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Flesh and Circuit: Rethinking Performance and Technology

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Affiliated issue with 2020 College Art Association Annual Conference, 'flesh and circuit: rethinking performance and technology' (Chicago, IL, USA)

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Editorial introduction

The live, embodied, material, and interactive qualities of performance have made it a notable means of exploring the creative potential of technological engagement, acting as a critical vector for revealing and resisting the technological colonisation of everyday life. The innovative collaborations of Experiments in Art and Technology (EAT) during the 1960's with artists such as Yvonne Rainer and Robert Rauschenberg, Stelarc's extreme body modifications, Dumb Type's intermedia performance, and Guillermo Gomez-Pena and La Pocha Nostra's poetic and speculative imaginings, have mapped the advances in technology and opened new creative fields to explore embodiment. However, there are still some significant oversights in regard to the pervasive and intimate nature of technological mediation, surveillance, and behavioural modification. Currently, technological embodiment assumes new forms tied to data assemblages of unprecedented scope and granularity. The body is commodified as data to be exchanged, controlled, and influenced in algorithmic regimes of governance and as raw material for machine learning and AI. Artists working with performance and technology are engaging with these exclusions, rethinking the intersection of performance and technology, and re-defining embodiment for the twenty-first century. The following articles start to fill these gaps in the literature on art, technology and embodiment through the lens of performance. While much remains to be written on the topic to account for current artistic practice and the changing nature of digital platforms and ubiquity of algorithmic governance, these articles point to new ways of thinking on issues around the intersections of flesh and circuits.

Technology, in a broad sense of the term that includes but is not limited to the digital, alters experiences of embodiment. Philosopher Bernard Stiegler describes how humans and technology have co-evolved as technology extends the capacities of human memory and technologies are developed to accommodate human needs. (Stiegler 1998) Gilbert Simondon articulates how technology and living beings share a milieu that influences processes of becoming, or what he refers to as individuation. Such processes involve a rapport between humans and technical objects where there is a 'coupling between the living and the non-living' (Simondon 2016, xvi). Bringing together Maurice Merleau-Ponty with John Dewey, philosopher of technology Don Ihde argues that the experiences afforded through technologies are post-phenomenological, extending human sensory capacity beyond corporeal limits (Ihde 2002, 2017). Moreover, the relational existence of humans and technology is richly intertwined. Drawing from Karen Barad's agential realism and theories of diffraction (Barad 2007), Chris Salter describes how these entanglements are realised and revealed through performance (Salter 2010). Performance elucidates the relational characteristic of human engagement with digital technologies, which Simondon eludes to when he states: 'what resides in the machines is human reality, human gesture fixed and crystallized into working structures' (Simondon 2016, 18). Technology changes what it means to be embodied, while introducing new types of corporeal and affective experience.

9 Evenings: setting precedence

Arguably one could locate the origins of contemporary art and technology performance in a series of ten performances that took place in the Sixty-Ninth Regiment Armory in New York City over nine evenings in October 1966. *9 Evenings: Theatre and Engineering* was a collaborative process that emerged from the ongoing relationship between Bell Labs engineer Billy Klüver and artist Robert Rauschenberg. *9 Evenings*, co-organised with Bell Labs engineer Fred Waldhauer and artist Robert Whitman, resulted from a series of collaborations between ten artists and thirty engineers to produce ten performances over nine evenings in the Armory (Lacerte 2005). These performances were at once technologically enhanced and enabled, meditations on bodies in technology, and critical interventions that highlighted the implications of technology in the context of the escalating Vietnam War. *9 Evenings* additionally set the stage for the initiation of Experiments in Art and Technology (E.A.T.), a sustained programme of art-science matchmaking that brought together artists, engineers, scientists and technologists in collaborative partnerships to produce new hybrid work to bridge the boundaries between art, science and technology.¹ The legacy of *9 Evenings* and E.A.T. lives on through the models of art technology collaboration and residencies that bring artists together with technologists and technology, programmes that are premised on the belief these encounters will foster new understandings, new aesthetic experiences and modes of engagement, and new critical insights into our technologically mediated world. According to Billy Klüver, art could ‘humanise technology’ (Goodyear 2019, 28). In the performances of *9 Evenings*, this aspiration is achieved through bringing bodies into intimate connection with technologies in ways that foregrounded the corporality of the performers in relation to these technologies, technology as human prostheses that according to Stiegler (after Simondon) is the essence of being human (Stiegler 1998). This recognition of the technological as human, and the human as technological, short circuits the celebration of technological innovation as teleological progress.

While a full accounting of *9 Evenings* is beyond the scope of this introduction, we highlight certain moments that form an art historical lineage for the concerns this guest issue investigates. We see it in Alex Hay’s *Grassland* where the artist’s bodily functions, from brain waves to muscle movements captured by sensor arrays strapped to his body, produce a real time embodied sonification of flesh and circuits uniting in ways that we can recognise from our contemporary digital everyday. Robert Rauschenberg’s *Open Score* with its ghostly rendering of bodies projected in the pitch dark of the Armory made visible through military grade infra-red night vision cameras presaging current sites of surveillance. We highlight the algorithmic precision of the choreography in Deborah Hay’s *Solo* and Yvonne Rainer’s *Carriage Discreteness* which saw dancers interact with machines as complex systems emerged within the space of the performance, and Lucinda Childs’ use of doppler sonar to produce an emergent space where the performative interaction of humans and non-human object generate video and audio, and finally in the immersive environment of Steve Paxton’s *Physical Things* where performers mingled with audience, their bodies acting as antennas to broadcast personalised audio montages (Bardiot 2006). Moreover, *9 Evenings* afforded glimpses of what a performance in technology could be: it collapsed borders between theatre, engineering and visual art; it was as much about creating a situation of possibility as presenting a finished art work; liveness and performance were privileged over artefacts creating new embodied technological situations; and all the performances unfolded in the cavernous space of the Armory, echoing both its military history and that of modernism’s storied arrival in the United States in the 1913 Armory Show.

Data and embodiment

The impetus for this affiliated issue was a panel we chaired at the 2020 College Art Association Annual Conference, 'Flesh and Circuit: Rethinking Performance and Technology'. The conference took place in Chicago, IL, USA during February, mere weeks before the implications of the COVID-19 pandemic were starting to manifest through public health measures initiated around the globe that limited physical contact. Various sectors, including the arts and education, were required to pivot delivery to online formats, which tended to focus around synchronous connections of video conferencing platforms. The concepts speculated at the 2020 panel regarding the interconnections of performing bodies and digital technologies were heightened as we were thrust into a phenomenology of Zoom. It is challenging to reflect on the implications of change while it is in the midst of occurring. However, increased reliance on digital technologies for performed actions, which extends from creative and artistic performances to everyday life, has already been in place with the rise of embodied data through increased data mining and 'Smart' technologies.

These developments have been seen as part of a data revolution characterised by the widespread generation of big data from ubiquitous digital devices, from digitally enabled services and transactions afforded by pervasive interconnected digital platforms, and systems powered by data assemblages comprising interconnected systems of hardware, software and algorithms that manage, store and process the vast quantities of data generated, collected and processed every day (Kitchin 2014, 24–26). The globalised digital platforms and the data assemblages that underpin them provide essential and useful services that characterise our digital lives; social media, health and fitness tracking, cloud storage, digital service provision, commercial transactions, government services, network connectivity, email, and streaming entertainment services. Provision of these services generates personalised and often intimate data on all aspects of individuals' lives and their personal networks at scale. Advancements in digital technology in the areas of cloud storage, algorithmic processing and machine-learning systems combined with the explosion in the availability of data has resulted in a data economy, ensuring that all aspects of our digital everyday are rendered and captured as data. From this perspective, social networks too can be thought of as acting as social sensors, providing a fast-moving thick description of everyday life through billions of data points. These data can be algorithmically analysed for sentiment and further contextualised through data-mining of amassed layers of associated personalised meta-data to map out individuals' locations, interests and networks in great detail, providing granular and dynamic individualised profiles. Increasingly these data have a sensory, embodied and biometric aspect with data captured from mobile devices, surveillance systems, sensor networks and self-generated through camera phones and fitness and health tracking apps. Facial recognition systems powered by machine learning algorithms have increased in number and sophistication, from interconnected CCTV systems to social media platforms and the camera in your mobile phone. As images of our faces proliferate, we've seen the advent of dragnet databases such as that of Clearview AI which scraped three billion photographs from the internet without permission, used to power a facial recognition search engine that has been extensively used by law enforcement worldwide (Hill 2020). The growing area of affect recognition built on anthropologist Paul's Ekman's theory of six universal emotions has seen the growth in what has been described as digital phrenology in areas as diverse as recruitment, sentencing, and security profiling (Crawford 2021, 151–179; Heaven 2020). This demand for data expands to medical and even DNA profiles. Google's deep learning company Deep Mind even gained access to 1.6 billion NHS patient records in the UK (Quinn 2016). DNA testing company 23 and Me² sold their customers DNA profiles to pharmaceutical giant Glaxo Smith Kline, and in Ireland private company Genuity Science aims to build a for profit DNA database of 10% of the

Irish population; an achievement which would allow them to genetically profile the entire Irish population (Lillington 2020). Personal data have become commodified at scale, available to buy and sell and mine for insight (Fourcade and Healy 2016; Sadowski 2021) with embodied and biometric data assuming greater value as it uniquely identifies individuals in high value markets such as health insurance. In addition, as Shoshana Zuboff (2019) observes in her comprehensive study of surveillance capitalism, social media has transformed Erving Goffman's conception of performances of the self, which he articulates in his 1950s classic, *The Presentation of Self in Everyday Life*. Zuboff describes how there has been a collapse of front and back-stage as 'Ubiquitous connection means that the audience is never far, and this fact brings all the pressures of the hive into the world and the body' (Zuboff 2019, 472). 'Behind the scenes' is now the featured act, which Zuboff observes is a scenario of 'no exit', where there is always potential to be observed, therefore leading to the curation and censorship of behaviours offline, as people consider the perceptions of their online networks.

