordinates to generate systematic and historical change" (p. 18) for audiences to see the disruption or change that the production is creating for Shakespearean performance. In this case, this means understanding the changes in performance as part of changes in a wider systemic picture.

Equating technology with spectacle, magic, and power seems to respond to the implicit threats of irrelevance and extinction that policy reports such as "The Adoption of Digital Technology in the Arts" (2017) contained. The union of the RSC's text-focused Shakespearean practice with new, digital technologies onstage conveys an argument for the RSC's legitimacy in theatrical and business terms. The RSC can continue to be relevant according to the new pressure of innovation while continuing to privilege the roots of their artistic practice: theatrical interpretation of Shakespearean text. In the future, the RSC will have to navigate this tension between maintaining a notion of a previous, original identity and operating under an economic system which argues that they must abandon their previous practices to survive. The RSC must also balance serving as an instrumentalist organisation for other companies' motives, and participating in these collaborations as a form of creative resilience. Examining the specific

⁸ For the RSC's history as both a national institution and radical theatre site, see: (Chambers 2004).

applications of digital technology onstage demonstrates how the theatrical content is instrumental to the RSC's wider project, and politically reinforces the RSC's brand.

The production process and performance have also yielded new scholarly questions. For one, when spectacle is equated with power and control, how can digital technology be used conscientiously to trouble or nuance the politics of Shakespearean content such as *The Tempest*? The production also evokes discussion about digital theatre and liveness, and has created a journalistic discourse about the potentially threat technology can pose to human employment and creativity onstage.⁹ Its public impact, including this article, demonstrates that scholars and audiences are already working to understand the production's cultural impact on the wider Shakespearean theatre industry. What remains to be seen is how this production may increase pressures on the RSC and other Shakespearean theatre companies to rely on these partnerships for survival, if it will change future cultural expectations for RSC and wider Shakespearean theatre audiences, and how the socioeconomic conditions for arts production will continue to influence the role of digital technologies on the Shakespearean stage.

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⁹ See footnote five.

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