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Literacy as Tardis: Stories in Time and Space

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Background/Context: *This article draws on previous work about narrative, which regards the practice of storying our lives as a basic human impulse and one that draws on cultural resources to do so. Neophyte digital resources have fascinated and enticed us as devices to immerse ourselves ever deeply and widely to create shinier, polished narratives. Our new modes and media have impacted on the nature of our narratives, and we reflect on our lives as we read them back to ourselves. Yet the affordances of the devices have allowed us to play also with the modes of time and space. This article draws on theories suggested by Burnett et al.; Leander and Sheehy; Massey; and Lemke to unpack the slippery nature of these notions of space and time.*

Purpose/Objective/Research: *The article provides a series of examples from a range of scenarios and research projects to consolidate the proposal that the contexts of literacy events are difficult to delineate, that contexts slip and slide across space and time in ways that seem to defy absolute specificity—that they are "in motion," mercurial, and subject to change. Nevertheless, within these uncertain spaces, individuals use the cultural resources at their disposal to make sense of who they are and what the world is, through the creation of stories.*

Research Design: *This is an analytical essay, which draws on the research of others to create a series of examples of "digital encounters."*

Conclusions/Recommendations: *The article argues that despite the many changes that digital tools have brought to our lives, the narrative impulse and the desire to represent ourselves through images and other media have remained constant. The new tools seem to allow us, however, to play more explicitly with time and space and to incorporate these aspects into our meaning-making practices. We can use tools to explore new types of space and arenas for communication—not just because of our capacity to keep in touch across time and space (which is not new), but because we can disrupt how we perceive these concepts.*

INTRODUCTION: A NUMBERS GAME

I have just returned from a bicycle ride, so clutching my GPS tracking device I head for my laptop to upload, scrutinize and share its data. Information about my ride, including a map of my route; my pace; distance travelled; my heart rate, calorie consumption—and more—are logged to my Strava profile. I instantly view my statistics; I compare my latest "performance" against my

> "past achievements"—and that of my friends. I locate and view information from "flybys"—other GPS users who I passed on my ride. Later, my friends reciprocally view my ride statistics, award me "kudos," and make comments; all such acknowledgments are enumerated and constitute part of the data generated around each journey I have made.

This autobiographical description is an unremarkable "snapshot" from my life; it is a typical scene exemplifying themes from this article; it delineates the use of digital tools to record and review experience; to connect with others; to multimodally log (using cultural resources such as maps, words, charts, and numbers) activities in a virtual network. I am interested in the meshing of experience in virtual and non-virtual spaces—the assemblage of people and data choreographed through mobile technologies.

The digital tools we have at our disposal allow us to play with spatial and temporal boundaries almost like Dr. Who in his time machine; the Time and Relative Dimension in Space (Tardis) of the television series serves as a metaphor in this article about the way digital literacy practices allow us to coexist and move between imagined/virtual and real spaces and to view the self and our world in multiple ways. This is a theoretical article that proposes a need for more research into how mobile devices affect how we see our world and understand our place within it.

SHINY OBJECTS AND OTHER CULTURAL RESOURCES

Digital objects, such as cameras, smartphones, and GPS and fitness trackers, have captivated the attention of millions—enticing them into daily text-making practices that permeate and punctuate their lives, making the objects themselves seem, for example, as indispensable to cyclists as their bicycles. I argue that the digital devices we use and the practices we are involved in can disturb our ideas about conventional benchmarks of time and space. I also argue that through using the multifarious cultural resources at our disposal, we construct exciting and ambiguous spaces within which we conduct our lives. Aligning with Benkler (2006), who argued that social technologies help us "thicken" existing social ties, I suggest that while the resources we use continue to involve updated, new, and unforeseen tools, and may even require new skills to operate them, our relationships with each other and the world can still be understood through theoretical lenses that predate the digital. Despite Rushkoff's (2013) arguments around the "narrative collapse" resulting from the disruption caused by technology in our lives, I see how digital tools unmask (im) materialities (Burnett, Davies, Merchant, & Rowsell, 2014) through which

we articulate our stories and that the "grand narratives" (Bruner, 2004) of our culture(s) resonate through these articulations. Thus, the grand narrative about the coalescence of attractiveness, fitness, and desirability are sustained by our digital fitness tools. This is no new story; rather, this is a predigital, culturally embedded, and familiar discourse that, as I show, is not just perpetuated but also reinvigorated by "fitness software" like Strava or Fitbit, etc. Burnett et al. (2014) presented the notion of (im)materialities as a way of capturing the idea of continuities and discontinuities of the material (the physical world) and immaterial (virtuality, emotions) in meaning-making practices; I show that we can trace stories "in motion," woven through domains of space and time. This notion of "in motion" for me expresses ways in which we move through spaces often with digital tools that act as keys to the virtual spaces that have become so much a part of other types of space.

Mobile digital tools allow us to publish digital recordings to represent and express ourselves, and through this data, we participate with others. Our devices produce and archive different types of data in multiple modes, forming narrative fragments that allow us to review ongoing stories of the self (Giddens, 1991). As I previously described (Davies, 2006, 2007), the lure of shiny gadgets entices millions of us daily to perpetually record the everyday minutiae of our existence through digital images. With my GPS tracker, it is all about statistics—a particular kind of digital online representation of the self, or "selfie." This allure of personal statistic monitoring follows the image-based selfie trend, and, as Walker Rettberg (2015) commented, "Quantitative self-representation is becoming commonplace" (p. 11). With wearable technologies (including pedometers, heart rate and sleep monitors, GPS trackers and calorie counters, even head cameras) all now mainstream, ubiquitously available, millions habitually diarize and piece together personal statistics, creating biographical stories or assemblages from statistical fragments. These numbers are augmented by other modes as we comment, supply images, and share the data via multiple online contexts, consequently accumulating additional or alternative meanings.