Such features of embodied data, which were already ubiquitous, have been further entrenched during the COVID-19 pandemic, as digital technologies became the main means of synchronous contact for many, replacing even casual human-to-human interactions on a wide scale. From conferences, classes and live performance events to social nights of drinking, trivia nights and even funerals, human contact with each other has been predominately mediated through the screen for over a year now. While the following essays concern case studies that have occurred prior to the onset of this global crisis, these papers have been edited and revised during extraordinary circumstances of everyday digital performance. Like other forms of labour and work, artistic practice has also changed during this time. We, as artists, have found ourselves producing works, such as Conor McGarrigle's *Latent Space* (Figure 1) [<https://www.conormcgarrigle.com/latentspace.html>] and EL Putnam's *An Invitation* (Figure 2) [<http://www.elputnam.com/an-invitation/>], which respond to this time while continuing to find ways of critically engaging with the extractive and colonising impacts of digital technologies. As such, this issue engages with pertinent concepts and artistic works regarding performance and digital technologies, some of which have become more acute during the editing process.

Overview of articles

This issue begins with a re-consideration of performance and digital technologies through an art historical lens. Jennifer Kennedy presents an analysis of Shu Lea Cheang's cyber-feminism technological performance *Brandon* from the 1990s as a challenge to dominant dualistic understandings of the relationship between the material and the digital, particularly as they have shaped ideas about the nature and limits of bodily desire.

Shifting to the perspective of makers, Adelheid Mers presents a model of 'Performative Diagrammatics' derived from her collaborative *Performative Topologies* project. Workshopped with graduate students and other volunteers since early 2018, Mers draws on the manipulation of modes of memory to guide small groups of participants into the experience of a doubling, a simultaneous awareness of flesh and circuit-ness while jointly performing a self-generated choreography. This is followed by Kieran Nolan's investigation of the performative aesthetics of arcade games, which considers a popular form of entertainment through a critical lens, highlighting the contributions of early video games as creative modes of expression and performed human engagement.

The ubiquity of digital technologies and data mining through nearly every aspect of social interaction have given rise to a new sense of what it means to be embodied. In her article, Katherine Nolan asks how digital and social media technologies trigger the emotional flesh



Figure 1. Image generated by a GAN (Generative Adversarial Network) partially trained on photographs taken during COVID lockdown as part of McGarrigle's Latent Space project.

of the body. Nolan demonstrates that liveness, affectivity and human connection are themselves enmeshed in digital cultures, situating contemporary digital practices such as ASMR videos within contemporary performance art practice. In 'Performing the Cyborg Self: explicit and implicit examples of body hacking the distributed self', Minka Stoyanova links the practices of explicitly cyborg performance through the works of Sterlac and ORLAN with the contemporary practice of body-hacking as it is realised in the performance of the self on distributed, social media platforms.

The issue concludes with a performative text. xtine burrough introduces LabSynthE collective at the University of Texas Dallas, which is a framework for collaboration at the intersections of art, technology, and poetics. As modes of writing are in themselves performances, in this article burrough offers two gestures in a side-by-side expository of the lab: an essay about our practice that centres on a case study of the project, *Syntonic Refuge* ('Always Open') and a first-person narrative that tells the story of the lab (LabSynthE —A Sign on the Door).



Figure 2. Video still from EL Putnam *An Invitation* (2021), co-created with Mike McCormack and David Stalling. In this semi-fictional work, the creators speculate about the future of grief. Some animations are created using biometric data collected by EL Putnam during her periods of mourning. Courtesy of the artists.

Conclusion

In the article, 'Present Tense 2020: An Iconology of the Epoch', W. J. T. Mitchell articulates the challenges of reflecting on an era in the midst of crisis. He describes how he writes in a 'present tense about a tense present', referencing the figure of Cacasenno, the 'peasant clown of Italian folktales' who rides backwards in the saddle 'with a relatively clear view of the past receding into the distance, a blurred perception of what lies to the left and right, and little knowledge of what lies ahead' (Mitchell 2021, 372). In many ways, this current issue is such an endeavour. While the future is always yet to be determined, digital technologies, including algorithms and embodied data, have the capacities to direct this future. We hope that as artists and scholars we can use our practices to introduce spaces of critical engagement and alternative ways of utilising these technologies, with the following articles being part of this attempt.


Notes

1. E.A.T. coincided with other similar initiatives – such as the Tuchman and Livingston led LACMA Art and Technology Programme (1971) and the Artist Placement Group (APG) initiated by Barbara Steveni and John Latham in the UK – that sought to develop mechanisms for artists to not only gain access to technological tools and expertise but more importantly to critically engage with new and emerging technologies through sustained collaborative partnerships.
2. See <https://mediacenter.23andme.com/press-releases/gsk-and-23andme-sign-agreement-to-leverage-genetic-insights-for-the-development-of-novel-medicines>.

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