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EVOLUTION, DIFFUSION AND DISTURBANCE
Drama, education and technology

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Introduction

More than 20 years ago our friend and colleague Professor John Carroll wrote *Digital Drama: A Snapshot of Evolving Forms* (Carroll, 2002). Almost a decade since John’s passing in October 2011 we reflected on his thinking and writing in this area and considered what evolution, if any, might be apparent in contemporary modes of drama. We thought a contribution in a landmark volume such as this would provide a way to explore and explain the interweaving paths of practice between drama, learning and technology. In this chapter we reflect on what we describe as four critical developments that have intersected with the prosocial and embodied practice implicit in drama education and digital technologies that interact with the body and the self. The four categories we discuss come under four imperfect headings: the quantified self (Lupton, 2016a), the mediated self (Hepp & Couldry, 2018), the augmented self (Papagiannis, 2017) and the imaginative self (Rahman et al., 2012).

Before we explore these categories in any depth, let us first set the context by considering how far (or little) we have come over the last almost 20 years and how and why the relationship between society, drama education and technology might matter for young people.

From Terminator to commonplace

In the article ‘Digital Drama: A Snapshot of Evolving Forms’, John Carroll reflects on ‘leaving a National Drama Conference in Canberra some years ago to visit the nearby cinema multiplex’ (Carroll, 2002, p. 130) to see Arnold Schwarzenegger in *The Terminator* (1984). While struck that young audiences were readily engaging with stories about time travel and cyborgs like *The Terminator* or set in a virtual cyberspace world like *The Matrix* (1999), these speculative technology narratives were already being eclipsed by the ‘everyday’ digital media forms these young people were themselves engaging in via a range of playful and often performative or role-based activities. John Carroll articulated that for those young people growing up with increasingly domestic and personal access to networked digital technologies, those media and communication forms were becoming spaces for experiential narratives, identity play and other performative aspects of their daily lives. The cinema audience...
watching the speculative ‘digital magic’ of *The Terminator* had become active participants and makers in their own digital worlds.

Using conventions of role-based drama, he discussed the possible intersections between drama and digital forms as seen in spaces such as online chat rooms and game worlds. As is the nature of technology, some of the examples of digital spaces John Carroll considered, such as Internet Relay Chat (IRC) and multi-user dungeons (MUDs), seem archaic now, but they contributed their socio-technological DNA to many of today’s digital and online experiences and social media services. Some of the game titles he discussed in 2002 either paved the way for game genres such as massively multiplayer online role-playing games (for example, *EverQuest*) or have continued to evolve in terms of technology and fan base as billion-dollar franchises (such as *DOOM*, *Grand Theft Auto* and *Final Fantasy*). However, he noted that the common educational space that many young people found themselves in for hours on end—the world of school—seemed then to be ambivalent about these digital aspects of their lives (Carroll, 2002, p. 130). He concluded that as so much of what occurs in digital spaces is performative and role-based, drama teachers were well positioned to understand these emerging forms ‘and engage their students in role based drama that expands and builds on the current undeveloped play based enactment that is occurring’ (Carroll, 2002, p. 141).

**A picture of commonplace technology**

Make a time jump forward to 2021. Another touchstone performance has captured our imagination of how art might shape life in our uncertain postnormal times. The Sydney Theatre Company production of *A Picture of Dorian Gray* (Figure 52.1) was a hybrid theatrical and cinematic experience that interrogated the boundaries between film and in real life, the tension between mediation and ‘reality’ and how confusion and uncertainty can shape narratives and theatrical form. As *The Guardian* reviewer Cassie Tongue saw it:

[Director Kip] Williams has... long been interested in the intersection of live and recorded video feed onstage to explore ideas of artifice and the real, often borrowing the filmic language of melodrama and camp. He reaches his apex here, long-simmering

Figure 52.1  Eryn Jean Norvill in Sydney Theatre Company’s *The Picture of Dorian Gray*, 2020. Photo: © Daniel Boud
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Ideas fully realised in an often playful, sometimes devastating interplay of image and mode. At one point, Norvill [playing Dorian Gray] has a dinner party with seven of her selves; at another, Gray chides Norvill-the-narrator for telling his story.

This performance symbolises a shift of sorts that illustrates the blurring of the line between ‘live’ and ‘mediated’ performance evident in mainstream theatres and portends at least the possibility of a similar shift in classrooms. We see (at last) the blending of media and performance that Auslander considered possible before the turn of last century (Harju, 1997). We discussed this in Real Players (Carroll et al., 2006):

[W]hat interests me are more subtle transformations in the live event itself, which makes it more like a media event... the audience expectations of what they’ll see live are formed by their experience of television and film, not by history of seeing live performances... Live theatre will always be live I think, but it will also start to look more like other, more popular mediatized forms.

Auslander’s prediction has taken longer than we expected to manifest in mainstage theatres, but it is now evident in works such as Dorian Gray. Place-based theatre companies such as Blast Theory and Punchdrunk have been doing this work for decades (Carroll et al., 2006), but its skilful and purposeful integration into the storytelling repertoire of mainstream houses has taken much longer. The aesthetic and technological breakthroughs in productions like Dorian Gray demonstrate this is now possible in performance and may soon be commonplace in drama situated in classrooms. There has been incremental progress towards this meshing of the experience of live drama, learning and technology over the last decade or so that is inching us closer to this possibility in learning.

Technologies of all kinds are a persistent feature of theatre and education, including those forms enacted beyond traditional (usually physical) notions of stage or classroom. Drama education scholars Kelly Freebody and Michael Finneran (2021, p. 167) also point to the impact of applied forms that create integration of technology and drama for their participants who may be situated not in a theatre but in their communities using a hybrid of drama and technology to explore, respond and represent issues critical to them. In the way we no longer consider sound or lighting as an imposition on live performance—it is live performance. We may come to see screens, avatars and holograms as drama education, and not an adjunct to it or even a distraction from it. This marks a shift that Freebody and Finneran identified in their discussion of drama and digital realities, observing: ‘Nothing is “going back to the way it was”, and, for all the challenge, opportunity and demonisation, a screen-oriented generation is just what they are—human people—no better, no worse than any other generation’ (2021, p.168). The shift in student dispositions and preferences that Freebody and Finneran point to is also reflected in their arts-making processes. This approach to drama and theatre-making, whether it be in a classroom or a theatre, reflects a new kind of interaction and collaboration that has the potential to be simultaneously exciting and commonplace to a generation of students who live a large proportion of their lives in through and on screens (Oswald et al., 2020), so much so it has become integrated seamlessly into their lives.

Similarly, in the production of Dorian Gray the technology ‘just was’. The screens that flew in and out of the performance space were not so much part of the set but rather constituted players with whom the actor on stage interacted. The actor seamlessly and effortlessly interacted with the mediated version of herself—the screen-self and body-self interweaving as a hybrid performative identity. Giesekam (2007, p. 8) observes that the use of screen media
on stage in this way is not a multimedia element being added to the live performance in the way that lighting and sets are used to support performance, but rather it is an example of intermediality in which:

more extensive interaction between the performers and various media reshapes notions of character and acting, where neither the live material nor the recorded material would make much sense without the other, and where often the interaction between the media substantially modifies how the respective media conventionally function and invites reflection upon their nature and methods.

Original and recognisable elements of a live theatre stage, embodied performance, video screens and reinforced audio are interwoven into a new and distinctive performative fabric. Continuing this textile metaphor, Balbi and Magaudda (2018, p. 154) note that ‘we know each piece of yarn is separate, especially when one of them unravels, but all these yarns knitted together make up something more and different from the simple sum of their individual yarns’.

When we consider drama education in the classroom, this reality reflected on mainstages might be a taste of things to come. While the realities of mediated performance and technology present a novelty, there are manifest examples of collaboration with technology and live performance, some of which are decades old. Work around the dramatic conventions of games and virtual worlds (Dunn & O’Toole, 2009; Flintoff, 2009), drama and digital storytelling (McGeoch & Hughes, 2009), drama with mobile and social media (Carroll & Cameron, 2009; Cameron & Wotzko, 2015; Wotzko, 2012; Wotzko & Carroll, 2009), the various digital drama projects of UK-based C&T (Anderson et al., 2016) and their latest digital drama platform Prospero (Sutton, 2020), and the Water Reckoning rolling role project (Davis & Simou, 2014) bear testament to the history of the effort to integrate technology and drama. The COVID-19 pandemic has accelerated the commonplace integration of drama education practice and technology. There have been, however, major shifts in our world that have potentially hastened this transformation in education, particularly in drama education.

