

Digital Leisure Cultures

Critical perspectives

Edited by
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Foreword

Karl Spracklen

Leisure studies has often been seen outside of its own subject field as being focused too narrowly on sports, active recreation and individual experiences of leisure. But the internet and other digital spaces and activities are forms of leisure, and as such they should be of interest to leisure scholars. My own work on digital leisure (Spracklen, 2015) has started to map out the implications of the technological and cultural shifts that have surrounded us, while fixing the theory of digital leisure in the realm of leisure more broadly. Digital leisure has the appearance of novelty, and online spaces seem to be public spheres through which we can build a common culture and destiny. But the internet and digital cultures more generally are commercialised and controlled: that is, digital leisure is just another form of leisure, albeit one that has significant opportunities for communicative action and counter-hegemonic resistance. Digital cultures have been explored within wider social sciences and humanities research, especially in media studies and communication studies, but also cultural studies – but here the idea that these spaces and activities are forms of leisure has been accepted with a superficial theorisation of leisure. This edited collection is a significant contribution to understanding digital leisure cultures and may be seen as evidence of the growing interest in digital leisure. It presents the best of the wider ‘digital studies’ tradition, while rooting that tradition in debates about leisure and culture. It is important because it shows the depth and vitality of the research, and the complexity of the theoretical tools applied to understanding digital leisure cultures. This book’s contributors show the complex struggles for power over digital leisure cultures, the struggles for and against commercialisation and state control. They show also a strong awareness of the interdisciplinary nature of studying digital leisure cultures. To make sense of how people and institutions use the internet it is necessary to draw upon history, science and technology studies, philosophy, cultural studies, sociology, political studies and geography, as well as leisure studies. Hopefully this book will be the first of many such projects as the study of digital leisure cultures becomes as established as any other study of leisure or culture.

Reference

Spracklen, K. (2015) *Digital Leisure, the Internet and Popular Culture*. Basingstoke: Palgrave.

1 Introduction

Sandro Carnicelli, David McGillivray
and Gayle McPherson

The rise in the use of the term ‘digital leisure cultures’ has gained prominence in academic circles over the past few years (Spracklen, 2015). The idea for this book arose out of a specially convened digital cultures stream and subsequent discussions that took place at the Leisure Studies Conference at the University of the West of Scotland in 2014. Since then a number of articles, events and scholarly debates have focused on the digital turn in the study of leisure (here we include sport, events, festivity, tourism and recreation). We want to contribute to the emergent critical research agenda on digital leisure cultures, drawing upon theoretically informed analyses that consider social forces, power relations, socio-spatial inequalities, marginalisations, exclusions, contradictions, crisis tendencies and lines of potential or actual conflict. In this introductory chapter, we reduce these complexities to a focus on the transformations and tribulations associated with the digital turn upon the leisure sphere before illustrating how the selection of chapters contributes to these important debates.

Why digital leisure cultures?

This book focuses on the changing nature of leisure cultures brought about, intensified or accelerated in a digital world. The digital turn in leisure has opened up a vast array of new opportunities to play, learn, participate and be entertained – opportunities that have transformed what we recognise as leisure pastimes and activities, no longer bound by geography, but increasingly framed by the technological tools and practices that mediate our experience of social life. People are communicating with each other in different ways, more intensively and at greater speed. Technological advances enable people to create and distribute music, videos, images and ideas on a handheld device at the touch of a button or swipe of a touchscreen (Solis, 2012). Within the rhetoric of consumer as king we have endless choice, are able to make our own decisions about when and where we listen to our favourite artists, the number of episodes of our favourite TV series we can binge on and on what device. But, while endless possibilities are evident, there are also marginalisations and exclusions that make it necessary to give critical consideration to the ‘costs’ associated with digital leisure cultures on individuals, organisations and societies – those related to narratives of control,

surveillance, alienation, atomisation or dehumanisation. Within pervasive digital cultures, institutional and corporate regulation of individual and social life is increasingly continuous and unbounded, characterised by the disappearance of gaps, open spaces and times. Thus, on the one hand, the promise of the digital sphere is of liberation, of a universal sharing of knowledge and creativity and of greater spreadability, which is both empowering and exciting. At the same time it is also clear that the digital sphere may be read as a space of intensified regulation and governance where every engagement is tracked, captured, used and, increasingly, sold to those with an interest in extracting commercial value from our communications.

Digital transformations: (re)conceptualising leisure in the digital age

As academics interested in the digital sphere and its affordances (boyd, 2014), the focus of this text has strong parallels with our recent experiences of the digital academy. Academic practice, for some, has been altered significantly by the availability of digital platforms and its impact on the production, circulation and consumption of knowledge. It is now possible to craft a curated online academic profile with the tools and technologies available. Lecture and conference presentation slides may be shared on multiple platforms such as Slideshare. Scholars now regularly blog about their research on their personal academic blogs, tweet links to their imagined audience, upload papers to Research Gate or Academia.edu – all with the intention of extending the reach and impact of their work. These cultural practices mirror the experiences that many now take for granted as they participate in digital leisure cultures. Like the digital academic, this participation requires continual cultivation and labour. As academics, we need to expend academic labour into maintaining our online profiles, to participate actively in scholarly conversations, and to manage the relationship between our public (professional) and private lives. We are also creating a digital footprint which will have a persistent presence extending well into the future, allowing others to survey our performance at the click of a button. Persistence, curation, surveillance, connectedness – these are just some of the terms we feel are relevant to discussions of leisure cultures in the digital sphere and that provide the focus of the contributions to this book.

We came to this book as a group of scholars interested in what the digital age means for what we understand as leisure culture in the early part of the twenty-first century. Historically, leisure has been viewed in opposition to work or having a relationship to work that included clear demarcations, whether by space or time. In the early 1990s we became interested in the way in which everyday domestic and consumer technologies were impacting upon the relationship between previously 'differentiated spheres' of work/leisure and public/private. Ken Roberts (1999) considered the increasing prevalence of *destandardised lives* and the loss of *sacrosanct time* and *spaces* where people had previously spent time with their families and enjoyed collective leisure experiences. In the early

2000s, Foley and McGillivray (2000) suggested, tentatively, that the mass availability of consumer technologies (laptops and mobile telephones at that time) meant that people would (and were) increasingly finding *surrogate workplaces* within which to carry out their work – the train, the coffee shop, the kitchen. At the same time, they were also using workspaces (and time) to participate in what could be described as leisure pastimes – gaming, surfing the net, researching and booking holidays. Over the past 20 years, in affluent economies in particular, we no longer question whether or not work can be performed flexibly in a mobile fashion or whether the train, the meeting room or the airport lounge represents a place for leisure and consumption to take place. For those with the right devices and connectivity (not available for all, as we will see later) it is possible to watch the football World Cup live on a smartphone, place a bet on who will score the next goal, hook up with colleagues for a Google Hangout, share a filtered image with 'friends' across the world via Instagram, and even create and edit a short film for circulation to a potential audience of millions via YouTube – all as they travel to and from work.

Fixed understandings of time, space and geography are challenged in a digitally mediated world. As (apparently) free, empowered and liberated (consumer) citizens we are encouraged to interact with whom we choose, pursue the leisure interests that suit us, and visit places, physically or virtually, when we so desire. There is certainly no need to be in the same place, or timezone, as others to share experiences, and that will only become more likely with the renewed thrust for immersive virtual reality and related technological developments. Through the development of mobile technology in our pockets, fans and consumers are now able to engage in, and to some extent determine, leisure trends. Artists, for example, in the music industries have embraced the idea of Direct to Fan (D2F), reducing the time and space from production to consumption (Tessler and Flynn, 2015).

Keeping to the theme of transformation (liberatory) social media as a form of leisure culture has seen an exponential increase over the past decade. Collectively, social media are 'the sites and services that emerged during the early 2000s, including social network sites, video sharing sites, blogging and micro-blogging platforms that allow participants to create and share their own content' (boyd, 2014: 6). boyd has argued that the emergence and establishment of social media was also accompanied by a cultural mindset that shifted the emphasis from those early adopters of the internet who avoided local communities by hanging out in chat rooms and bulletin boards, to younger people going online to connect to the people in their community. In her analysis of this influential leisure practice, boyd argues that the main change is that young people's online participation is 'not eccentric; it is entirely normal, even expected' (boyd, 2014: 6). The cultural mindset or set of social behaviours we refer to are not reliant on the use of a specific technology but rather represent 'spaces' where people congregate, complementing or supplementing face-to-face encounters. For what has recently been called 'Generation Moth' that congregate around screens, a digitally mediated presence already feels completely natural. The spaces of social

media are interesting because they have distinctive features which mean that behaviours and practices have a persistent quality. As boyd (2014) again suggests, mediated environments created by social media are defined by *persistence* (the durability of online expressions and content), *visibility* (the potential audience who can bear witness), *spreadability* (the ease with which content may be shared) and *searchability* (the ability to find content easily). These four ‘affordances’ as boyd calls them impact upon the way in which we access, participate, record and think about our online leisure lives. But they also draw our attention to the fact that our everyday leisure practices are not without implications. We leave a residue when we share, collaborate, like and retweet that is worthy of further scrutiny here.

Digital tribulations: the darker side of digital leisure

Forty years ago those offering a leisure society thesis promised us more time to be at leisure, to recuperate from the grind of work and to have psychological space to be free of a productive logic. Those optimistic forecasts were left unfulfilled and the problem of time in the contemporary period is exacerbated by endless choice, pressures for constant connectivity and normalisation of multi-device usage. The title of Judy Wajcman’s (2014) recent book *Pressed for Time: The Acceleration of Life in Digital Capitalism* illustrates the concern among scholars about the inherent tensions between time-saving technological advances and their everyday use which can lead to extension of work and production logics.

Whereas in previous decades there were more clearly demarcated places and periods when one was at rest – before work, after work, at the weekend, on holiday – in recent years there has been a shift to a state of play whereby ‘nothing is ever fundamentally ‘off’ and there is never an actual state of rest’ (Crary, 2013). There is now a pressure to be connected continuously, to take advantage of the plethora of ways to ‘participate’ digitally and not miss out on the myriad experiences available to us. There is a permeability, even indistinction, between the hours of work and leisure, especially as being connected is esteemed in our current period. The protected, or sacrosanct, spheres and periods of life that marked previous historical epochs have been dissolved, or at least weakened, in the digital age where so many of us own a device capable of securing access to a network, enabling us to connect wherever we are and at whatever time we wish. We expect responses to emails immediately, to be able to download and upload a file within seconds, to watch a film online or to catch up on the latest TV blockbuster on our tablets. Speed and instantaneity are emblems of our time (Virilio, 2000).

But, of course, there are many who decry the cult of connectivity, arguing that it leads to the atrophy of shared physical experiences and a continual dissatisfaction that brings about disjunctions, fractures and continual disequilibrium. Turkle (2011), for example, has expressed concern at this cult of connectivity, where we create, analyse and perform our emotional lives through the medium of technology. She is sceptical of the implications of ‘continuous connection:

always on and always on them’ (Turkle, 2011: 17). While we are cautious here not to contribute to moral panics over the alienating nature of digital platforms, we do recognise that the mass availability of domestic and consumer technologies, social media platforms and their ownership in the hands of a relatively few global conglomerates provides the conditions for what we refer to as the darker side of digital. The example of social media provides an illustration of the double-edged sword of the digital (leisure) world. The sheer pervasiveness of some social media platforms, especially Facebook, and their call to ‘engage’ leads to accusations of the constant socialisation of users and their life activity (Halpin, 2013). This desire to socialise its users is common to most corporate social media platforms, motivated by the need to extract (ultimately) commercial value from its users through advertising and other techniques of monetisation (Andrejevic, 2009; Fuchs, 2014).

In order to extract this commercial value, there is a need for the constant shepherding of our activities as proprietary platforms (e.g. Facebook, Google or Twitter) participate in the ‘ownership of memories, in the form of documents, photos and videos’ (Halpin, 2013: 18). To secure access to our collective memories these platforms need to intrude into the apparent banalities of everyday life. Any sense that the everyday (and informal leisure) was *outside* what was organised and institutionalised around work and consumerism is rendered unsustainable. We now know that corporate social media harvest information about the people sending the message out, who receives it and what they do or do not do with it. Yet, as invaluable participants in the creation of these big data about our leisure practices, we are often left unsure about who *owns* our data and what they can and cannot do with it. We remain uncertain about what a cookie is, what it does and whether we should accept its presence as we surf online. As new platforms emerge, we are uncertain of who owns them, how to judge their intentions, and why they are changing their terms and conditions and privacy settings ‘for our benefit’ or ‘to improve the service they can offer’. As a result of this confusion created by owners of the proprietary platforms as users, we ‘passively and often voluntarily ... collaborate in one’s own surveillance and data mining’ (Crary, 2013: 46). We frequently present and curate our life stories and personal biographies online. The personal is increasingly publicly mediated, as we grant others access to information about our leisure lives, habits and behaviours. This information is used to predict and, some would argue, modify our behaviours. We have all received the advertisements that best reflect our apparent wants and desires, the songs we must hear or the books we really ought to have read. With digital traces assembled by personalisation engines our most intimate behaviours are uncovered and reflected back at us. But, of course, this is a filtered lens on reality and one that, in effect, leaves an algorithm to decide what stories from our news feeds our social media guardian angel thinks we ought to see.

When thinking about digital tribulations, we also need to reflect on the fact that an economic, social and cultural gap still exists between those that are able to reap the benefits of participation in the digital leisure sphere and those that are

not. While on one level choices appear endless, in reality not being digitally active (even if by choice) makes participating in economic, social and cultural life more difficult than ever before. The evidence suggests that those people least likely to be online are those facing other, often multiple, forms of social isolation and in possession of different forms of capital (Willing *et al.*, 2015). As Willing *et al.* stress,

Internet access may not, in and of itself, level the playing field when it comes to the potential payoffs of being online. Instead, those from more privileged backgrounds may reap more of its benefits if they are more likely to use it in potential beneficial ways.

(Willing *et al.*, 2015: 5)

In a similarly Bourdieusian-informed analysis, Danielsson (2011) highlights the continuation of class-distinctive habits that impact upon what he calls 'privileged' and 'disprivileged' males' approach to leisure (and education). He suggests that the privileged (digitally literate) view spare-time activities as 'a scarce resource to be strategically invested in (digital) goods and practices with the capacity to generate profit in the field of education and the general social field' (p. 68). Strategic practices include learning, and producing digital content. In contrast, the disprivileged disregard the moral order of digital goods and practices, participating in digital activities that appear to oppose an educational outcome – those that have as their core function entertainment (he uses the example of video games). What is important here is that the affordances and possibilities of digital leisure practices are unequally experienced and interpreted, and therefore it cannot be taken for granted that they are empowering, liberatory or can address existing systemic societal inequalities.

Digital leisure cultures and creative resistance

Although it is sometimes tempting to take the critical perspectives put forward by some scholars of the digital as evidence of a *fait accompli* whereby we are all emmeshed in a web of surveillance, handing over our data voluntarily to corporations who use it to generate significant profit, it is also important to recognise that digital spaces are sites of negotiation, where struggles over ideology, representation and power take place. These spaces are defined by complexity, diversity and contradiction, and they contain cultural practices that can both repress and empower. Thus, rather than merely viewing those participating in, for example, regular Facebook activity as passive consumers, we may instead ask: To what extent do individuals and collectivities have the power to hold these corporations to account? Like in all forms of leisure behaviour, attempts to regulate and control behaviour also produce its 'other'. Informed by critical theory and cultural studies, this approach to analysing digital leisure is consistent with the history of the study of leisure where there has long been a concern to investigate the subcultural or

which individuals and others negotiate their identities (see Clarke and Critcher, 1985). The digital sphere is no different, with the affordances of digital cultures such as self-production and self-publishing enabling people to engage creatively and critically with media production outside of the commercial domain. With relatively inexpensive equipment and software, it is now possible to create, distribute and sell music without engagement with global music labels. Or one can use photo- or video-sharing capacities and the power of social media to 'hack' or hijack the agendas of others, whether that be global conglomerates or media events like the Olympic Games (Price, 2008).

These struggles over control, rights and freedoms in the leisure sphere are not new. In the 1990s, leisure businesses in the creative sphere (music, film, video, gaming) lost out commercially when a culture of peer-to-peer free sharing first took hold. This loss was related to the inability to maintain control of content in the digital sphere. As Rojek (2005) noted, P2P file sharing was considered a novel leisure form that raised significant issues about the ownership and control of intellectual and artistic property, access and the regulation of leisure choices. Of course the creative industries developed new business models to negate some of this 'everything-for-free' culture that was taking hold at that time, but there remain constant tensions between a culture of openness, sharing and hacking the system and the ability of others to protect, commercialise and monetise the digital sphere.

One leisure sphere where the digital realm contributes to creative resistance is the landscape of major sporting and cultural events. Event owners seek to control how their events are defined, and sanctioning bodies use their powers to secure and protect these media assets from being ambushed or hijacked by others. However, the now ubiquitous digital and online platforms already enable vast networks to be activated in a manner unheard of before and with great immediacy. That, in itself, holds the authorities to account, as they find it more difficult to control the media message with such a diversity of platforms available and distributed so widely. In a number of recent practice research projects (see McGillivray and Jones, 2013; McGillivray and Frew, 2013; McGillivray, 2014; McGillivray *et al.*, 2015) we have explored how everyday digital technologies (e.g. smartphones and tablets) may be used to enhance digital media literacy, lowering the threshold for involvement in creative media production using the focus of a major event. We have sought to create and support media collectives to demonstrate the power of citizen-oriented storytelling, emphasising the power people have in their pocket, promoting digital cultures as enabling, fostering decentralised and distributed structures, where individuals and groups can interact with a network public to amplify their messages through a shared, and free, communication platform. The accessibility of social media increasingly blurs the boundaries between the producers and consumers of content (Ritzer and Jurgenson, 2010), drawing attention to competing claims and affirmations, and acting to at least unsettle the unchallenged deployment of power which has previously existed. Established media institutions struggle to cope with an

control attempts collide with that of digitally empowered citizens, producing counter-movements that organise, mobilise and amplify locally derived content. If well organised and with a collective interest at their heart, digital infrastructures can offer citizens new channels for speaking and acting together, *lowering the threshold for involvement* (Bakaridjeva et al., 2012).

We are not forwarding this example from one leisure sphere to suggest that citizen/community-focused initiatives of this sort alter mega-event narratives or automatically lead to people using the power in their pocket to produce some sort of digital disruption that is sustainable and meaningful in political terms. There are plenty of powerful critiques of the liberatory political potential of new media platforms whereby the internet contributes to a consumerist protest mentality, devoid of risk and commitment on behalf of participants (Hands, 2011; Morozov, 2011). What we are suggesting is that the digital sphere offers new possibilities of co-creation, co-production and co-authoring (Solis, 2012), themes that will be addressed in this collection.

Book structure

It is our contention that by looking at the leisure aspects of digital cultures (as opposed to their expression in labour or production) we can generate useful insights that have not always been the focus of other disciplines and fields. Those in the 'new' fields of digital humanities or digital sociology (Lupton, 2014) certainly consider what we view as digital leisure practices in their work, but they are rarely pulled together into one volume. Moreover, in this text we also wanted to enable our contributors to highlight the range of experiences that producers, consumers and regulators can encounter within one apparently liberating leisure practice. For example, digital games, from one theoretical perspective, are creative, sociable and educational, while from another they reflect an alienated and atomised fantasy world with negative social implications. The leisure practices our contributors consider in this text can be empowering or destructive, depending on the preferred theoretical interpretation. In this book three main themes emerged from the contributions: *reconceptualising digital leisure, digital tribulations and creative resistance*. Each chapter advances both a theoretical and empirical contribution and the topics covered include sport blogging, outdoor recreation, online gaming, body modification, 3D self-replicas, literary practice and social media as a leisure practice.

Reconceptualising Digital Leisure is the theme that emerged from Steve Redhead's contribution as he focuses on the theoretical gaps in what he terms 'digital leisure studies' and makes a strong argument that we look for theories from outside the field in order to move this emergent field forward. Drawing upon an eclectic range of social theorists, including Baudrillard, Badiou, Virilio and Žižek, Redhead explores the concepts of 'accelerated culture' and 'claustropolitanism', and proposes a theoretical framework that can provide the foundation for the further development of digital leisure studies. In his chapter Redhead points out many contradictions that can be linked to the digital divide which we will see emerge in other chapters in this book.

Body and body image in a technological world provides the theme of Deborah Lupton's chapter. Looking at advancements in 3D printing of body parts and self-replicas, Lupton reflects upon the physical materialisation of digital data that is gathered in all the devices around human beings. These 3D printing self-replicas as well as other digital objects and data can become invested with selfhood based in the personal information gathered and stored, this may include personal and professional information, images of the self and of others as well as memories of leisure experiences and life histories. Lupton points out that 3D printing technologies are still relatively new and there are still a lot to be developed and researched and with still broader questions remaining to be answered.

The body and digital leisure culture is also the focus of Jamie Hakim and Alison Winch's chapter. The focus of this chapter is on the emergence of self-branding techniques and the sharing of body image on social networks, particularly Instagram. The authors look into the practices of going to the gym and posting photos of one's body as neoliberal labour based on an entrepreneurial project of the self. To Winch and Hakim, this neoliberal labour and self-promotion of body images is penetrating social life and leisure time. The chapter also assesses the importance of men feeling impelled to perform traditionally feminine body work, illustrating how successfully the logistics of neoliberal labour are penetrating the leisure time, intimate worlds and everyday lives of a social group historically immune to them.

Building on Lupton's and Hakim and Winch's chapters, Caroline Dépatie, Roslyn Kerr, Stephen Espiner and Emma Stewart focus on the use of digital devices during outdoor recreation in New Zealand and draw upon actor-network theory (ANT) to explore how non-humans act as intermediaries or mediators through facilitating or disrupting experiences. They argue that technological devices are not only manufactured or 'non-natural' instruments but non-human agents acting as social forces that have the power to reveal different realities. They found that in peri-urban settings the behaviour of participants in outdoor activities emulated that of urban settings, having multiple reasons for having the technology with them at all times, including safety, entertainment (music) and as a memory keeper (for time and to take photos).

Anja Dinkopf and Ulrike Gretzel take as their theoretical focus ideas around performativity, surveillance and, in particular, the concept of performing authenticity to consider the behaviour of snowboarders as their practices become inseparable from their engagement with emerging technologies. They suggest that the pan-opticon gaze of GoPro wearable video cameras does not always allow participants to know when they are being filmed. Focusing on the unannounced recording of images, the authors draw attention to the complexity of performing authenticity and the ethical dilemmas that are brought to the surface in the process.

Mark Norman uses the concepts of serious leisure and prosumption to explain the growing phenomenon of sports blogging – focusing specifically on ice hockey. Norman uses the idea of prosumption to explore the duality between production and consumption in online environments and also looks to the six characteristics of *serious leisure* that help explain the activities of bloggers (the development of

careers in leisure pursuit; perseverance through difficult circumstances; large amounts of effort and the development of specialised skills or knowledge; variety of individual benefits; emergence of a unique ethos around the practice; strong identification with the activity).

A second theme that emerged from the contributions regards *digital tribulations*. Shannon Hebblethwaite focuses on digital exclusion and, in particular, on digital ageism. She argues that older adults have been rendered invisible in dominant discourses about technology and the digital world and, in particular, on the role of technology in the context of leisure for older adults. Drawing upon critical theory, she interrogates ageist assumptions in relation to leisure and digital media use (or non-use) and proposes that older adults are agentic in their choices around media use.

Following Hebblethwaite, Massimo Ragnedda and Bruce Mutsaers' chapter also focuses attention on social inequalities and the nature of access and participation in digital leisure. They explore how inequitable access to and use of digital technologies influences the consumption of leisure, arguing that social and digital inequalities are inseparable. They conclude by arguing that being excluded from leisure cultures, both in socio-economic and educational terms, will have consequences in terms of full participation in virtual communities.

Focusing on an increasingly prevalent tribulation intensified by the affordances of digital leisure cultures, Emma Kavanagh and Ian Jones consider the ethical and legal dimensions of online abuse of elite sport athletes carried out on the social network, Twitter. They suggest that online environments create an optimal climate for abuse and, as a result, social media sites are increasingly providing an outlet for a variety of types of hate to occur, and it is evident that such environments 'enable' abuse rather than act to prevent or control it.

Michael Wearing's chapter focuses on another form of online leisure practice that has flourished in recent years: virtual gaming. He contextualises the growth of this phenomenon and highlights how conventional parental and governmental wisdom, tainted by the knowledge of more violent games, is that role-play and multiple video gaming itself creates social and personal risks as well as significant financial outlays for young people in this global digital leisure activity. He then presents an analysis framed by ideas around risk, authenticity and second modernity to demonstrate the complexities of young people's use and identity formation through virtual gaming culture internationally.

A final theme emerging from the chapters regards creative resistance and digital leisure cultures. Haiqing Yu and Jian Xu's chapter exploring E'gao practices in China. Focusing on E'gao as a spoofing practice, the authors present a digital leisure practice that uses humour and satire to challenge power discourses and play with the establishment of culture and structure in a country where the online world is constantly under surveillance.

Whereas in Kavanagh and Jones' Twitter was considered as an online environment optimised for abuse, Stuart Purcell's chapter provides a more creative and agential counterpoint. Purcell posits that Twitter can, in fact, be used as a creative

on Teju Cole and the small fates project to argue for the dynamic and recursive nature of digital tools' development, highlighting how these developments are not purely deterministic but instead may be restructured through forms of engaged practice that expose and challenge the spatial and temporal biases of digital tools. If the temporal and spatial dimensions of digital tools can be restructured, then a place for leisure can be carved out within their environs.

The literary practice present in Purcell's chapter is only one example of possible links between digital practices and literary work. Spencer Jordan's chapter draws upon digital storytelling practices from two case studies in Wales, to demonstrate how the use of digital technology can support the creation of bottom-up community-based 'landscapes of memory'. Using audio, video and social media platforms, he argues that digital storytelling can reconnect what is left of the physical space with human memory.

Continuing with the literary leisure theme, Karel Piroecky explores the role of online forums as a space to develop literary work and participate in serious leisure practices based on amateur activities and community sharing. He argues that these literary forums are democratic spaces where people can share their writings but also facilitate editing and review.

The final contributors, Diana Parry and Tracy Penny Light, return to the theme of the body in their chapter on women's sexually explicit material (SEM). They use a cyberfeminist approach to examine and discuss the use of digital technology by women consuming SEM and the changing nature of the leisure culture related to women's sexuality. Digitally mediated, they argue that online sites and services represent a place of resistance for women where they can challenge patriarchal ideologies related to their sexual behaviour and their bodies.

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2 Gigs will tear you apart

Accelerated culture and digital leisure studies

Steve Redhead

Introduction

This chapter looks at perceived gaps in the recent theoretical development of work on digital leisure cultures and how to address them. Drawing upon empirical examples of digital leisure cultures, my aim is to produce a more robust theoretical approach to the so-called 'digital turn' in various disciplines. After pioneering work on the nature and contours of 'digital sociology' by academics such as Deborah Lupton (Lupton, 2014) it is possible to envisage an emerging digital leisure studies to which this chapter, and this book, contributes and defines (Spracklen, 2015). In this chapter I want to consider new directions in critical perspectives in digital leisure cultures because the present routes forward are often confused, stymied and unsatisfactory, reflecting a more general concern in the population as a whole about our digitised world and how to come to terms with this condition. Urgent questions on digitisation remain unanswered, as they do on globalisation. Specifically, as far as digital leisure cultures are concerned, the crucial question for this chapter is: What are gigabytes doing to us and how can we explain this process? Echoing Manchester United soccer fans' chant about former player and assistant coach Ryan Giggs, 'Giggs Will Tear You Apart' (aimed at opposing fans and based on Joy Division's classic 'Love Will Tear Us Apart'), I am asking: Will these 'gigs' tear us apart? We have certainly become so addicted to the hyper-speed of electronic digital connection that we all feel that familiar sickening stomach churning while we wait for our screens (on whatever platform) as almost a global cultural condition, yet we greedily binge-watch whole series of our favourite television shows in one day once the connection is eventually made a few seconds later. We are back in the realms of asking whether we are now at long last living today in the 'leisure society' predicted for us in the 1980s, enabled by globalisation, 'free markets' and digitisation.

On the bright side of the road in the new dark ages

Digital leisure cultures as a term is fraught with difficulty. But I would argue that it covers some of the following technologies and practices which have built

3 3D printed self-replicas

Personal digital data made solid

Deborah Lupton

Introduction

3D printing (also known as additive fabrication or additive manufacturing) is a method for generating three-dimensional objects that involves the use of computer-assisted design (CAD) software working with hardware to direct the sequential laying down of layers of materials to form the objects (Bernan, 2012). The materials used, dispensed via nozzles, include plaster, resins, metals, ceramics, glass, plaster and even organic material such as living cells or edible substances (so-called 'bio-inks'). It has been claimed that the ability to generate rapid prototypes from 3D printing can facilitate novel approaches to making in both the workplace and the leisure sphere. 3D printing has been heralded as a 'disruptive' technology in various forms of industries and activities and even as generating a new industrial revolution (Lipson and Kurman, 2013; Petrick and Simpson, 2013).

A new way of representing selfhood and embodiment has emerged in the wake of the development of 3D printing technologies. This is the 3D printed self-replica, a fabrication using digital 3D body scans of people that produces a material artefact of a person's entire body or parts thereof. Full figurines of people made in this way are usually miniature in size, while separate body parts replicas, such as a head-and-shoulders 'bust', may be life sized. Such replicas, particularly of body parts, are now used in medical contexts for surgical, diagnostic and patient education purposes. The technologies to generate these artefacts are now also rapidly moving into a range of leisure domains, including sporting clubs and events, shopping centres, airports, concerts and amusement parks as well as fan cultures and marketing programmes. These artefacts are advertised as promoting opportunities for personal memorabilia and record-keeping about people's life events, interests and families. 3D printed self-replicas may be ordered from 3D printing companies and can even be made at home using a software package developed for the Xbox Kinect game box or a home 3D scanner in conjunction with a home 3D printer. Some commentators have begun to refer to the 3D printed self-replica as a new form of 'selfie' (the term now often used for a self-taken photographic portrait using a mobile device)

In this chapter, following an overview of the ways in which 3D printing technologies have become incorporated into leisure activities, I will focus on the 3D printed self-replica. As I will argue, there are deeper implications of these artefacts for the ways in which we understand not only the body, selfhood, personal memories, social relations and the engagement of people in leisure cultures but also people's entanglements with objects and personal digital data. I draw upon several theoretical perspectives to provide some insights.

The socio-material perspective, in its focus on humans' entanglements with nonhuman objects, is a good starting point. Socio-materialism incorporates the actor network approach from science and technology studies, Deleuzian theory, materialist feminist philosophy as well as various new materialist perspectives that have emerged from such areas as material cultures (principally developed in cultural anthropology), cultural geography and cultural studies (Latour, 2005; Coole and Frost, 2010). These perspectives move away from the focus on language and discourse that was a dominant feature of poststructuralist theorising to acknowledging the role played by nonhuman actors, including material objects, in human experience, embodiment and social relations. Related to socio-materialism is assemblage theory, which represents human bodies and other phenomena as hybrid, unstable and dynamic configurations of ideas, discourses, practices, biological matter and material objects (Marcus, 2006).

Several scholars have taken a socio-materialist perspective to contend that digital data are shared accomplishments between human and nonhuman actors (Ruppert, 2011; Rogers, 2013; Kitchin and Dodge, 2011). As human selves and bodies become increasingly digitised, they are rendered into digital data assemblages. The concept of code/space (Kitchin and Dodge, 2011) offers a way of articulating the manner in which human bodies intersect with and are produced by digital technologies. Code/space refers to the interwindings of software code with spatial dimensions. It acknowledges that human bodies, and by extension selfhoods and identities, are increasingly configured through and with code and space. 3D self-replicas are specific examples of digital data assemblages: the enactment of code with space in ways that allow people to engage in self-expression and memorialisation. As a case study, they offer an opportunity to think through some of these intersections and entanglements of people with digital technologies and digital data.

3D printing in leisure domains

While 3D printing technologies were first developed in the context of industry, the manufacture and sale of 3D printers and software that people can use in their homes and the development of companies that offer to print objects for consumers have led to the proliferation of other sites and purposes for these technologies. As a result, the possibilities for 3D printing for contributing to and generating new leisure practices have expanded. There has been much speculation about the ways in which the technologies may be used by artists, designers

generate novel forms of art, craft and design. Other forms of leisure activities in which 3D printing technologies have been implicated include sports, food decoration and cooking activities, museum exhibitions and visitor engagement, children's craft and fan cultures.

3D printing technologies are used for leisure purposes across a range of domains. One of these is arts and crafts. The potential of 3D printing to contribute to the work of professionals in the creative industries has been discussed (Hoskins, 2013). With the use of these technologies, amateur makers can also begin to engage in the more sophisticated design and manufacture of objects. Some commentators have identified a 'maker movement' that has developed from the communal and participatory practices facilitated by digital technologies, the internet and the open source culture. This maker movement includes the exchange of information and experiences on social media as part of the sharing economy (John, 2013) in conjunction with novel digital devices such as 3D printing software and hardware (Tanenbaum *et al.*, 2013; Shewbridge *et al.*, 2014).

There are now dozens of books available directed at the lay user on how to use 3D printing technologies for DIY and crafting purposes, as well as several websites. Incorporating a social media element, companies such as Cubify not only offer the technologies for 3D printing (printing machines, cartridges, scanners and the relevant software) but also encourage the development of making communities. Cubify includes a section of its website and app, for example, where people can see what other people are making and download the CAD files to make the same objects themselves at home or to order products that are for sale. The MakerBot 3D printer company supports Thingiverse, another well-known website for 3D printing makers that promotes the objects made by community members and facilitates the sharing of designs. It is claimed on the website that over 130,000 members interact on the site and that over 100,000 designs are available there (Makerbot Thingiverse, 2015). People can join various specific interest groups to discuss issues and techniques. Thingiverse, therefore, combines social media community functioning and the sharing ethos with offering technical support (it also has Tumblr, Facebook and Instagram accounts for community members).

Digital fabrication has entered several areas of leisure. In the areas of sport and gaming, for instance, there are now many opportunities for entrepreneurs to market 3D fabricated objects to fans. The Shapeways and Cubify 3D printing company websites provide many such examples, offering the objects for sale and providing digital files of their prototypes for download by people who may want to fabricate them for themselves or learn from the design. These include files for 3D printed puzzles, game dice, poker chips, checkers and chess pieces, finger soccer pieces and tabletop ping-pong and bowling game pieces. Some companies have identified opportunities to use 3D printing to fabricate sporting equipment customised to the user, such as helmets, mouthguards, bicycle seats, goggles and protective masks and sports shoes.

3D fabrication entrepreneurs cater well for fans. On the Shapeways website alone there are specialised fawellerv model dice and fountain pen case fashioned

for fans of Harry Potter, League of Legends and Formula 1 motoring while the digital files for Box Trolls figurines may be downloaded free and fabricated at home. Fans can order classic model aeroplanes made on a 3D printer from one site. Makers are experimenting with fabricating custom Lego and sporting hero figurines. The most popular 3D printable model from one website offering over 200,000 of them in July 2015 included a Hillary Clinton action figure, a model of the New Horizons spacecraft and a Game of Thrones-themed iPhone case. The Pinshape website for 3D printing enthusiasts offers designs for many Dr. Who artefacts (chess pieces, pen holders, logos, figurines, Tardises, jewellery and so on), as well as Pokémon, Star Wars and Minions objects.

Museums around the world are also beginning to incorporate 3D printing technologies not only as part of creating exhibits or demonstrating the capabilities of the technologies but also with the aim of enriching visitor experience or facilitating access to their collections. In 2012, the New York Metropolitan Museum of Art partnered with MakerBot to run a 3D scanning and printing hackathon. This event involved digital artists and designers scanning items in the collection and then fabricating them. The digital files are available on Thingiverse for others to use to print out their 3D copies of the artworks (Terrassa, 2012). The British Museum has released 3D printable scans of 14 objects from its holdings, available on the Sketchfab website (Cascone, 2014). Several other museums have featured exhibits about 3D printing technologies and their applications.

The phenomenon of digital food printing has entered the domain of food and cuisine. 3D printers can use edible substances such as chocolate to produce novelty food items. The manufacturers of these technologies sometimes use the entire-ments of both creativity and gustatory pleasure in marketing them. Thus, for example, the Choc Edge company's website (Choc Edge, 2015) claims that its chocolate 3D printing machine allows users to engage in 'creating your chocolate in style' by engaging in 'choc art', thereby 'empower[ing] users to take chocolate creation to new levels'. Other companies offer 3D printing of objects using sugar or ice-cream, or manufacture machines that can generate biscuits, pasta or pancakes in customised shapes, or produce novelty shapes from food purees.

3D printing companies also cater for children's leisure activities. The Kids Creation Station website offers parents the opportunity to upload their children's drawings and turn them into 3D objects. It also provides 3D modelling software to download for free for children to experiment with, such as sketching, doodling, and modelling and design software to create and fabricate objects. The Shapeways website offers an online video tutorial to teach children how to use their 3D printing software. People may download the CAD files for various children's toys from Cubify.

Digital body objects in leisure domains

The human body has become increasingly rendered into digital form. People constantly emit digital data as they engage online, are tracked by the geolocation functions on their mobile devices, move around in sensor-embedded spaces,

monitor themselves using self-tracking apps or wearable devices and generate images of themselves to share on social media sites (Lupton, in press). 3D fabrications of human bodies are becoming available in several contexts, including medicine (Lupton, 2015b). 3D scanning technologies for visualising human bodies, such as 3D sonography and computerised tomography, are now a feature of medical diagnostics. Medical professionals use the digitalised information from scans such as these to assist in decision-making, surgery and medical and patient education. Writers in the medical literature refer to 'patient-specific anatomical replicas' (Moody, 2014), or 3D printed objects fabricated from digital medical scans, including hearts, brains and other organs, as well as bones and joints. Doctors use these replicas, which are unique to each patient, to diagnose a medical condition, plan treatment, to refer to during surgery and as a means of informing the patient what the problem is and how it will be treated. They are now also used to demonstrate to patients what the effects of cosmetic surgery will be on their bodies. The replicas may be shown to patients so that they are able not only to see but also touch them, and their doctors can point to features on the replica to explain the problem and how they intend to treat it. Customised prosthetics of body parts are also manufactured using 3D printers.

Leisure activities have become another important domain for the creation of 3D fabricated digital body objects. The commercial production of self-replica figurines for novelty or marketing purposes has now been taken up by numerous companies. Some offer full body figurines while others generate busts or other parts of the body. Figure 3.1 shows an example of a self-replica figurine and the 3D printer that fabricated it. 3D full-body scanning booths are currently being rolled out in retail stores in the USA, with plans to expand to theme parks, airports and tourist destinations. A German 3D tech company, Doob Group AG, offers mobile 3D screening booths for clients to use at promotional events, concerts, sporting events and so on. Another company, Artec Group, as well as using 3D scanning booths, also sells a software package that allows users who own a Xbox Kinect game box to scan their bodies at home and print out a figurine using their own 3D printer or to send the digital files to the company for printing the figurine.

These initiatives are also beginning to emerge in marketing efforts as part of promotional campaigns. A recent example includes Coca-Cola's product launch of its new mini-size bottle of its product in Israel. The company invited people to visit its 3D printing lab to have 'mini-me' replica figurines made (Bilton, 2013). Japanese clothing company Uniqlo has offered customers the opportunity to be 3D scanned and rendered into figurines by providing scanning booths in selected stores (Thimmesch, 2014).

Medical imaging technologies are being used to create products for the commercial market as novelties. One company offers a service which turns MRI scans into full-scale replicas of an individual's brain, which can be mounted on a stand and displayed at home. The company also produces earrings, pendants and cufflinks for customers in the shape of their brains. As the company suggests, this process will allow customers to 'hold your brain in your hands!' and wearing the

Brendon McNaughton offers customers the opportunity to use their MRI heart scans to create a larger-than-life model of their hearts covered in shiny 22-carat gold leaf, enabling them to display their literal 'heart of gold'. 3D ultrasound imaging is now being used to produce life-sized figurines of human fetuses for their expectant parents to hold and display. A Californian company calling itself '3D Babies' offers this service, as well as fabricating newborn infant replicas using photographs supplied by the parents. These replicas are marketed on the company's site as offering an 'artistic sculpture for your display case', 'memorabilia for baby's room', 'centrepiece for baby shower', a way to 'share the news of your pregnancy' or to use at a 'gender reveal' party (3D Babies, 2014).

The family photograph has been reimaged in 3D, with services now offered for family members to have themselves scanned and then generated as figurines for display in the home in place of the traditional professional family portrait. It is easy to envisage people collecting figure replicas of themselves to mark important events, and to track children's physical growth and changes over their life course (from *in utero* onward, if services such as those offered by 3D Babies are used). Indeed, such uses have already been promoted by the companies who offer these services. The 3D Selfies website (3D Selfies, 2015), where the tagline is 'Revolutionizing the American Portrait', argues that replica figures of children can demonstrate their growth as well as memorialise children's favourite activities. The website displays examples of children dressed in sporting outfits with sports equipment, at birthday parties, recitals, confirmation ceremonies and bar or bat mitzvahs, in ballet garb or fancy dress. Customers are encouraged to partner with their children's sporting teams, dance schools, schools or scouting

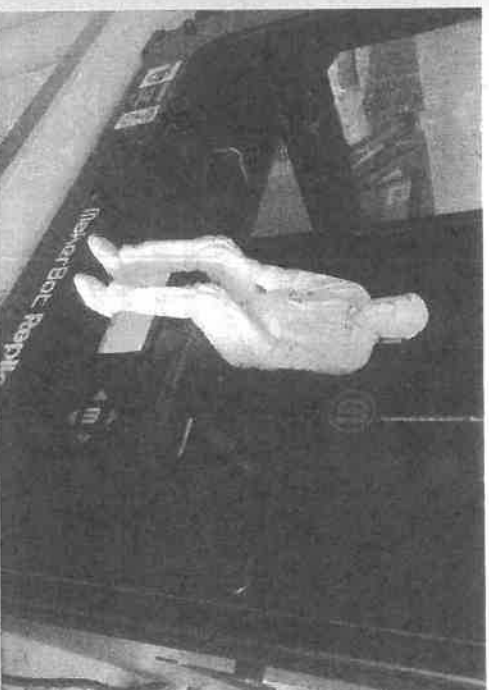


Figure 3.1 A 3D self-replica sitting on the 3D printer that fabricated it. (Image credit: Goran Jonsson – 3-D printed by Daniel Noree on Replicator 2X. Available under a CC BY 2.0 licence. Image available at: <https://plus.google.com/+DanielNoree/posts/C0Z7T5N177AH>)

organisations to sell the figurines, using a Kinect device or a scanner that works with an iPad to generate scans for printing. Other examples of self-replicas on this website include fabricating figures of pregnant women, people dressed in their military uniforms, people engaging in holiday events, for use as trophies and generating the replicas at corporate events as a keepsake for attendees.

Several of these companies provide self-replica figurines solely from digital photographs that customers send to them and, therefore, do not require 3D scanning technologies. Some companies allow customers to edit the figurines or busts that they generate. The FaceGen company's website offers services whereby customers can upload a digital image of their face and then manipulate it by changing the facial expression, skin colour, gender or age and adding facial hair or a different hairstyle. Customers of Cubify can scan in their face, choose a body prototype from the range offered by the company and then generate a figurine with their own facial features. The body prototypes include sports models such as beach volleyball player, surfer, swimmer and soccer player, costumes (rock guitarist, super-heroes, mythological figures, ninjas, pirates), jobs (doctor, police officer, firefighter, teacher), occasions (wearing formal wear, wedding dress, graduation robes) as well as a range of Halloween-style 'horror' outfits. Customers can then choose from a range of body sizes and height to make the model look more like themselves. The Choc Edge and 3D Selfies companies offer users the opportunity to generate edible self-portraits or figurines in chocolate. A variety of 3D printing companies offer services whereby people can have their faces superimposed onto Star Wars, GhostBusters and Star Trek figurines of their choice. Figure 3.2 shows some of these types of self-replica figurines on display.

Sexual activity, human genitalia and pornography have also been the targets of 3D printing initiatives. An enterprising Japanese artist, Megumi Igarashi, who specialises in artist portrayals of female genitalia, sought to raise money for her new art project by offering on a crowdfunding platform CAD files of her vulva for fabrication by customers. She was arrested by Japanese police and spent five days in jail on obscenity charges (Sevenson, 2014). Some people are dispensing entirely with the artistic impulse, scanning their genitals to give as gifts to their sexual partners. The sex toy industry is experimenting with 3D printing, promoting designs for sex toys that may be customised and made at home. The Makenlove website provides a range of free designs for download and encourages people to submit their designs to share. The Eroticart-shop company provides opportunities for customers to order customised body replicas of well-known female porn stars. These replicas may be fabricated as nudes or dressed in various provocative outfits.

Another form of 3D printed embodiment is that which uses digital data about the functions or activities of bodies rather than their appearance. Exploratory work on the part of some human-computer interaction research teams has begun to generate 3D objects created from digital biometric data. Researchers from The Exertion Games Lab at RMIT in Melbourne, for example, have experimented with using 3D printers in different ways to materialise personal body data. In one project, Edipulse, the team has fabricated chocolate using 3D printers and digital data of people's self-tracked heart rate following physical activity (Khot

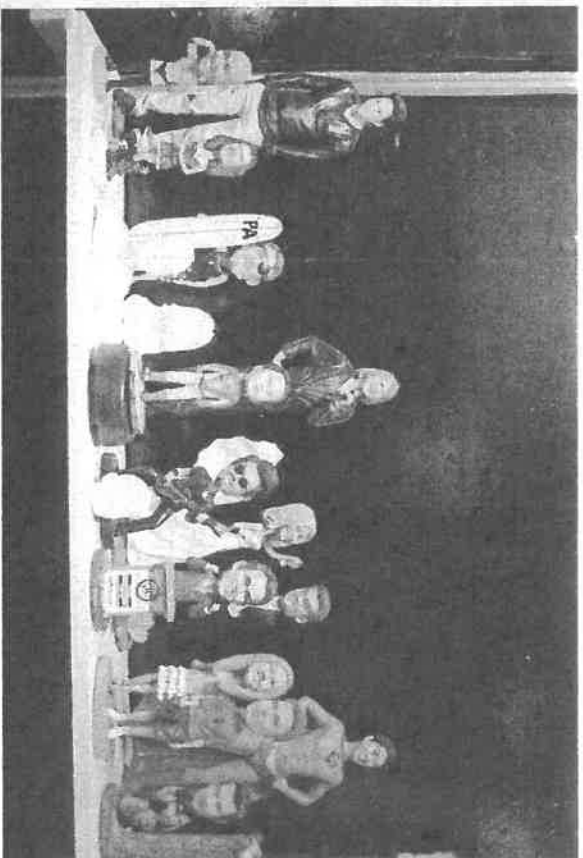


Figure 3.2 3D self-replicas in various forms. (Image credit: 3D Printed Heroes – photograph by Maurizio Pesce. Available under a CC BY 2.0 licence. Image available at: www.flickr.com/photos/pestoverde/16863356645/).

et al., 2015). