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A datalogical reading of online performance

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ABSTRACT

This article offers a datalogical reading of online performance. In constructing the framework for this new mode of analysing online, computationally centred performance practice, it draws on discussions of data and the datalogical in Blackman [Blackman, L. 2019. *Haunted Data: Affect, Transmedia, Weird Science*. London: Bloomsbury Academic]; Clough et al [Clough, P. T., K. Gregory, B. Haber, and R. Scannell. 2015. "The Datalogical Turn." In Non-representational Methodologies: Re-envisioning Research, edited by P. Vannini. London: Taylor & Francis Group] and Chun [Chun, W. 2016. Updating to Remain the Same: Habitual New Media. Cambridge, MA: The MIT Press], as well as the practices of surveillance capitalism outlined by Zuboff [*The Age of Surveillance Capitalism: The Fight for the Future at the New Frontier of Power*. London: Profile Books]. In conducting the analysis, attention is specifically paid to data as a 'process of translation' [Blackman, L. 2019. *Haunted Data: Affect, Transmedia, Weird Science*. London: Bloomsbury Academic], how the audience-participant as data-subject is identified and known and the ways in which data passes in and out of bodies in these works. In looping together these underlying computational happenings with the dramaturgical practices of the performances, I argue that a richer and expanded perspective of online performance practice is afforded – one which opens up the relationships between what we see, feel and experience and the other unseen, but present happenings centred in data exchange and processing within the events in question.

Misplaced data

I haven't told my partner that I am attending a live online immersive sound experience from our bed – he always goes to sleep first anyway. I'm supposed to be alone on the right-hand side of a bed in a room with the door shut. I am next to my partner on the left-hand side of the bed with the door open and the cat at large somewhere …

Sleepy data

It's an all-night durational performance and I want to go to bed, so I take the laptop into the bathroom and watch while I'm brushing my teeth. I am transfixed by a choreography of still

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life Zoom screens – a tiled image of views from windows, or pockets of interiors – no faces. As soon as people start talking to me, I switch off and go to bed.

Clean data

The performance happens in my bathroom through an app on my phone and is a sonic instruction-based work. It asks me to complete certain actions, while listening to audio and I do some of them, but not others. Some just don't seem possible and others I choose not to do. I don't feel like a data subject. I don't feel processed and exploited and exchanged and calculated. I'm too busy negotiating as to whether I will or won't offer to this work what it asks of me

Introduction

As the above indicates, I am still getting to grips with experiencing performance practices remotely through online platforms and all that this entails in the mode of encounter, how I 'meet' and join the work and how it occupies computational spaces. Wendy Chun argues that 'our media matter most when they seem not to matter at all, that is when they have moved from the new to the habitual' (2016, 1). This argument against reading technology as 'disruptive' or 'viral' pays attention to what happens when we settle into patterns of behaviour with technologies and particularly, in this more settled state, the 'gap between our perception of communications technologies and their habitual operations' (ix); between our sense of what the technologies are doing and what is actually happening. This perspective aligns with contemporary thinking about the hidden agencies and activities of digital computational processes in our lives – James Bridle (2018), for example, states that 'Computation is opaque: it takes place inside the machine, behind the screen, in remote buildings – within, as it were, a cloud' (40). I have become more and more interested in these hidden, computational happenings and agencies that have seeded themselves into so many parts of our lives and have settled and insinuated themselves there, particularly their intersection with live performance practices (see Scott 2020). This research interest landed in new territory in 2020 when many theatres around the world shut, much live face-to-face performance ceased and, through new modes of online practice, we were faced with the implications of computational data exchanges occupying the centre of the performance event.

In this dramatic shift, what new habits of making and experiencing performance are we acquiring? How do such new habituations meet the practices of being with codes, algorithms and other computational data-gathering and sorting structures, already embedded in our lives? And, crucially, what do we not see and feel when we engage in performance in these spaces? Given that we arguably sit on a cusp of habituation to online performance, now seems to be a productive time to occupy the gap between the experience and actualities of computationally centred performance practice, between its representations and underlying happenings. This analysis addresses that duality through exploring both the surface of the encounter and what sits beneath. It also addresses the heightened and increased presence of computational activity and data exchange in performance practices that happen online and which we join and encounter *through* a networked platform. I argue that such practices are distinct from those which more broadly engage computational technologies and processes in their making and presentation. Bodies are still

often present in online works, and the technologies and materialities that we might encounter in face-to-face performance are also still there, but the relations between these elements shift fundamentally, rendering acts of digital data exchange central. This type of work requires new analytical tools to address the unseen but active happenings of digital computation at the heart of the event, which is why I propose a 'datalogical' analysis, bringing together the dramaturgical[1] practices of online performance with the underlying exchanges and happenings of the digital data involved.

Liveness, co-presence and data in online performance

This datalogical approach has arisen specifically as a response to the rise of online performance practices in the event and wake of the COVID-19 pandemic. Through the course of 2020 and 2021, I have engaged with a range of different online events that could broadly be described as performance, including shows presented on theatre stages and broadcast to a physically distant but temporally co-present audience, such as Daniel Kitson's (2020) *Dot. Dot. Dot* and Gob Squad's (2020) *Show Me a Good Time*. It also includes audio works, which were broadcast through bespoke applications at specific times and required participation or a positioning on the part of the audience member, but no live performer presence. These include Darkfield Radio's (2020) *Eternal* and Silivia Mercuriali's (2021) *Swimming Home*. Other pre-recorded performance works allowed asynchronous engagement, through downloading or streaming pre-made video or sound files, such as Jo Bannon's (2020) *Absent Tense* and Dante or Die's (2020) *User Not Found*. In addition, a particular mode of 'gallery performance', enacted through Zoom, has emerged as a recognisable form of online performance experience. These works are live encounters between a visible set of audience members and performers, often including participatory elements and played out using the gallery view on Zoom, including Coney's (2021) *How We Save the World*, Kill the Cat Theatre's (2021) *The House Never Wins* and Uninvited Guests' (2021) *Love Letters at Home*. Finally, two pieces that do not fit into the delineations above are Oliver Zahn's (2020) *In Praise of Forgetting Part 2*, where Zahn enacted a choreography of desktop materials through sharing his screen via Zoom for a live, but the unseen audience and the RSC's (2021) *Dream*, where a live motion-captured performance was broadcast via YouTube, also for a temporally co-present, but unseen audience.