Postnormality and the pandemic

To many, the COVID-19 pandemic heightened the somewhat familiar crises of corporate greed, contemporary capitalism and hyperactive market economies. The catastrophe simply added another layer of anguish to the globalised and networked economic misery that afflicts the poor and creates a diminution of levels of trust in organisations and institutions. According to philosopher and futurist Ziauddin Sardar, the postnormal age is ‘characterised by uncertainty, rapid change, realignment of power, upheaval and chaotic behaviour’ (2010, p. 435). In other words, the normalities organisations and individuals once clung to are no longer reliable in a world turned upside down by persistent and rolling crises such as climate change and viral pandemics. Sardar argues the postnormal is a moment of transition where the old ways seem outmoded and new ways seem unreliable, unimaginable or impossible. He argues that the combination of complexity, confusion and contradiction has fuelled a shift from normality to postnormality, sweeping away the institutions and understandings society has clung to for thousands of years, and replacing them with uncertainty.

Technology and science have driven economic growth in many economies and are often cited as the road to redemption for climate change, the pandemic and global poverty; yet they are accompanied by less welcome side effects. As Marshall and Picou argue (2008), ‘these same advances tend to manufacture environmental problems that are increasingly
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complex, large-scale, and destructive’ (p. 244). There is a paradoxical bind here. Society has become reliant on the networking and rapid exchange of information that technology facilitates, but it has facilitated a ‘perfect storm’ of crises that are complex, contradictory and confusing. Marshall and Picou (2008) argue, ‘The critical question is not how do we reduce uncertainty, but rather how do we make better decisions in a world of irreducible uncertainties?’ (p. 241). In this liquid, shifting context, how do we understand the current reality? This confusion is of course exacerbated as any ‘normalities’ that remained, such as freedom of movement and social interaction, were at least suspended by a global pandemic in 2020. This relevance of the conditions of postnormality provides potent challenges and opportunities for drama education to respond to the ‘new normal’ (Anderson, 2014).

Responding to the new normal

Postnormality and its attendant features of complexity, chaos and contradiction challenge drama educators to re-imagine their practices around technology by critically responding to the real world around them and to equip students to respond to chaos, complexity and contradiction as contemporary lived experiences rather than as a wish for a ‘normality’ that is long gone. In our view we need to move from the ‘status quo’ approach to drama curriculum (Jefferson and Anderson, 2021, p. 153) to an approach that embraces and responds to the uncertainty and ambiguity students see in their world. Educational psychologist and creativity educator Ron Beghetto (2020) reminds us that:

creative thought is needed when confronted with uncertainty about the nature of the problem, how to approach it, or what the outcomes might be. This is because in order to solve such problems, we need to develop new and meaningful ways of thinking through the problem, process and outcomes.

(p. 54)

The pandemic with its disturbances and diffusions provides grave challenges but also provokes a potential for re-interpreting and re-conceptualising what drama and technology might be two decades into the twenty-first century. It provides an opportunity for us to re-imagine not only what the drama curriculum could be but how our communities might shift expectations and approaches to schooling in a ‘post-fact’ world. Students as citizens require a deep understanding of how collaboration with each other, with technology and with each other and technology creates meaning for them in their lives to confront the contradictions, chaos and complexities of the present and future. Given the emerging features of a world where our students need the skills and dispositions to respond to uncertainty and ambiguity, we also need a strong grasp of how technology in and out of education has been shaping and is shaped by these emergent societal features. As we look back to John Carroll’s reflections on The Terminator and consider where we are now, some partly historical and partly speculative themes emerge around the influence and impact of technology on student identity, education and drama. Broadly, they break into the four themes of the quantified self, the mediated self, the augmented self and the imaginative self.

The role of identity in technology

A young person’s participation in an online community allows them to engage with identity exploration and presentation of an aspect of the self in a realm where individuals may be
able to change their appearance or ‘disappear’ by logging off should they feel threatened or unwelcomed in the space. On the other hand, a young person who presents a lesser seen part of their identity through their digital persona and experiences a welcoming online crowd may adopt the warmth of acceptance into their real life; in this way, the experiences in the online community may overflow into real life.

With older youth, the representation of the self on social media such as Snapchat, Facebook, Instagram, Twitter and YouTube may be closer to reality. Unlike game worlds that encourage the creation of a fictional avatar, these platforms provide users with the option to create an ‘authentic’ self online through the choice of a profile picture, online name and level of self-disclosure. Developmental psychologists (Crocetti, 2017) suggest that in the period of adolescence, young adults engage in a period of formation that includes both an exploration and a level of commitment to aspects of their identity. Those who choose to create virtual representations of the self online (perhaps in the form of an avatar or social media profile) move through a fluid process of discovery and ‘choice making’ as they decide which parts of their identities they wish to explore, highlight, obscure or construct.

Drama educators and scholars hesitant to consider media technologies should be mindful that a young person’s involvement in digital realms can contribute to and redesign their own collaborative and creative processes and encourage a transformation in drama learning. While we agree with proceeding with caution, we also believe that not only can digital media and theatre coexist, but a merger of the two mediums can lead to new, interwoven forms. This is especially so when drama complements the experience of students using technology in schools. One prominent theme that has emerged in the last decade is the desire to generate personal data through technology or to ‘quantify’ the self.

**The quantified self**

One outcome of the COVID-19 pandemic through 2020–2021 was a rapid shift towards mediated and online learning across all disciplines, including those normally experienced through embodiment and co-presence like drama. Cziboly and Bethlenfalvy (2020, p. 645) summed up the experience of many drama educators:

> [W]e found ourselves in a situation where we had to create theatre and drama from an isolated room, where we were sitting on our own and seeing others only through a screen. Space was not shared any more, and all activities were reduced to two-dimensional images on our laptops. Many thought that doing drama in such circumstances was impossible.

Whether entering the world of mediated drama teaching was undertaken willingly and strategically or as an emergency or temporary measure, it will now be difficult to withdraw entirely. Extended or repeated lockdowns and school closures experienced in many parts of the world, mandated use of technology by education authorities and the ability of technology vendors to scale up their systems and services to meet demand (for the public good and/or for profit) have contributed to greater adoption or diffusion of online learning in principle and in practice. As even small aspects of education are facilitated or tracked through myriad online and software applications, it also becomes possible to make use of that data to collate and construct learner and educator profiles. While the claim behind these technologies is almost always that it will enable positive institutional and educator responses to learner needs, for example by identifying ‘at-risk’ students or monitoring progress towards learning aims,
there are those who perceive that it also enables surveillance and potential discrimination based on attempts to quantifiably measure learning and teaching.

Explorations of digital drama now occur not just around the challenges, possibilities and affordances of the technology but also against this broader backdrop of ‘big data’ and its potential uses and abuses. Data are being used not just to analyse past trends but to predict future outcomes or behaviours. While proponents claim this analysis and prediction can be used to identify efficiencies and benefits, there are clearly concerns about the ability to identify or profile individuals and to exploit or manipulate their habits, views and preferences. For example, companies such as Google and Facebook are able to track individuals as they search and browse information on the Web and generate profiles that archive past activity as well as predict likely future characteristics such as political stance or health status.

In terms of the individual and our embodied and mediated identities, we now exist in the realm of the ‘measured self’ (Wolf, 2009), or ‘lifelogging’ (Selke, 2016), where we passively use a variety of digital trackers to measure, record, archive and even share aspects of our personal lives. From the consumer market we see the wide adoption of wearable devices that constantly monitor a range of activities like the number of steps walked, stairs climbed, changes in pulse rates or blood oxygen levels, and even our sleep habits. Apps and services to control or replace specialised wearable devices such as fitness trackers are increasingly built into more widely adopted mobile devices such as phones or smartwatches. Modern smartphones include GPS, compasses, accelerometers, photodiodes and other probes that allow continuous tracking of location, movement, speed and heart rate. In the world of big data, this type of fitness information can potentially be shared not just with friends but with health providers or insurance companies who might use it to make assessments of current and future health risk (Lupton, 2016b). As Selke (2016) notes, ‘the real lifelogging innovation is the data collection that usually goes unnoticed in daily life’, with sensors now constantly collecting data in the background.