In sum, our gadgets allow us to review aspects of our lives on a moment-by-moment basis; the multimodal digital materials are the cultural resources that tell our stories in motion as we progress through our days. We view as we go, editing and deleting, using photographic filters to create particular effects (through Instagram, for example), using hyperlinked hashtags to highlight or nuance our messages and to connect with others. We reflect on these gobbets of information, we amend and delete, we comment and we tag, crafting the digital traces for others to track. Our textual representations hyperlink synchronically and anachronistically,

with textual versions of our friends and "followers." We bind our narratives in complex patterns that show a story of "us" in our networks, and of ourselves as individuals. We can, for example, look at individuals in specific Facebook profiles, but also at collections of networked people in a Facebook "newsfeed" where updates from multiple persons, linked as friends, can all be read alongside each other. Every newsfeed is different because each person has different networks of friends and variable access to other people's feeds. Encounters among friends happen through textual encounters as well as in non-virtual spaces and in ways that can trouble the boundaries between the online and offline worlds so that the distinctions between these become blurred. The spaces are ambiguous and mercurial; they converge as we appear simultaneously to each other both on- and offline, in different ways, slipping through time among differently configured networks of contacts (Davies, 2013, 2014). These, then, are the assemblages, the collages of data amassed through the connections of our devices, through which we interpret and infer different meanings as we move through these slippery and uncertain domains.

Later I explore a series of examples of what I call "digital encounters" and consider space, narrative, and time, demonstrating how our literacy practices play and trouble ideas of the self-contained context. These encounters are the coming together of people and of cultural resources, the narrative fragments we piece together daily to delineate and reconstruct. I draw on data from multiple sources, from many spaces, including classrooms and bars, dens, virtual worlds and maps, and Facebook. I next briefly outline my theoretical perspective, beginning with the "social turn" in Literacy Studies.

SLIPS IN TIME AND SPACE

The defining and radical theme for postmodernism has been the destabilization of established concepts, repositioning them as socially constructed, provisional, and malleable. With its characterizing shift to the social, the New Literacy Studies (NLS) has accumulated ethnographic studies focusing on literacy events and tracing practices to understand how literacy is embedded in people's lives. This shift argues for a fundamental repositioning of literacy (Barton, 2007; Cope & Kalantzis, 1999; Street, 1984)—and within this, applied to space (Allen, 2013; Leander & Sheehy, 2004; Massey, 2005), culture (Maybin, 2007; Street, 1993), and time (Adam, 1995; Lemke, 2000; Stirling, 2014).

NLS inquires into how individuals achieve and perceive literacy; what it means to be literate; what literacy looks like; and what it involves (Barton & Hamilton, 1998; Gee, 2004; Heath, 1983). NLS values the vernacular; it

is a project about social justice, seeking to neutralize the power prescribed through academic literacy practices (Street, 1984). An emphasis on understanding literacy as an aspect of human behavior, "something people do" as opposed to a set of decontextualized skills ripe for academic assessment (Street, 1984), has been key. It has seemed logical that fundamental to NLS should be the observable "literacy event," an activity of reading and/or writing that instantiates the wider concept of literacy practice, understood as a more overarching categorization of types of event. As Barton and Hamilton (2000) described, "Events are observable episodes which arise from practices and are shaped by them. The notion of events stresses the situated nature of literacy, that it always exists in a social context" (p. 8). Understandings of literacy as a situated social practice presuppose contexts to be stable and fixed, an assumption now destabilized by more recent theory.

Counterintuitively, however, Leander and Sheehy (2004) described literacy as "producing space" so that meaning-making activities come to comprise spaces; sometimes online spaces suggest a materiality for such produced spaces, being described as "cafes," "hangouts," or "walls," for example. Because literacy is multimodal, virtual worlds such as Club Penguin or SecondLife can be seen as examples of space that have been produced by digital text. Allen (2013) thus regarded space as dynamic, as "perpetually *in process*" (p. 62). Hence, the stability of the self-contained context is disturbed—a disturbance reflected through the examples in this article.

NARRATIVES OF IDENTITY AND CULTURE

The idea of narrative as an expression of identity has salience in the social sciences (Bakhtin, 1981; Bold, 2012; Bruner, 2004; Czarniawska, 2004; Giddens, 1991; Hardy, 1975; Hymes, 1996; Langellier & Peterson, 2004; Ochs & Capps, 2001), and the idea that we construct and make sense of our lives through narrative clearly precedes digital technology. This creative endeavor, bringing chaos to order (Bakhtin, 1986), is culturally situated, for we must use local resources, expressing ourselves through cultural media and modes such as language and online textual affordances.

Organizing the world through narrative is an intellectual feat, requiring us to align words (for example) with experience. We articulate as best we can, using the cultural resources at our disposal. In the case of social network sites, the cultural resources, or "affordances" (Gibson, 2014; Kress, 2010), would include "like" icons; emoticons; txtspeak; geo-tagging; hashtags; written language; and images. Bruner's (1981) notion of cultural narratives could also be understood as resource—a narrative that is embedded into a community's language and discourse; this is a narrative

that seems common sense, a natural way of viewing the world and that shapes and is shaped by a society. Similarly, Bakhtin (1986) referred to how speakers use and reuse phrases and words, echoing the perspectives of others in turn, delineating and shaping the beliefs and perceptions of discourse communities. Specific templates on different websites mean that our stories are shaped in particular ways on those sites (see Davies, 2015). Thus, on Twitter, only 140 characters can be used per update, or on Instagram, images are central. Such affordances and constraints mean that different sites favor particular modes of expression at the expense of others, so that complex arguments may be possible on a blog but not so much on Instagram. Participants choose which sites they want to use and channel their interactions accordingly within and across these sites; users frequent multiple sites, often referring friends to information elsewhere. Thus, my cycling profiles (on both Strava and on Garmin) form a segment of my wider digital presence; like millions of others, my so-called digital footprint spans across sites, such as blogs, Facebook, Flickr, Instagram, MySpace, Tumblr, Twitter, my university webpage, and even eBay. Each of these spaces presents its users slightly differently because of the different affordances and cultural resources they offer, and interested readers can "cross-reference." This cross-referencing, known derogatively as "stalking," means that readers can check for authenticity, looking for coherence across the texts and congruence in the themes, searching for clues and nuances that persist and that may or may not show that a person is who she says she is.

Cross-referencing can be purely textual, or it may also cross over into non-virtual checking so that online accounts of events could, for example, be measured against their originating non-virtual sources. Thus, a reader may consider whether a Facebook update with a photo and comment about a house party "properly" represents the perception of other party attendees. Storying our lives, arguably an impulse that defines our humanity, depends on the cultural resources available to express experiences, feelings, and events to ourselves and others. The resources used are culturally situated and so rooted in contexts; our expression of identity is thus seen to be culturally situated. However, we create meanings and spaces through what we do and in our engagements with others; contexts are not bounded but in a state of process. The contexts mesh, overlap, and extend our interactions, and meanings become slippery. Goffman has accounted for how individuals assess authenticity in the "presentation of self" in everyday life, and it seems that technology affords this practice through social network sites (Davies, 2012; Marsh, 2011), allowing us different vantage points from which to view or engage. Yet while Facebook or Strava, for example, allows us to cross-reference texts and contexts as a way

of measuring authenticity, or checking that representations are reliable, the multiple representations and enactments of events across time and space might confound us more.

To summarize, our devices filter and represent information about us, which we upload to online spaces; these spaces represent the real world through maps, charts, and images and stand to show versions of ourselves to others and ourselves. Social network sites channel how we use cultural resources as narrative fragments to connect with others. Our mobile devices help us use these fragments to weave narrative threads across on- and offline spaces. These threads cross the boundaries between the virtual and non-virtual; our stories are woven as tapestries whose beginnings may be sometimes online, sometimes offline, connecting with and influencing each other in multiple ways. Our predisposition to story our lives sees us making narratives influenced by what it has been possible to record or represent, shaped by cultural resources and the affordances of our devices—whether recorded sound, images, moving images, statistics, and so on. This point of view is not shared by Rushkoff (2013), who, as I discuss later, described how the pervasiveness of technology in our lives has led to a "narrative collapse."

In the next section, I return to the case of Strava to illustrate how digital repertoires of practice foster a "layering of spaces" through our documenting and sharing of lives in motion. Rushkoff (2013) argued that our preoccupation with digital tools leads us to see life events through screens and lenses, dulling our sense of time in what he referred to as "presentism." I argue, however, that technology allows us to variously "play with" time and space and that our awareness of these interlinked concepts is variously nuanced, amplified, and filtered through our screens.

STRAVA AND THE INTERNET OF THINGS

On its website, Strava describes itself in the following way:

> Strava is a community of athletes from all over the world. Alone or together, we strive. Strava lets you experience what we call social fitness—connecting and competing with each other via mobile and online apps. No matter the weather, day after day, we prove ourselves. (Strava online, 2015a)

Strava presents itself as a club, valuing individuals; it emphasizes the social, encouraging competition. Users are encouraged to see themselves as part of a striving "community." Despite the sense of human community Strava generates, it exemplifies "The Internet of Things," where computers automatically connect, communicating and generating information.

When Strava users pass each other, their computers detect each other's computers, collecting and logging information. The Internet of Things may unsettle us in its disregard for human agency, yet uncannily our digital gadgets provide us with a sense of control, enabling us to forensically examine and reexamine the statistical trails we leave behind.

Strava does not disclose how many users it has (Wynn, 2014a); however, by March 2015, 1 million new users joined per week, and in 2014 alone, cyclists had accumulated 2,700,000,000 km (2 billion 700 million km) across 75,700,000 rides (Scott, 2015). These numbers tell a story about Strava's overwhelming market penetration. Also impressive is that anyone with Internet access can anytime view Strava's global continually updating map, dynamically reflecting all users' locations (Strava online, 2015b). This infographic, projecting human activity into a shared virtual space, reflects Strava's assumption that users are interested not just in keeping fit, but also in collecting and viewing statistics about themselves and others; thus, Strava defines its "community." Technology has become embedded in the process of keeping fit; the social networks, which technology enables, are technologically integrated into the pursuit of fitness, and fitness becomes a technologized social endeavor straddling on-/offline spaces.

So Strava represents experience numerically, measuring and segmenting activities and moments. It meshes geographical place, virtual space, networks, and statistics—the cultural resources that constitute the community. We can augment the numbers on Strava with photos and comments; we style the assemblages nuancing our narratives with victory comments, asides about injuries, places passed, and challenges to come. These are entangled assemblages (Deleuze & Guattari, 2003; Marcus & Saka, 2006) involving multiple human and inhuman agents.

The composite narratives, mapped onto templates, help order our chaotic (Bruner, 2004; Giddens, 1991) lives. As discussed earlier, these narratives align with mainstream, mass-mediated grand narratives (Bruner, 2004) of fitness and health. As Brabazon (2015) summarized, "An atomized, rational, responsible and quantified self is well-informed to make the best choices" (p. 4), part of the 21st-century neoliberal working environment where individuals are given the responsibility to measure up or be shamed.

The Internet of Things can be regarded pessimistically—computers connecting with each other, exchanging information, widely monitoring location and movement as well as complying with government health directives. Our atomized lives are subjected to the precision of continuous digital accounting, accessed not just by us but by corporations that finance the software and sell these data. These stories are not just personal, but contribute to a global data set, "big data" with undisclosed purposes and

unforeseen impact. This clearly undermines the "soft" community aspect that companies like Strava advance; as important as this is, this article, rather, concentrates on the nature of time and space in digital literacy entanglements and narratives of the self. And individuals are able to gauge their stories against the wider mappings and movements of others.

We can nevertheless use our digital tools to purposefully shape narratives—Giddens (1991) talked of our "ongoing stor[ies] of the self"—and reviewing past information can influence future behavior to create a particular online narrative. For example, in seeing my progress of cycling online, I may try to beat my own or another's record; I may decide to try new routes in order to liven up a dull-looking archive of mapped rides; or I may go to new places so I can take new photographs. Some users have cycled or run to delineate specific images on their Strava maps, such as when David Taylor cycled so that his route delineated a bicycle shape (Wynn, 2014b). Similarly, Tame (2015) created works of art through his GPS-monitored running. Thus, the digital not only reflects but also stimulates action, perhaps motivated also by "kudos," "liking," or "favoriting" from friends. These repertoires of practice, the use of tools and cultural resources to present ourselves, create a layering of the online with the offline, archiving present action into journals of days gone by. In this way, we see also the (im)materiality of both time and space as our present is archived and projected into the future.

STORIES IN A BAR

Boundaries between spaces can be layered, blurred, almost indistinct or inseparable; our practices with mobile devices illuminate how this happens. In researching young people's uses of Facebook (Davies, 2014), I witnessed young women in a bar using smartphones to take photos of themselves and each other. Some of the photos were collaboratively produced, others were individual projects, taken covertly, surprising their subjects when images appeared on their Facebook timelines. The photographers processed their work in situ: deleting, tagging, editing, using filters, making modified textual representations of people and place, simultaneously regarding themselves both within and beyond screens. Images were uploaded to single or multiple sites (such as Facebook, Twitter, and Instagram) so different images were shared by different configurations of people in different spaces. Images were compared with each other and against the events as they unfolded. There was a sense of a cumulative social space—a coalescence of events pooled by networks of friends.

Images from within or beyond the bar became part of that multilayered space, engendering "context in process." For example, one young

woman, Dawn, had her photo taken in what she felt was an unflattering way; the image was shared and commented on both within the bar and online. Dawn was disgruntled, and Carrie photographed her looking at the image expressing annoyance; she added that image to Dawn's newsfeed. Dawn, happy with this, kept both photos showing consecutively on her timeline, making a comic visual narrative that played with the boundaries between on- and offline. The young women were copresent in multiple spaces, reconfigured in a kaleidoscope of different ways while remaining, at least to start with, in the originating destination of the bar. Multiple interpretations of that space came together; moments were suspended in time, but slipping also from grasp, repositioning in story assemblages. In many ways, the virtual space allowed a movement through time because the fluid space that was cohabited at the moments when the photos were shared could also be revisited and reinhabited later when further comments were made.

STORIES IN A CLASS AND A VIRTUAL WORLD

In this third example, I share Burnett and Merchant's (2014) "telling case" drawn from their longitudinal study of a class using the virtual world of Barnsborough. They show "the distinctiveness of subjects, objects and locations [that] repeatedly escape our grasp" (p. 47). Burnett and Merchant's work again contests the boundedness of literacy events; the parameters are fluid and provisional. In this study, the layered sites are a classroom, a virtual world, and an office. Guy Merchant is situated within the virtual world but based in his office away from the school, while Cathy Burnett records events in the classroom. Merchant interacts with the children as an avatar, "Guy," in the virtual world, while Burnett takes field notes of the children talking within and outside the virtual world. The children interact with Guy and each other in the virtual world, but, unseen by him, talk to peers across the classroom. They shout information and advice, reporting of the enigmatic figure of Guy in Barnsborough. They move seamlessly across contexts, switching discourses as they text on screen, write in exercise books, and call across the classroom. They are adventurers and children, classmates and pupils, handling all these possibilities in multilayered spaces.

The case shows how the experiences of researchers observing classroom activities, of the researcher in-world, and of the children who are both in world and located in class with friends generate a stack of different stories that rhizomatically diverge and converge. The beginnings and ends of contexts are indiscernible, with multiple senses of time and space laminated across each other. Citing Burgess's (2010) metaphor of context as a "static

container" (p. 19), Burnett and Merchant argued for a conceptualization that sees "a dynamic process of contextualisation in which language and context continuously co-construct each other" (Burgess, 2010, p. 19). They highlighted the messiness of processes in literacies and recognize multiple layers of meaning. We see how this classroom space shared the characteristics of Facebook being used in a bar (and beyond). In both instances, individuals drew on different arrays of cultural resources at their disposal so that contexts converged in kaleidoscopic mixes of meaning making in process.

The fluidity of children's interactions within and without the virtual world, crossing into the classroom and out again, left the researchers grappling with the relationality of the "fluid hybrid landscapes and timescapes" (Burnett & Merchant, 2014, p. 37). Tracing the practices and attempting to tie them to specific domains or contexts was an impossible ethnographic task; citing an interaction as situated within one specific domain would have undermined the complexity of the children's experiences and practices. This insight, argued Burnett and Merchant, is a complexity not unique to the digital age, but one that our practices with digital devices "unmask" and that applies to all literacy practices.

STORIES IN A POST-16 COLLEGE

Meanwhile, Bhatt's work (2014; Bhatt, de Roock, & Adams, 2015) in a post-16 academic context, instantiates Sara, a college student working on an assignment. Sara is deft, negotiating her way through "entanglements" of digital texts, locating, reading, cutting, pasting, and dismissing items from a multitude of texts from a range of sources. She curates and composes, consulting her teacher and peers along the way. She draws from the vernacular and formal, from multitudinous sites and texts, expertly manipulating an array of digital objects, smoothing them into shape. Bhatt et al. (2015) referred to a "choreography of practices" (p. 5) amounting to an "entanglement of people and things" to produce her assignment. This creative endeavor, drawing from a range of cultural resources, allows Sara to derive a new text, hybridized, carrying traces from multiple spaces; we could see her academic production as a "Bakhtinian buzz" (Dyson, 2002) drawn from repertoires of voices and practices from the spaces she has crossed through.

Bhatt et al. (2015) and Burnett and Merchant (2014) argued for connected ethnographic methodologies that honor the complexity of context; they have found value in tracing the "composite picture of real-time interactions around assignment activities in classrooms" (Bhatt et al., 2015, p. 26). These ways of working within, across, and through spaces

and texts seem unremarkable to the participants themselves, as they corral and craft texts, repurposing and improvising with resources. The social nature of literacy resonates; the notion of making, of creating texts from cultural resources, is illustrated in all these examples from classrooms, virtual worlds, bike rides, and bars. We look next at virtual gameplaying.

STORIES ON THE SOFA—SPACES ARE THE SAME BUT DIFFERENT

Stevens, Satwicz, and McCarthy (2008) described their ethnographic exploration of entanglements of activities "in-room' and "in-game" (pp. 43–44). They uncovered the permeability of boundaries showing teenagers congregating on sofas, consulting gaming "cheat" books and guides, but interacting in games too. They traced how "meaning circulates" across spaces.

Stevens et al. (2008) described players invigilating each other's fairness strategies, how they managed and defined cheating. The players' in-game behavior would often be managed "in-room"; they used strategies to accrue kudos in-game in order, and this sometimes translated into in-room kudos too. Thus, in-game identity flowed through in-room identity—but not always. For some players, the in-game moral framework did not operate the same way in-room; one player was kind to her pets in-room, while being very unkind in-game. A sense of detachment presided for some game behaviors, whereas in other ways, a continuum traversed in-game and in-room identities. Stevens et al. explained in this way: "Actions in games are a resource for building identities in the real world, occurring through a reflective conversation that takes place in-room" (p. 62). These are engagements where identity is in process, where context is malleable, and where boundaries and meanings are negotiated in nuanced ways on a moment-by-moment basis. Echoes here of the identity management of Dawn, who was physically present in one space, viewing her virtual self (as an online photo) in another: Dawn openly and transparently managed her online identity, objecting to the photo until it was accompanied by another; these practices were witnessed and caused no stir. The continuities and discontinuities of the (im)material practices were managed by participants across spaces in complex ways; their conscious and transparent identity management seemed acceptable to participants across and within spaces. There was no sense of one identity being fake or "wrong"; participants seemed to accept enactments of multiple identities as a reasonable way of being. Thus, while the spaces have permeability, at the same time, the spaces have distinctive qualities. They are slippery, hard to grasp—but also distinctive.

The idea of "motivation" has high salience in many commentaries around game play (e.g. Gee, 2003), but here the explanation offered by

the research participants was more about belonging to particular peer group cultures, that gameplay was an identity activity, a discourse, even. Videogame play was a behavior that, by the social nature of the way it was played, was embedded into a plethora activities that extended not just beyond the game but beyond the room into other areas of players' lives. When one of Stevens and colleagues' (2008) participants explains, "It's what we do" (p. 63), his words resonated with my Facebook informants' explanation that "You have to think ahead. You know it'll be on Facebook and Twitter and maybe Instagram, so you need to make sure you are ready for that." Residence in multiple spaces seems to be part of the norm; there is an expectation of fluidity and of management. Multiple spaces and different ways of being within them are accepted in these examples, and although there is a sense of continuity, participants also tolerate, even expect, identity management. This management is the manipulation of identity as text, and texts are composed of a wide range of cultural resources across space and time.

The idea of immersion, or of flow (Csikszentmihalyi, 1997), has been well documented, showing high-level concentration with on-screen activities and texts. Marsh and Bishop (2015) invoked Ash's work (2010, p. 406) to explain this phenomenon: "Whilst the user's body is still 406, located and placed in front of the screen, the user's sense of perception of presence is spread and distributed into the environment on screen." Ash developed the idea of "teleplasty," where our orientation and engagement in online games require us to suspend or reorganize the way we use our senses. This concept helps us understand the human capacity for engaging in many different media, using many different tools so that online/offline worlds are constructed as continua rather than as separate spaces. In thinking about bodies in classrooms, or bodies cycling and the transference of practices into virtual spaces, we are thinking also about identities in texts—about community and endeavor and the ways in which copresence allows both immersion and separation.

Digital engagement practices circulate in relation to each other so that even one may be embedded in another. This means that records of games can be shared synchronously on Facebook, or cycle ride statistics might appear similarly on a range of network profiles. In this way, although present activities can be enjoyed, part of the present experience is played out in the knowledge of it becoming a recorded narrative to be read later by oneself and others.

Despite the perplexity that boundary marking might engender, participants do not commonly confuse the spaces they operate in, and in normal circumstances, while engaging in online spaces, a clear sense of being located materially in a physical place (Jegers, 2007; Stevens et al., 2008)

perpetuates. And despite this sense of being physically rooted in a material space, the deep cerebral engagement experienced by many participants involved in online interaction should not be undermined.

Marsh's (2011) work reflects on children playing in the virtual world of Club Penguin with school friends; the children carry into the online spaces their preexisting understandings of each other in terms of their school-based social, cultural, and economic capital. This was clear in my collaboration with trainee hairdressers looking at their uses of Facebook with college friends whom they saw daily (Davies, 2013). The trainee hairdressers' experiences of the pressure to be "always on" and responsive felt burdensome to them. The young women reported they yearned for "time out" from friends "getting at" them online; the women sought opportunities for cognitive dissonance between the two spaces. This was tied to identity performances so that the women sometimes just wanted to be a "family girl," a daughter, or, indeed, "child." The sense of needing to continually perform in a particular way, to present a public identity while wanting simply to relax at home, could be emotional, pressurized work for the women. Thus, it was clear to me as the researcher that while the spaces these women inhabited sometimes merged, the women were certain about what constituted place in the real world and that often the new digital spaces that overlapped and troubled the boundaries did not always sit comfortably (Davies, 2013). The women desired more control over the separation of these spaces and times, as the overlaying of Facebook into their home space felt intrusive. In this way, the merging of spaces could be seen as disempowering.

TIME

In her work about undergraduates' uses of Facebook, Stirling (2014) focused on convergences and divergences between time and space of university and the time and space of Facebook. Drawing on Adam (1995), she argued that time is a social construct—complex, multifaceted, and woven through every part of social life. Massey (2005) offered the view that space and time are inseparable, offering an alternative view of space as space-time. The interrelations between the two are important: Space is not an absolute, not static; it is relational, as is time. The work of Adam and of Massey resonates with Burnett and colleagues' (2014) conception of (im)materiality literacy and is well illustrated through the way Stirling's informants talked of "wasting time on Facebook."

Every post on Facebook is time and date stamped, showing the clock and calendar measurements of when the post was first uploaded. The most recent posts are at the top, but all posts can be viewed by users and

their friends. Thus, the past, the present, and the future entwine as a continuous stream; this is the most common display default of social network sites, although some allow other filters. Flickr has a sorting functionality facilitating images to be displayed in multiple ways. Despite the time stamping, participants can comment on or amend content a long time after it has been uploaded. Thus, someone might add a tag on a Facebook update or edit a comment a long time later. On Strava, the timings of segments on each route are shown, and the time the data are uploaded is also shown. In this way, we see one time embedded into another, or, in Massey's definition, a layering of "spacetime."

Rushkoff (2013) argued that technology has brought about a change in the way we perceive time; his perceived crisis of "presentism" suggests that past and future time is overwhelmed by the present. Narrative, he argued, is therefore at risk because stories require chronological organization. Thus, he identified "digiphrenia" as a state where "our digital selves exist in a time unhinged from our bodies"; he talked of how digital devices require a kind of ever "presentism," living "in the now" of the online space. As I demonstrated earlier, however, this is something that the trainee hairdressers in my study sought to resist; they protected private spaces despite the pressure on them to be "always on." This resistance demonstrated that they maintained an awareness of spaces and that despite exploiting their ability to blur the edges of spaces for their own enjoyment, they sought to manage the separation of space and time. Similarly, the game players moved in and out of conversations within and without online spaces; so too did Burnett's classroom-based children navigate (im)material presence within virtual worlds as well as talk outside them.

Hammond (2013) argued that the experience of time is constructed by our minds; moreover, she argued that our construction of time is related to our sense of space; certainly neuroscience is interesting in this respect, where time does not pass but just "is," and, as Hammond also argued, when we consider time, we tend to view it spatially on a continuous line of past, present, and future. Throughout this article, time has blended with space, moving fluidly despite the strongly demarcated segments of time on profile pages; our activities move us through space/time layers in ways that challenge our apparent obsession with enumeration and statistics.

CONCLUSIONS

Wohlwend (2009) argued that we are accustomed from when we are children to "recontextualise here and now reality" (p. 124). Drawing on Vygotsky (1935/1978), she exemplified this by showing how, through play, we detach conventional meanings in an object (for example) and

can attach new meanings better suited to a given play scenario. In virtual worlds, we thus allow avatars to stand in as projected selves in provisional spaces that symbolically represent aspects of our world. Furthermore, Wohlwend discussed how children's uses of objects can open out and create play spaces. I suggest that as adults or as children, we use digital tools as keys, which can open out spaces where we improvise, develop relationships, and reflect back on our lives reading off multimodal texts in the play spaces we have created.

In videogames, we see how the game is always under construction, and authorship is negotiated or taken on by multiple participants who make sense of the space in different ways according to the perspective their individual screens give them. Thus, in Burnet and Merchant's (2014) description of players in Barnsborough, each player has a slightly different perspective of the world from the other. Moreover, Guy, in his office, sees the players in the virtual world while the children in the classroom are able to see each other and Guy in-world, and are also able to see each other in the classroom. This has its parallel in other kinds of (im)material practices: Facebooking allows friends in a bar to collaborate over the composition of texts, where others can peer in and then participate from other spaces. The "text in process" is dynamic and can be amended over time, so that what once operated as a shared present moment is part of a process of our past, present, and future space. As Marsh (2016) showed, many consumption practices are social and collaborative, taking place among peers who are both physically proximate and online. Here, Marsh referred to video practices of "unboxing" of artefacts in YouTube, yet this also has parallels elsewhere, not just in Facebook (Davies, 2014), nor just in Burnett and Merchant's Barnsborough (2014) class, but also in activities such as Strava, as described at the start of this article.

We have long used tools to make sense of our world, to create selfies (Walker Rettberg, 2014), to reflect on who we are and what is happening, and to record our observations. New tools allow us now to more easily use a range of modes and to collapse the constraints of time and space in different ways—as Dr. Who suggested, in a "Tardis." Rushkoff (2013) has argued that digital technologies have brought about a kind of presentism that has led to a collapse of narrative. I have argued that our digital text-making practices have sustained narratives at the heart of daily life and that the technologies we use are making it possible to play with space-time markers in new ways.

REFERENCES

Adam, B. (1995). *Timewatch: The social analysis of time.* London, England: Polity Press.

Allen, L. (2013). Behind the bikesheds: Sexual geographies of schooling. *British Journal of Sociology of Education, 34*(1), 56–75.

Ash, J. (2010). Teleplastic technologies: Charting practices of orientation and navigation in videogaming. *Transactions of the Institute of British Geographers, 35*(3), 414–430.

Bakhtin, M. (1981). Discourse in the novel (C. Emerson & M. Holquist, Trans.). In M. Holquist (Ed.), *The dialogic imagination: Four essays by M.M. Bakhtin* (pp. 269–422). Austin: University of Texas Press.

Bakhtin, M. M. (1986). *Speech genres and other late essays* (C. Emerson & M. Holquist, Eds., & V. W. McGee, Trans.). Austin: University of Texas Press.

Barton, D. (2007). *Literacy: An introduction to the ecology of written language* (2nd ed.). Oxford, England: Blackwell.

Barton D., & Hamilton, M. (1998). *Local literacies: Reading and writing in one community.* London, England: Routledge.

Barton, D., & Hamilton, M. (2000). Literacy practices. In D. Barton, M. Hamilton, & R. Ivanič (Eds.), *Situated literacies: Reading and writing in context* (pp. 7–15). New York, NY: Routledge.

Benkler, Y. (2006). *The wealth of learning networks.* Chapter 10. Retrieved from http://www.benkler.org/Benkler_Wealth_Of_Networks_Chapter_10.pdf

Bhatt, I. (2014). *A sociomaterial account of assignment writing in Further Education classrooms* (Unpublished doctoral thesis). School of Education, University of Leeds, England.

Bhatt, I., de Roock, R., & Adams, J. (2015). Diving deep into digital literacy: Emerging methods for research. *Language and Education, 29*(6), 477–492. http://dx.doi.org/10.1080/09500782.2015.1041972

Bold, C. (2012). *Using narrative in research.* London, England: Sage.

Brabazon, T. (2015). Digital fitness: Self-monitored fitness and the commodification of movement. *Communication, Politics & Culture, 48*(2), 1–23.

Bruner, J. (1990). *Acts of meaning.* Cambridge, MA: Harvard University Press.

Bruner, J. (2004). Life as narrative. *Social Research, 71*(3), 691–711.

Burgess, A. (2010). The use of space-time to construct identity and context. *Ethnography and Education, 5*(1), 17–31.

Burnett, C., Davies, J., Merchant, G., & Rowsell, J. (Eds.). (2014). *New literacies around the globe: Policy and Pedagogy.* London, England: Routledge.

Burnett, C., & Merchant, G. (2014). Points of view: Reconceptualising literacies through an exploration of adult and child interactions in a virtual world. *Journal of Research in Reading, 37*(1), 36–50.

Cope, B., & Kalantzis, M. (Eds.). (1999). *Multiliteracies: Literacy learning and the design of social futures.* London, England: Macmillan.

Csikszentmihalyi, M. (1997). Finding flow. *Psychology Today, 30*(4), 46–50.

Czarniawska, B. (2004). The narrative turn in social studies. In *Narratives in Social Science Research* (pp. 1–16). London, England: Sage.

Davies, J. (2006). Affinities and beyond!! Developing ways of seeing in online spaces. *Digital Interfaces, 3*(2), 217–234.

Davies, J. (2007). Display, identity and the everyday: Self-presentation through online image sharing. *Discourse: Studies in the Cultural Politics of Education, 28*(4), 549–564.

Davies, J. (2012). Facework on Facebook as a new literacy practice. *Computers and Education, 59*, 19–29.

Davies, J. (2013). Trainee hairdressers' uses of Facebook as a community of gendered literacy practice. *Pedagogy, Culture and Society, 21*(1), 147–149.

Davies, J. (2014). (Im)material girls living in (im)material worlds: Identity curation through time and space. In C. Burnett, J. Davies, G. Merchant, & J. Rowsell (Eds.), *New literacies around the globe: Policy and pedagogy* (pp. 72–87). London, England: Routledge.

Davies, J. (2015). Facebook narratives. In J. Rowsell & K. Pahl (Eds.), *The Routledge handbook of literacy studies* (pp. 396–409). London, England: Routledge.

Deleuze, G., & Guattari, F. (2003). *A thousand plateaus.* Minneapolis: University of Minnesota Press.

Dyson, A. H. (2002). A Bakhtinian buzz about teacher talk: Discourse matters in "What difference does difference make?" *English Education, 35*(1), 6–20.

Gee, J. P. (2003). *What video games have to teach us about learning and literacy.* New York, NY: Palgrave.

Gee, J. P. (2004). *Situated language and learning: A critique of traditional schooling.* London, England: Routledge.

Gibson, J. (2014). The theory of affordances. In J. Gieseking, W. Mangold, C. Katz, S. Low, & S. Saegert (Eds.), *The people, place, and space reader* (pp. 56–60). London, England: Routledge.

Giddens, A. (1991). *Modernity and self-identity: Self and society in the late modern age.* Cambridge, England: Polity Press.

Hammond, C. (2013). *Time-warped: Unlocking the mysteries of time perception.* London, England: Cannongate.

Hardy, B. (1975). *Tellers and listeners: The narrative imagination.* London, England: Athlone Press.

Heath, S. B. (1983). *Ways with words.* Cambridge, England: Cambridge University Press.

Hymes, D. (1996). *Ethnography, linguistics and narrative inequality: Toward an understanding of voice.* London, England: Taylor & Francis.

Jegers, K. (2007). Pervasive game flow: Understanding player enjoyment in pervasive gaming. *Computers in Entertainment, 5*(1), 9–12.

Kress, G. (2010). *Multimodality: A social semiotic approach to contemporary communication.* London, England: Routledge.

Langellier, K. M., & Peterson, E. (2004). *Storytelling in everyday life.* Philadelphia, PA: Temple University Press.

Leander, K., & Sheehy, M. (2004). *Spatializing literacy research* (Vol. 15, New Literacies and Digital Epistemologies). New York, NY: Peter Lang.

Lemke, J. (2000). Across the scales of time: Artifacts, activities, and meanings in ecosocial systems. *Mind, Culture, and Activity, 7*(4), 273–290.

Marcus, G., & Saka, E. (2006). Assemblage. *Theory, Culture and Society, 23*(2–3), 101–109.

Marsh, J. (2011). Young children's literacy practices in a virtual world: Establishing an online interaction order. *Reading Research Quarterly, 46*(2), 101–118.

Marsh, J. (2016). "Unboxing" videos: Co-construction of the child as cyberflâneur. *Discourse: Studies in the Cultural Politics of Education, 37*(3) 369–380.

Marsh, J., & Bishop, J. C. (2015). *Changing play: Play, media and commercial culture from the 1950s to the present day.* London, England: McGraw-Hill.

Massey, D. B (2005). *For space.* London, England: Sage.

Maybin, J. (2007). *Children's voices: Talk, knowledge and identity.* London, England: Palgrave.

Ochs, E., & Capps, L. (2001). *Living narrative: Creating lives in everyday storytelling.* Cambridge, MA: Harvard University Press.

Rushkoff, D. (2013). *Present shock: When everything happens now.* New York, NY: Penguin.

Scott, G. (2015). Strava 2014, the year in numbers. *Road Cycling UK online*. Retrieved from http://roadcyclinguk.com/sportive/strava-2014-year-numbers.html#E26vOat6zveTfL8e.97

Stevens, R., Satwicz, T., & McCarthy, L. (2008). In-game, In-room, In-world: Reconnecting video game play to the rest of kids' lives. In K. Salen (Ed.), *The ecology of games: Connecting youth, games, and learning* (pp. 41–66). Cambridge, MA: MIT Press.

Stirling, E. (2014). *Why waste your time on Facebook? A temporal analysis of first-year undergraduate students and transition in UK Higher Education* (Unpublished doctoral thesis). University of Sheffield, Sheffield, England. Available at http://etheses.whiterose.ac.uk/id/eprint/6377

Strava online. (2015a). *Strava: About us.* Retrieved from https://www.strava.com/about

Strava online. (2015b). *Strava Labs heatmap.* Retrieved from http://labs.strava.com/heatmap/#14/-1.48876/53.38009/blue/bike

Street, B. V. (1984). *Literacy in theory and practice.* Cambridge, England: Cambridge University Press.

Street, B. (1993). Culture is a verb: Anthropological aspects of language and cultural process. In D. Graddol & M. Byram (Eds.), *Language and culture* (pp. 23–43). Clevedon, England: BAAL.

Tame, J. (2015). *NHK world: Featured Tokyo artist.* Retrieved from http://josephta.me/en/2015/01/nhk-world-featured-tokyo-artist/

Vygotsky, L. (1978). *Mind in society* (A. Luria, M. Lopez-Morillas, & M. Cole, Trans.). Cambridge, MA: Harvard University Press. (Original work published 1935)

Walker Rettberg, J. (2014). *Seeing ourselves through technology.* London, England: Palgrave.

Wohlwend, K. J. (2009). Early adopters: Playing new literacies and pretending new technologies in print-centric classrooms. *Journal of Early Childhood Literacy, 9*(2), 117–140.

Wynn, N. (2014a). Strava set for global expansion with £11.6million investment. *Cycling Weekly.* Retrieved from http://www.cyclingweekly.co.uk/news/latest-news/strava-set-global-expansion-11-6million-investment-142027#IGKOd078MbYZi4R3.99

Wynn, N. (2014b). Rider creates massive bike on Strava. *Cycling Weekly.* Retrieved from http://www.cyclingweekly.co.uk/news/latest-news/rider-creates-massive-bike-strava-138881

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