All of the above works are computationally centred in that the space and locus of the encounter between audience and performance/performer is a networked application, accessed through a computational device. The device and its processes necessarily sit at the centre of the work as a node of connection between the physically distant bodies in play. There are degrees of co-presence here, from pieces where the audience experience the performance as it is created – in 'real time' – and performers and audience can see each other, to those where that temporal co-presence is in play, but the bodies of either performers or audience are in some way hidden or subsumed into the representative architecture of the works. There are also pieces that are only live in that they are made available at a specific time and those that are not live at all and can be accessed as recordings. Rather than judging these performances according to the 'level' of co-presence they afford, I am more interested, following Reason and Lindelof (2016), in seeing modes of co-presence arising from them as 'a kind of mutuality, an awareness or active going between

performance and audience that produces particular affects' – not viewing co-presence as 'simply a result of proximity in time and space but rather a quality that describes particular kinds of experiences' (10). In this way, I consider co-presence in the encounters below primarily in terms of the types of 'mutuality' that they produce between bodies and technologies in the space and time of the works.

Though 'levels' of co-presence are not directly addressed below, it is true that the variety of modes of encounter and the different configurations of spatial and temporal co-presence inevitably lead us back to discussions of liveness in performance. Indeed, it could be argued that elements of the debate around liveness have been re-emphasised in the realms of online performance, because so much of it has not constituted a live face-to-face encounter between an audience and performer but has nevertheless been described and marketed as theatre or performance. Though I have no interest in re-playing much re-played debates, a brief outline of some of the historical and more recent theory around liveness does serve to establish the ground from which I argue new methods and tools are needed to address online, computationally centred performances.

Writing more than fifteen years ago now, Chapple and Kattenbelt (2006) define live performance as 'the simultaneous physical presence of the performer and the spectator in the same space in the moment of here and now' (22) – an echo of Peggy Phelan's (1993) claim that performance is defined by its life 'in the present' (146), 'the presence of living bodies' (148) and its occurrence within a 'time which will not be repeated' (146). Erika Fischer-Lichte (2008) also asserts that 'performance … requires two groups of people, one acting and the other observing, to gather at the same time and place for a given period of shared lifetime.' (38). In all these definitions, both 'present' time and co-presence – the 'here and now' – are seen as intrinsic to the 'ontology of performance' (Phelan 1993, 146). Clearly, these conditions are not met by the pieces referenced above and as such, these ontological distinctions are less useful and applicable in the space of online performance.

Indeed, as Philip Auslander reflected in 2016, 'liveness is not a stable ontological condition but a historically contingent concept, a moving target that is continuously redefined in relation to the possibilities offered by emergent technologies of reproduction' (296). This is certainly the case in the current era where gradations of liveness and co-presence move beyond the original taxonomy that Auslander established, which included 'classic' liveness, live broadcasts, live recording, social and internet liveness (2008, 61). Auslander has developed and updated his definition of the latter in recent writing, where he casts 'digital liveness' as 'a specific relation between self and other, a particular way of "being involved with something"' (2012, 10), which echoes Reason and Lindelof's perspective that 'what is important about liveness – how and why it matters – resides not in some essential or ontological characteristic of the performance itself, but precisely in the relationship between performance and audience' (2016, 2). They propose a 'shift of focus from *liveness*, which seems to automatically keep us within a framework of ontology, to that of *experiencing liveness*' (12). Finally, Auslander reflects

> that the power of liveness is in fact a function not of proximity but of distance, or more precisely, the power of the live resides in the tension between having the sense of being

connected experientially to something while it is happening while also remaining at a distance from it. (2016, 296)

These more recent discussions of the term represent productive shifts from an ontological classification towards a more nuanced assessment of how liveness happens between performer and audience, whether they are physically co-present or not – a particular mode of 'involvement' in the performance activity that can be experienced and perhaps sometimes even heightened when it is enacted at distance. I think about my intense engagement with Daniel Kitson speaking to the camera into my living room from the eerie, empty Everyman stage in Liverpool and know that something happened in the distance there that prompted affective involvement and a remote, individualised proximity that would have been hard to achieve in a packed auditorium. Equally, being taken through the streets of Berlin with a Gob Squad performer, via their Go-Pro camera, offered a remote and titillating sense of the live happenings of that city, particularly because of its intersection with the more banal and steady setting of the attic of my house. These stretched and simultaneously compressed 'relations between self and other' in the online space of performance open up qualitatively different 'experiences of liveness' which are certainly of interest to me. However, as I argue here, frameworks of liveness and co-presence, with their focus on the human encounter with and experience of the performance cannot and do not acknowledge what I consider to be the fulcrum of liveness in online performance, namely the fast, immediate, continuous and *live* happenings of data that enable and form that encounter within the application or browser. In the context of computationally centred, online practices, our experience of liveness is a construct and a by-product. It lags and dallies behind the fiercely happening, live interactions of the software, code and programmes in play at the centre of the work. We need new tools to open up the encounter with a performance event that is centred in computational happenings – tools that allow experiential, felt senses of these pieces to intersect with an analysis, acknowledgement and discussion of the exchanges of data that underpin the experience of liveness and that are part of an often unseen, but vital, live set of happenings

Performance in online spaces: 'Born digital' practices

Though the range of practices emerging in online spaces offers significant challenges to any fixed ontological definitions of performance, I still argue, following Chris Salter (2010), that there are 'characteristics' of performance that distinguish it from other art forms and that hold in these spaces, providing useful distinctions with other forms of online 'content'. He names them as:

> (1) an interest in enaction or doing, (2) real-time, dynamic processes over static objects or representations, (3) engagement with the temporal moment of the present, (4) embodiment and materiality, (5) immanent experience, (6) the effect of both human and non-human presence, and (7) transmutation and reconstitution. (xxii)

Salter's seven characteristics do not constitute a fixed definition, but rather traits and actions that, in combination, often characterise the act of performance – a framework to map practice against, without creating a discourse of exclusivity, where the act of definition precludes development and innovation in terms of what performance is or

can be. Interestingly, such characteristics also map onto elements of the datalogical analysis I propose in their focus on 'transmutation and reconstitution', 'human and nonhuman presence', in addition to more familiar qualities of 'real time' processes and the temporal moment of the present. The question of immanent experience[2] is a more interesting proposition; though the experience of these works exists within and arises from their immanent conditions, as explored below, the threads of data exchange reach far beyond and flow over the frames of that experience to spaces and contexts outwith the event.

Beyond these more general ideas of what characterises performance, I also recognise the rich heritage of mixed reality and 'cyberformance' practice and scholarship that has emerged in recent years. Christina Papagiannouli outlines histories and lineages of terms related to online performance, with reference to 'virtual theatres', Cybertheatre, telematic performance and cyberformance. She defines cyberformance as 'the genre of digital performance that uses the Internet as a performance space' (2016, x), whereas Maria Chatzichristodoulou talks of cybertheatres and cyberformances as 'practices that unfold online in digital performance platforms' (2014, 23). In relation to the idea of 'unfolding' in a more recent blog post, Papagiannouli makes a clear distinction between the act of 'streaming pre-recorded performances via the Internet' and 'real-time performance' online in the type of work made during the pandemic (2020).

Though this article does address both 'real-time' and 'pre-recorded' pieces, all the practices considered below work with 'the Internet as a performance space', rather than those that use it as a space to 'broadcast' content made primarily for physical spaces and in this sense, they are 'born digital'. This term is employed in the digital humanities to refer to 'records and archives that have no physical footprint: things that began life as digital entities rather than analogue archives converted into digital form' (Muhanna 2018, 111), though I expand the reach of the definition somewhat in this writing to include performances that may have been originally made for physical spaces but are *re-born* through being significantly reconstituted for an internet performance space.[3] Muhanna goes on to argue that:

> The born-digital project does not merely reproduce the organizing principles of analogue technologies such as the dictionary or the museum. It refigures and subverts them. It gives us something new. If it is difficult to put our finger on what that new something is, so the argument goes, that is because we are beholden to analogue ways of thinking about our research objects. This is the sense of born digital that interests me, which is as much an epistemological problem as it is an administrative one. (111)

What is useful to draw from this is the idea that performance practices made for online spaces have the capacity to 'refigure' and 'subvert' many of the 'analogue ways of thinking' that govern how we approach face-to-face live performance. The 'refiguring' of performance for online spaces offers fresh perspectives as to the different forms that performance can take, as well as requiring new ways of thinking about and understanding what it is and how it happens in these spaces. The 'datalogical' approach is just one response to this 'epistemological problem' – an attempt to loop hidden data energies, exchanges and happenings into an analysis of online performances that also considers their dramaturgical forms and the experiences created. In the next section, I lay out some of the theoretical groundwork for this approach,

with a focus on the data and datalogical, before honing in on what such tools can offer to our study of computationally centred performance practices, applying a datalogical analysis to a range of moments of 'being involved with something' that I have experienced in online performances.

Data and the datalogical

The etymology dictionary proposes that the word 'data' arises from the Latin *datum*, which means 'fact' or 'thing given', specifically in classical use, 'facts given as the basis for calculation in mathematical problems' and from the end of the nineteenth century, as 'numerical facts collected for future reference' (Harper 2021). As such and well before the age of digital computation, data was used to refer to something countable, numerical and calculable. Lisa Blackman (2019) goes on to say that 'the concept of data derives from mathematical and computational approaches to information, which assumes that information can be given some kind of numerical value' (55). She also acknowledges that data is a 'vexed term' (x) in that it 'raises the question of what is and is not available to be quantified and what exceeds the instrumentalization of data as metrics' (55), arguing that a purely metric-based approach to understanding the data that emanates from us in computational spaces is limiting. Rather, she pursues 'an *affective* approach', paying attention to 'the traces of human, material, technical, symbolic and imaginary histories that are often displaced and occluded in data metrics' (xiii). This '*affective* approach' can also be applied to the audience member as data-subject within online performance spaces, the digital traces they create and the surplus of data that produces, which I argue insistently exceeds and escapes from the dramaturgical frame of the event, moving beyond our immanent experience of the work. Following Blackman, paying attention to data in these practices is not about metrics or calculation but about opening up passages and movements of data, in tandem with the experiences the events prompt.

Moving from data to the 'datalogical', Clough et al. (2015) acknowledge that the gathering of data to classify, position and understand the human subject has always been part of sociological study. However, in the digital age they point not only just to the increased scale of 'big data' but also 'the speed with which data can now be collected and the adaptive algorithmic architectures that organize these data in ways beyond simple instructions leading to optimized solutions' (146). As such and in response to layers of indeterminacy in computational and algorithmic structures, they claim

> The "point" of the datalogical is not to describe a stabilized system or to follow a representational trail, but instead to collect information that would typically be discarded as noise. Indeed, it is those data that are most typically bracketed out as noise in sociological methods — that is, affect, or the dynamism of non-conscious or even non-human capacity — that are central to the datalogical turn. (153)

This is also taken up by Lisa Blackman (2019), who claims that 'Datafication draws attention to what exceeds human capacities of measurement and meaning - to the 'noise' in the system, to the *incomputable*' (xi). In both accounts of a datalogical turn, there is minimal focus on a metric-based approach to the reading of data or a 'stabilized system' of addressing what data is doing, how it is happening and where it goes. Rather,

'affect', 'noise' and surplus are seen as significant, particularly in relation to the 'dynamism' of 'non-human capacity' in the exchange. In this sense, a datalogical reading of online performance does not concede to the countable, calculable qualities of data that have made it such a valuable commodity in the 'big data' era. Rather, it offers a felt, speculative approach, which is invested in the specifics of the intersection of human and nonhuman in the encounter, while also turning the gaze concertedly on the activity of data. In this sense, it could be connected to the rise of phenomenological, felt and affective approaches to studying and analysing the act of performance – approaches centred and invested in the experience of the event in question, as much as what it might be said to mean or convey (Machon 2009; Thompson 2009; Shaughnessy 2012; Bleeker, Nedelkopoulou, and Sherman 2015; Lavender 2016). However, unlike such approaches, a datalogical analysis is not contained in the perspective of the experiencing human subject but opens out to encompass the computational happenings that underpin the experience and that crucially tend to escape and evade our notice within the space of that event.

To see how this works in practice, I now turn to applying a datalogical analysis to my experiences of online performance. In doing so, I draw on a range of works that I have experienced, focusing specifically on moments of 'involvement' that seemed to be specific to their computationally centred form, in terms of what was allowed, prompted and enacted. In taking this approach, I hope to *test* what the datalogical approach can offer in a range of performance works that centre their happenings and encounters in computational spaces. The three core analytical approaches are: to address data as a 'process of translation'; to explore how the audience member as 'data subject' is identified and known in the work; and to consider how data passes in and out of the bodies in play. These datalogical perspectives meet my experience of and involvement in the moments identified, 'crossing' this felt sense of the event with an expanded understanding of what is *happening* in that moment which sits beneath or beyond my notice.

A datalogical approach to analysing online performance

Part 1: Data as a 'process of translation' (Blackman **2019**, xxii)

As Lisa Blackman points out, with reference to Gitelman and Jackson (2013), 'data has to be imagined as data and such imaginings are materialized through technical forms that generate, aggregate, code, classify, pattern and sort information into specific data-forms'. Blackman goes on to argue that through these processes and specific 'disciplinary imaginaries', data can then assume a range of 'forms, functions and strategies' and can be 'assembled, re-assembled and re-performed' (Blackman 2019, 56). This also links to Shoshana Zuboff's account of the ways in which our human experience is, through the online practices of surveillance capitalism, *rendered* into valuable behavioural data, where the term rendering encompasses both 'a process in which something is formed out of something else that is originally given' and 'the way in which the thing that is changed gives itself over to this process: it *sur-renders*' (2019, 234). Both perspectives point to the ways in which what we offer in online interactions is actively translated – 're-assembled', rendered and re-performed – in ways and contexts beyond the initial event. In Zuboff's terms, we are 'dispossessed', but also crucially, the processes of

translation don't just take that behaviour from us, this is done without our active knowledge in ways which many of us cannot comprehend, through 'disciplinary imaginaries' that are not present within the frame of our present engagement – it escapes us.

Such processes of translation intersect with the more enjoyable and familiar modes of 'transmutation and reconstitution' that Salter (2010) cites as characteristics of live performance and the three terms, though they all point to processes of change, have quite different inflections in terms of the nature of that change. While translation indicates meaning being transferred and carried elsewhere - often from one language to another – Salter's 'transmutation' suggests a more complete change or metamorphosis and reconstitution tends to refer to the act of changing organisation or form. As such, we might view the acts of transmutation and reconstitution as acts of change-making rendered through and *within* the online event – modes of representation, shifting of presences, re-imaginings of bodies, feelings, spaces and relationships happening within the dramaturgical frame of the performance. Conversely, acts of data *translation* are about carrying, moving and taking that meaning elsewhere, beyond the immanent event into different languages and contexts, where it is re-assembled and re-performed for a very different audience and often for commercial purposes. Below, I offer some thoughts about processes of translation, transmutation and reconstitution as they are experienced in online performance spaces and *practised* in the rendering of our experience into data.

The RSC's Dream (2021) is a live online performance, set in 'the world of a virtual midsummer forest, inspired by the setting of *A Midsummer Night's Dream*' (RSC 2021). Dependent on the ticket chosen, audience members either join the performance through YouTube Live and watch it happen or are able to interact through controlling fireflies in the virtual forest, using a mouse, trackpad or touchscreen. The performance is generated through live motion capture of performers, which is integrated through virtual avatars into pre-recorded animated sequences. Processes of rendering and translation are active in this experience; the movements of the performers are rendered into data and then visualised through the avatars that we see on-screen. This is heightened in one section, when the on-screen frame expands to show us the space where the performers are moving and the animated results of that movement. This was a key moment for me, where my experience moved beyond viewing the piece primarily as an animated film to a much more engaged sense of the live *work* of the performers in creating the on-screen avatars. We watch as they, in their motion-capture suits, move in the studio space in order to form their online avatar's movements, with their eye always on the screened result being produced in real time. The revealing of processes of data translation and the resulting visualisations prompt a 'mutuality' with the performers, working in their bland, disconnected studio environment to create the physical shapes and movements needed to create visualisations in the space of the virtual forest.

These revealed modes of technological translation are also to some extent reminiscent of Oliver Zahn's *In Praise of Forgetting Part 2* (*In Praise of Forgetting* hereafter), though this piece happened in a markedly different online environment. I joined Zahn's performance through a Zoom webinar format, where other audience members were hidden and the focus was on Zahn's shared screen and spoken narration. In this strange, sad and quite lovely piece, exploring the experience of refugees from German's lost eastern territories returning to Germany after World War 2, Zahn uses the simple, familiar and exposed

activation and choreographing of files on a desktop to tell the story, primarily through an archive of sound that we see contained within the folders of the computer.

In this very different form of 'reconstitution' and 'transmutation', Zahn plays with the familiarity but also strangeness of icons of files on a desktop and what they contain, at points opening and revealing the streams of code that form the sound that we hear. Unlike the revealing of the correlations between physical movement in space and avatar movement on-screen in *Dream*, here there is a dizzying disconnect between the digital code we see and the sounds that are both somehow contained in that code, but also transmute, exceeding the data we see, as they reach into the memories and history described. In terms of its dramaturgical processes of reconstitution and unlike the weight of the technical apparatus and processing power revealed in *Dream,* there is a light and simple beauty to the way in which Zahn offers the desktop space – this ubiquitous interface – and then disrupts, re-forms and makes unusual its everyday functionings, using its space to evoke bodies, memories and histories.

A related act of translation, transmutation and reconstitution is evident in Dante or Die's 'immersive video podcast' version of their show *User Not Found,* which focuses on 'what happens to our online identities after we die' (Dante or Die 2021) through the protagonist, Terry's experience of the death of his ex-partner and the questions this raises about the digital traces left behind. Though the podcast itself is a pre-recorded video, simply activated through clicking a YouTube link, the 'transmutation' happens when it is played full screen on a phone, with the sound coming through headphones. At this point, Terry's phone screen occupies the space of your phone and his activities – calling, texting, scrolling and searching online – are reconstituted in the spatial and affective framework of your device. Though not a live piece, like *Dream* and *In Praise of Forgetting*, which are both being made as we experience them, a strange, slightly eerie *experience of liveness* is generated through seeing the banal and familiar activities that you might engage with in this space transmuted, shifted and dramatised through the protagonist's journey. In some ways Terry occupies us – we are possessed by him – as *his* interactions take over what is for so many of us an intimate space of relationships, memories and connections.

As the above demonstrates, I recognise three very different modes of transmutation and reconstitution happening within these events. In one, my perspective of an animated film sequence is deliberately expanded to incorporate and reveal how movements captured pass into the visualisations I encounter, taking me inside the processes of the work. In another, I am held present in front of a shared screen and witness how its familiar shapes and icons are choreographed, exposed and activated to tell a story. Finally, a pre-recorded video is experientially transformed through being fitted precisely to the dimensions of my smartphone, creating an unsettling form of mutuality with the fictional protagonist of the work through his activities occupying the private and intimate space of my device.

Simultaneously, another set of processes is happening through the platforms in play here – Zoom and YouTube – which are actively translating my engagement with these spaces into behavioural data. Through Zoom's web interface and application, we offer a range of personal data, including our name, profile picture, email address, as well as location, the video, audio and textual material associated with the call, screen name, join and leave time and any materials shared within the chat. This data is then

available for 'processing' by which Zoom identifies a range of actions, including 'transferring, collecting, recording, storing, using, analyzing, combining, disclosing or deleting it'. Such actions ensure that the application runs but can also be about 'making available' key threads or traces of data to third parties. As Zoom itself says, a little obtusely: 'We provide personal data to vendors and service providers to help us provide the Services and for Zoom's business purposes' (Zoom 2021).

YouTube, as part of Google, sits under that company's policies in terms of its use of data. Google collects a range of information from our use of their apps, browsers and devices including settings, IP addresses, operating systems, etc. They also collect information about what we do, search for, watch and buy, as well as where we are. This is used to maintain and develop their services but also, and as most of us are aware, to 'provide personalized services, including content and ads' (Google n.d.). Zuboff depicts these processes of data extraction and subsequent 'personalized services' arising as 'conquest' of 'the dark data continent of your inner life … to render all of it as immeasurably tiny bits of behavior' (2019, 255).

Through a datalogical approach then, we might think through the processes of transmutation and reconstitution that we see and feel, but also consider the 'non-human capacity' of the 'adaptive algorithmic architectures' (Clough et al. 2015) and processes of translation that are also happening – the enormous hidden activity that forms the underside of the present experience. Opening the scope of the analysis allows us to see these modes of change-making as two related sides of the same experience, looping together through the practices of computation. Modes of data translation are, in online performance, *central* to how the platform works and the capacity of all concerned to use such platforms and applications without (apparently) paying for the privilege. The reconstitution of the fleshed bodies into digital avatars in *Dream* meets the disintegration of my attention into bits of usable data surplus. The transmutation of the YouTube video into an experience of liveness in *User Not Found* meets the collection, processing, ordering and usage of that activity by YouTube. If digital liveness is, as Auslander (2012) posits, 'a specific relation between self and other' and a 'particular way of being involved with something' then in all cases here, the primary involvement may feel like it is with performers' bodies and their datafication, with the reconstitution of icons on a screen into a history of war and migration, with the occupying of an intimate space by another's life. Indeed, such relations are a key part of the experiences I had in these spaces, but the core relations are with the unseen others – codes, programmes and algorithmic structures that I meet within each work and which through my 'involvement' extract, take, dispossess, then re-assemble and *re-perform* that behaviour in contexts beyond the event and beyond my knowledge. Through a datalogical approach, the strange intimacy of *User Not Found*'s occupation of my phone – the way it takes up that space and holds the encounter there – is actively troubled by the sense of data flowing outwards from that space into unknown modes of *re-performance*. I can see the bodies in *Dream* and their actions becoming data becoming avatar, and I can also see the shadow of my behaviour becoming data, becoming other. I see Zahn's revealing of illegible code embedded in a simple sound file and it opens up the ground beneath my online actions, which falls away to reveal inaccessible, unreadable, *live* spaces where data is gathered, sorted, shaped and re-performed.

The constant flow of practices of translation that meet and cross over in these moments offers a brief sense then of the energies, consumptions, surpluses and excesses that seemingly smooth and simple engagements comprise when our human actions meet the disciplinary imaginaries of a performance event, through an online platform.

Part 2: How the audience member as data-subject is identified and 'known'

The discussion of processes of translation, both dramaturgically and technologically, links to the second approach I propose as part of a datalogical analysis of online performance. In this section, I address the audience member as a 'data-subject', which is, according to GDPR regulation, a person

> who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.

Within this regulation then, the notion of a 'data-subject' is bound up with processes of identification – ways of being known, seen and recognised – or 'profiling', where the processing of the data may be used 'to analyse or predict aspects concerning that natural person's performance at work, economic situation, health, personal preferences, interests, reliability, behaviour, location or movements' (EU Regulation 2016). I address two examples of how an audience member, as a 'data-subject' in an online performance, can be identified, known and seen, both in its dramaturgical structures and through considering other hidden and active modes of identifying and 'profiling' through computational data processing.

In face-to-face performance, as audience members, we are primarily seen and known through our physical presence, behaviour and responses to what we experience, though digital data exchanges may well surround that central experience, in terms of buying tickets, accessing information and responding to the event online. In online performance events, our primary positioning is as a 'data-subject', offering streams of information and digital traces through our interaction with the platform or application. Sometimes we may be actively identified within the piece, through our name appearing through chat messages or live interaction using microphone and camera, but how are we known – really known – as audience members or participants in these events? Wendy Chun suggests that our subjectivity in online, networked spaces is reconfigured so that we manifest as a YOU whose value (YOUs value, as Chun describes it)

> emerges through the mainly involuntary effects of voluntary and involuntary actions, from searches to mouse clicks, from likes to posts … every interaction is made to leave a trace, which is then tied to other traces and used to understand YOU, where YOU is always singular and plural. (2016, 119)

The singular and plural nature of the YOU that such interactions generate is constituted by the networked and patterned way in which our interactions are seen, used and valued in relation to those of other individuals in computational spaces: 'value is not generated by one YOU but rather by a plethora of YOUs: by the very interconnections between the various YOUs' (118) within the operations of big data.

We are known as data-subjects, through the rendition of our experiences into behavioural data and big data processing, which is a very different way of being known and seen than those we might immediately recognise in online performance – an active disintegration of our activities there into 'bits' that can be processed and calculated and cross referenced. This is generally 'involuntary' in nature, but it is *happening* and constitutes the active underside of what we experience within the dramaturgical frame of the event. The analysis below attempts to explore the relationships between these dual ways of being known, seen and identified in two online performances.

The first moment comes from Kill the Cat Theatre's *The House Never Wins* (*House* from here on) – an online game-like performance where a small group of audience-participants gathers via Zoom to play games of Blackjack and attempt to beat each other (and the House) to win chips. Alongside this basic game-like structure are prompts to 'keep the House going' through offering chips to maintain its running, as well as layers of rules that start to actively advantage and disadvantage those who are playing. In tandem with the central game on Zoom, participants also receive messages via WhatsApp, which reveal certain underlying meanings to the 'game' in which we are engaged. They lead us to understand that we are gambling for the future of the House and by that, we can understand the planet, with our own activities, risks and competitive behaviours within the Blackjack game linking to how the 'House' fares and its possibility to sustain.

As a player in *House*, I am known and identified in the event through my name and pronouns, specifically requested in my on-screen Zoom name so that I am addressed correctly within the event. I am also identified through my voice and face, present and available on-screen throughout the piece – this is also requested and mainly adhered to by other players. I am consistently addressed by name within the Zoom call by the dealer, as are other players and a particularly enjoyable moment of being identified is when my name is made physically present as a label on the Blackjack table when we play. The personalisation of the experience through these various and interlocking ways of being known, addressed and identified is part of how and why it engages my attention and keeps me present in its workings. There is something about how these visual, auditory and physical ways of being identified work together which draws me into the game-like performance and holds me in one of the more heightened modes of 'mutuality' I have experienced in an online event – in Auslander's (2012) terms, I am very much 'involved' throughout.

Very different modes of being known and identified are in play in another gallery performance through Zoom – Uninvited Guests' *Love Letters at Home* (*Love Letters* from here on). *Love Letters* is played out in the gallery format in Zoom, with audience members encouraged to keep their cameras on and be seen throughout the event, though there are moments when we are asked to 'spotlight' particular performers, so that they fill the Zoom screen. The performance is constructed from song dedications sent by audience members in advance of the performance to people they love. We are asked to choose a song, say who it is for and why we are dedicating it to them, as well as share particular memories or feelings we associate with the song. The result is a playlist of songs that the two performers accompany by speaking the dedications, creating a collage of memories, feelings, longings, connections and losses, which tend to be, by their nature, personal and heartfelt openings of an individual's life and loves. This is

dramaturgically punctuated with a couple of more framed performance moments and opportunities for participation – an energetic lip sync of a song by one performer, a group dance at the end of the piece (more of which below) and another moment that I will focus on in this section. In this moment, near the beginning of the piece, we are asked to spotlight another audience-participant on our screen, without informing them, and then look into their eyes, while a song plays. This is a particularly engaging and unsettling moment of being known and identified in the piece. Unlike *House* where there is a fairly even and consistent sense of being seen and present within the Zoom application, this moment engages a separation of the self, bringing an unknowingness and uncertainty into play. As I choose an audience member from the gallery to spotlight and attempt to look into their eyes, through negotiating their eyes on the screen in relation to the possibilities of actually making eye contact through the webcam, I am simultaneously aware that someone else might have chosen to look into my eyes – that I might be appearing on their screen in this moment. There is the possibility that this audience-participant has chosen me too and we are looking at each other without ever knowing that is what we are doing, or that there are any number of crossed digital gazes never meeting across the Zoom call. A set of atomised, but intimately connected, vulnerable and unknowing YOU(s) are in play here in an unsettling mode of intimate but displaced togetherness that this particular formulation of Zoom in conjunction with the activity prompted offers. Such a moment activates and highlights the strange, tangled and unknown ways of being known, seen and identified that are active in online spaces.

In both events, as I am being engaged in their action, I am also in the process of being 'known' as a data-subject – my YOUs value and the rendering of data within Zoom intersect with the ways of seeing and addressing me within the frame of the performance. Much of my enjoyment and engagement in both pieces is connected to fine-tuned structures, materials and interactions that the performance-makers have created in collaboration with the platform, which help me to feel known, seen and implicated. At the same time, and certainly not felt or experienced in the same way, other processes of 'knowing' me are being enacted, though I cannot identify exactly what these are – how they take place, what they produce. Like the moment from *Love Letters* above, there is a suspended unknowingness as to how I am being seen and known that is mirrored in the way my YOU(s) value is aggregated, assembled and re-performed. Unlike that suspended moment, my YOU(s) value will be in play beyond the present experience of the event – it escapes the live encounter and its happenings exceed and continue; traces and smears and tastes of an imprinted subjectivity finding re-assembled forms and uses and value beyond the specific relations and mutualities of the immanent live encounter.

There is a 'non-conscious' and 'non-human' 'dynamism' (Clough et al. 2015) in play here in the happening of the data event, which escapes both discourses of liveness and phenomenological readings that centre on framed, immanent and present encounters between 'performer and audience'. Within the performance, I can see and feel the way I am being constructed – I can be active in how I am formed and have some agency in how I am known. The other active modes of knowing me though, as Mark Hansen indicates, sit 'outside the scope of human modes of awareness' (2015, 5). Within an online performance space, we are not just being re-imagined in the immanent frame, but also through all the data active and happening within and around that frame.

My subjectivity – me as YOU – and the YOUs value that I emit is in continuous processes of dispersal, no matter how whole and coherent a subject I might feel. Giving attention to the inner workings of computation is not about necessarily understanding, fixing or indeed metricising, but rather acknowledging their central presence to gain different and deeper understandings of what is happening when I join that event – who I am as a subject and the dynamic processes in play that shift and disperse that subjectivity.

Part 3: Data passing in and out of bodies

Linked to this discussion of identification and the audience-participant's activity within the online performance is the relationship between the body's physical actions and the data being generated through online interactions. Again, this can be considered through what is seen and prompted by the workings of the event but also through the submerged practices of 'body rendition', the sensing environment of ubiquitous computing and the ways in which the digital data associated with the performance, as Clough et al. describe, 'pass in and out of bodies, feeding on novel and emergent connections within and between bodies' (2015, 153). Linking to Chun's YOUs value above, Clough et al. claim 'Big Data doesn't care about "you" so much as the bits of seemingly random information that bodies generate or that they leave as a data trail' meaning that 'bodily practices themselves instantiate as data, which in turn produces a surplus of bodily practices' (154). Much of this data can be collected through a smartphone or wearable technologies, which are developing sensors 'for rendering an increasing range of physiological processes as behavioral data, including body temperature, heart rate, brain activity, muscle motion, blood pressure, sweat rate, energy expenditure, and body and limb motion' (Zuboff 2019, 248). Even when such sensors are not in play, online performance involves bodily engagement and activity, which pass into the workings of the event and its data, 'producing' bodily practices in response. This links to Mark Hansen's perspectives of twenty-first century media and 'their simultaneous, double operation as both a mode of access onto a domain of worldly sensibility and a contribution to that domain of sensibility' (2015, 6), which highlights how our physical interactions feed back to us through the domain of sensibility to which they contribute – data passing in and out of our bodies, feeding into their further positioning, movement and behaviour.

In the previous theorising of embodiment in digital or intermedial environments, it has been read as 'extended, hybridised and delimited through technologies' (Vanhoutte 2010, 46) and as 'produced through the relations between the participants' bodily capacities and the operations and limitations of the particular information technologies' (Munster in Klich and Scheer 2012, 100). According to Bernadette Wegenstein, 'there is no body as 'raw material'' (in Bay-Cheng 2012, 66), which links to a posthuman view, where 'there are no essential differences or absolute demarcations between bodily existence and computer simulation' (Hayles 1999, 3). Though such conceptions of the material body extending into and being constituted through digital spaces could be applied to online performance, I prefer to retain demarcations that prompt a focus on the relations between bodies and data, rather than entirely collapsing those distinctions. In doing so, I follow some of Steve Dixon's thinking in this area, where he states that 'the virtual body … operates as an index, as another trace and representation of the always already *physical* body' (2007, 215). Like Dixon, I want to think about the '*physical* bodies' that are joined

through the data exchanges of the platforms in play, meaning we can examine the relations between data flows and physical interactions, between what is being prompted and the response, between the physical movement of a body and the ways in which that is captured, marked, data-fied and fed into a computational system, as well as what it produces.

I also argue, following Dixon (2007, 212), that online performances are not spaces of 'disembodiment'. When joining these events, no matter how our bodies are framed or included, they become part of the sensing environment of the work. When we physically interact with keyboards, mouses, cameras and microphones, data passes from our bodies into the event and back from the event into our bodies. This is the fundamental exchange and 'feedback loop' in play, which, unlike Fischer Lichte's formulation, is not centred in 'the mutual interaction between actors and spectators' (2008, 163) but in the passage of data in and out of bodies, feeding on their interactions and in turn feeding back into those interactions. In testing this final approach, I address three moments of performance where the positioning of bodies is particularly shaped by the digital and dramaturgical frameworks in play.

In Silvia Mercuriali's *Swimming Home*, an audio work is broadcast live via a bespoke application to individuals in their homes. We are asked to position ourselves in our bathrooms and told that we will need 'a swimsuit, swimming goggles and a large towel' (personal communication, 22 January 2021), as well as a mobile device and headphones to experience the audio. In the audio track, reflections on, experiences of and memories of water and swimming are mixed with prompts for us to engage with water in our own bathrooms, through playing with objects and submerging our faces and bodies in a bath, shower or sink. Though it is not a piece that is happening as we experience it, the prompts encourage us to respond live and physically interact with spaces and objects. Unusually for online performance, this centres our bodily actions, placing them at the dramaturgical and experiential heart of the work. However, at the same time, we are distant and disconnected bodies, bobbing in our own present time, without the 'mutuality' of the Zoom gallery pieces. I reflected on how hard it was to hold myself in the mode of attention required, without the present gaze of another and completed some but not all of the physical activities prompted, partly because that sense of where the bodily activity would *go* – who would see and acknowledge it – was not part of the structure of the work.

In contrast, in *Dream*, the event centres on the tracked and data-fied bodies of the performers, with data passing from them into the movement of the digital avatars in the virtual forest. Our awareness of performers' bodies, as referenced above, is highlighted through revealing their movement, with the bodies of audience members visually absent from the dramaturgical frame. This event, through its use of live motion capture, showcases Hansen's 'domain of worldly sensibility' – the environment capturing, sensing and transforming the physical movements of the performers into data, which is visualised through a digital avatar, feeding back into the bodily responses of the performers. As such, it reflects back the more prosaic ways in which our bodies are known and sensed and leaks into the domain of digital data, whether that is through wearable technologies or smartphone sensors which work to render 'our

bodies as behaving objects for … calculations and fabrications on the path to profit' (Zuboff 2019, 254).

A final example from *Love Letters* represents another way in which data passes in and out of bodies in online performance. In the final moment of the piece, as referenced above, we are invited to dance together to the song 'Love Letters'. As a prompt, the two performers, who had previously been framed against bland and anonymous white backgrounds shift that framing, pick up their devices and move through spaces in their home environments, revealing personal items, people, pets and re-positioning their bodies in domestic spaces. In a dramaturgical sense, this physical re-framing is infectious, leading to many of us doing the same and actively re-framing our bodies in our home-spaces or moving cameras to the music, so that a group dance is enabled. In this sense, and very differently from the complex datafication of the performer's body that I witnessed in *Dream* or the strange displacement of my body I felt within *Swimming Home*, the simple shifting of a camera and the moving of bodies in response actively feeds back into the further movement of bodies in their respective spaces in a moment of shared physical togetherness at distance.

These events represent diverse ways in which a body can be present in online perform-ance spaces. The active and participating audience-bodies in *Love Letters* form a contrast with the witnessing of the technological transformations wrought upon the bodies of per-formers in *Dream* and their resultant visualised data streams made present through 'magical' avatars, which further contrasts with my singular, resistant body, suspended in the individual space of my bathroom in *Swimming Home*. Despite these differences, the examples clearly demonstrate that online performances are not spaces of disembodi-ment – such works do something to bodies and feed off bodily interaction at a dramatur-gical level. This links to broader ways in which bodily interactions with computational processes change how our bodies exist in the world, whether that is through the bio-metric information that a fitness app feeds back, or the tracking of our body via GPS, which might lead to us being offered particular places to buy a coffee or have lunch. In more serious ways, recent revelations evidence how social media algorithms can feed par-ticularly harmful images of bodies back to users, which in turn impact materially on their bodies (Gayle 2021).

In my experience of online performance, the body can be placed in an exposed and open state, with the screen reflecting back to us *how* we are responding, which in turn feeds back into our bodily actions and responses. This is particularly evident in the gallery performance examples cited here, because of how they stage audience bodies and perhaps was lost somewhat in the more atomised space of *Swimming Home*, despite its dramaturgy centring on my bodily responses. In all cases though, even when it is not seen or felt, the more invidious loop of body rendition is in play, with our bodies' actions feeding into data collection and processing and passing out of that process back into bodies. The inclusion of material bodies in this datalogical analysis indi-cates their ongoing significance in the space of live performance, even when we are accessing, seeing and offering our bodies through online platforms. It also indicates some shifts in how we might read what bodies are doing in such spaces and what they are *producing*. Even the body's limited actions in relation to the restricted spaces of key-board, mouse and webcam are significantly expanded and dispersed through their pro-cessing into usable, workable, calculable data, exceeding and breaking the frame of

what we can consciously experience as part of the performance. The physical actions that we feed into the space of the event pass through those processes of datafication and back into the further actions of our bodies, both within and outwith that space. If this is neatly dramatised through the feedback loop between the physical movements of the performers in *Dream* – tracked, data-fied, visualised and feeding back into their action – we can also see that as a process that is simultaneously happening *to* us within such events.

Conclusion

When we watch and experience online performance, the energy and activity of computation in the mix are significantly heightened and increased, to the extent, I argue, that we cannot and should not ignore it. There are difficulties with reading what digital data is doing in an online event and in activating this analysis, my attention is not to concede to the demands of computation itself in addressing data through metrics. Rather, this datalogical analysis addresses the exchanges and passing of data as part of the performance experience, through considering different processes of translation, how we are known and seen and how our bodily actions become part of the exchanges outlined.

In doing this, I aim to open up the active happenings that are central to online performances, but which we cans't easily see or feel. I argue here that we might understand performance in such spaces differently through such an analysis; that a deeper and richer sense of what is happening within the event is mobilised. If computation is becoming more and more central to how many of us live, but also how we are known, seen, judged and understood in the world, then online performance – as a set of 'dynamic processes' (Salter 2010) emerging from networked spaces – offers a contained experience that can also turn our attention outwards towards the wider implications of our everyday entanglements with computational activities.

As such, and as I hope this analysis reveals, we can both enjoy what such experiences offer to us as audience members and participants, but also see ourselves and our actions reflected in revealing ways, through paying attention to the looping together of the dramaturgical happenings and the data that is also simultaneously active and happening in such encounters. Though we might conceive of the latter as the lower strata, below the surface of the present experience or the hinterland which is present, but hazy, beyond the foreground of the more immediate representations and activations in play, addressing such happenings datalogically shifts that focus. We see them as co-present, intertwined and the exchange of data as ineluctably part of what is happening when we make and experience online performance. Though the dramaturgical frames of online performances may aim to contain and parameter the experience we have in time and space, the surplus of data we generate forms a halo of noise around the event, which both occupies and escapes our conscious experience. My argument from the beginning of this article was that we need to consider what new analytical tools might be required for addressing online performance. This datalogical approach is one that asks us to expand our understanding of what is happening when we log on to watch, experience and participate; that in this work, such considerations no longer sit at the periphery of the workings of performance, but occupy the very centre of that space.

Notes

1. In using the term 'dramaturgical', I am drawing on readings of dramaturgy as 'the composition of the work' and 'the structuring of the artwork in all its elements' (Turner and Behrndt 2016, 5). As such, when addressing the dramaturgical elements of the pieces in play, I am interested in the composition of their elements and the structure of the encounter they create. I draw a distinction between these dramaturgical considerations and analysis of data exchange and processing in the events that is not accessible and available in the dramaturgical frame they offer to an audience.
2. The notion of immanent experience opens up complex areas of philosophical debate, which I do not engage with here. Rather, I draw on Jan Suk's (2021) distilled reading of the term immanence, through Deleuze and Guattari, as 'represent[ing] the quality of being contained, existing or remaining *within*' (43). In the context of this analysis, the immanent experience of the online performance contrasts with the data flowing out to contexts and spaces *outwith* that experience.
3. The 're-born digital' works considered here are *The House Never Wins*, *Love Letters at Home*, *User Not Found* and *In Praise of Forgetting Part 2*, all of which started life as face-to-face performances, but which were not just adapted, but 're-born' in terms of how their makers reconstituted them for an online performance environment.

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