However, there are also performative and creative opportunities made possible by these measured self technologies, particularly in the sense that they are generating data snapshots of our real bodies as we move through physical space. In terms of digital storytelling, combining wearable cameras with locative and biometric data can turn the real world and the real body into components of a multimodal performance.

The quantified self can be regarded as another way for young people to create their own digital archive of lived experiences, in the way that digital games and other spaces might track, record, share and even replay their virtual experiences. Also, the emphasis placed on using some data as a motivator or measure for self-improvement means that lifelogging is a way of projecting an individual’s ‘best self’ into the future. Lupton (2016b) suggests that ‘self-tracking data practices can be understood as self-narratives and as performative of self-hood’. Data must be interpreted and assessed, and then it can be curated, used and shared to present a reflexive narrative of the self. One challenge for drama educators, many of whom are no doubt creating their own ‘quantified selves’, is to find ways to work with learners to investigate, understand and apply ‘big data’ as a tool for critical educational and aesthetic outcomes. Another opportunity and challenge is understanding and responding to the integration of mediation and live performance.

The mediated self

As John Carroll foreshadowed in 2002, many young people learn about themselves and each other in the multiple, globally distributed, multimodal spaces that afford play, enactment of
identity, creative production, re-mixing, commenting, sharing and connecting (Anderson and Cameron, 2013). Today, there are many opportunities to pursue individual creative and learning opportunities in a spectrum of formal and informal settings. These can be fleeting engagements or deep pursuits. They may be personalised journeys, or more likely they may be social experiences in which technology plays a central role in connecting participants and allowing them to share their views and practices around common interests on a potentially global scale. Broadly speaking, ‘media’ is a facilitator and distribution channel for the mutable conventions, interconnections and co-relationships between art, technology and performance that play a central role within a new global arts ecosystem, thus enabling the social construction and sharing of new realities and multiple worlds (Kattenbelt, 2008). The ‘mediated self’ emerges here as another loose theme in the interweaving of drama and technology. Learners increasingly experience and generate performative and aesthetic experiences within these mediated worlds. One of the continuing challenges for educators is to develop greater knowledge of and experience with these mediatised and ever-evolving spaces ‘not for how we should manage them or necessarily accommodate them within existing educational structures, but for what they tell us about the forms of learning and literacy that are already instantiated within the use of these media’ (Duncan & Hayes, 2012, p. 3).

Emerging somewhat from mediation is the still-evolving augmentation of reality.

The augmented self

In practice, liveness in digital media forms can occur without a need for deeply immersive and authentically rendered virtual worlds or software agents. Like drama, much of it happens in the imaginations of the participants at a range of conscious and subconscious levels through the active suspension of disbelief. The effect of liveness routinely alters perception of the geographical and temporal distances operating in networked environments, and is key to the often superficial acceptance of new media as generating intrinsically interactive and potentially social experiences. The ‘what if’ (Benedetti, 2004) possibilities that are so central to drama and human creativity are also a key to understanding why mediated or even virtual experiences are readily accepted as real or live by people, even when they are confronted with the obvious technical artifices of procedural representations generated on screens from computer code, and input interfaces such as headsets, keyboards, trackpads and mice. The connection between drama and computer interface design is not new, and stems from work such as Laurel’s foundational Computers as Theatre (1991). Laurel emphasises that the human–computer ‘interface’, though suggestive of a surface or membrane between human and non-human, actually represents a shared space for co-creation of output.

Total immersion in a virtual reality (VR) space would be substituting one reality for another. However, ‘augmented reality’ (AR) is the process of using computer-generated representations to enhance perceptions of the real world. Collectively, VR and AR are captured in the umbrella term ‘extended reality’ (XR). While VR seeks to provide a totally constructed world to experience, performance and identity play using AR technology or conventions is much closer to the dramatic convention of metaxis, in that the duality between both the ‘real and the fictional’ worlds is explored by the participants (Hatton & Lovesy, 2015, p. 77). The ‘as is’ of real-world objects and sensory experiences and the ‘as if’ worlds of drama and constructed sensory input produce a hybrid ‘as is + as if’ experience. In this sense, digital liveness contributes to a dramatic tension that produces a sense of affect and therefore embodied presence in the experience. These tensions exist in daily engagements with many different types of digital devices that can be seen as inherently theatrical and performative.
Our last ‘self’ moves from ‘what is’ to ‘what might be’ as we consider the dissolution of the barriers between live and technology-infused performance.

**The imaginative self**

Having reflected on what is, we would like to make our fourth theme somewhat speculative. The challenge as we see it is to retain and extend the features of drama education that have been prized over its history, namely student agency, prosociality and creativity, and integrate the emergent and existing technologies not as clunky adjuncts to real performance and learning but as integrated into the processes of meaning-making. As Kathleen Gallagher and colleagues argue (2020, p. 644):

Drama education has always explored self–other relations; it has surfaced fundamental questions about the individual and the collective, both in its creative and mimetic practices and in its actual relationship to the broader social world... One thing we do know is that our new drama modalities and methods of exploration will be realised in collaboration with our participants. We will be awake to the many ways young people, and teachers and researchers too, come to define and express who they are, for themselves, their peers and a much-changed world.

In essence, we are arguing that the next phase of drama education and technology should see its demise as a category as we collaborate with students to see technology in drama education as commonplace and unremarkable. There are no chapters in this volume for instance on drama and lighting because it has become so integrated it is ‘part of the furniture’. As we mentioned earlier, we hope the next edition of this volume will not need a separate category for drama and technology because we will have long since stopped considering technology special but rather a means to reflect human collaborative imagination. This evolution can already be seen on our mainstages. The seamless integration evident in *The Picture of Dorian Gray* (discussed earlier), while not always accessible for drama classes, demonstrates the dissolving barriers between ‘In Real Life’ and the mediated. The triumph in this production was not the mediation or the live action: it was the work of imagination this theatre company made possible on stage. The medium and the methods became irrelevant—only engaging theatre remained. When we turn to the drama classroom, the same evolution is still emergent but probable, as technology gets cheaper, more accessible and more familiar. It is now possible to glimpse a drama classroom where the human imagination has primacy over the methodologies for expressing it in the processes and products of the drama classroom. So we finish this chapter on the imaginative self because that is the best of the gifts that technology has to offer—to magnify and extend our dramatic imaginations into new realms. When seen through this prism, the advances in the quantified self, the mediated self and the augmented self are only useful insofar as they have extended the power of human imagination to make meaning.

**Conclusion**

John Carroll, in his article on emerging forms, concluded:

So, move over Arnold Swarzenegger and the clunky cyborgs, digital performance is being created in the minds and computers of young online drama interactors, enhanced
by digital imaging. It is going to produce some interesting notions of what constitutes dramatic performances in the future. It is drama teachers who are uniquely positioned within the school curriculum to begin to understand these emerging performance conventions and engage their students in role based drama that expands and builds on the current undeveloped play based enactment that is occurring.

(2002, p. 141)

The students in the classrooms that John Carroll reflected upon have indeed left school and begun teaching drama, making theatre and running theatre companies. Carroll’s prediction of evolving forms is now mainstream in large commercial theatres. As we approach the end of the first quarter of the twenty-first century, it is still drama educators who are positioned well to transform education. Now, however, it may not be the imagining of what’s possible but rather working to integrate now commonplace technologies with the essential and irreducible qualities of prosocial practice, play, enactment and human imagination in learning. The COVID-19 pandemic saw significant policy and strategy shifts towards wider use of technology to teach and perform drama, at least in the short term. We may now be closer to a level of acceptance and understanding of technology that places drama education and theatrical practice beyond simplistic choices of whether to be ‘digital’ or not but rather as exploring the realities and possibilities of intermediality. If we as educators can achieve that, we will have managed to re-imagine drama education for our students to respond to the chaos, complexity and contradiction of a postnormal world.

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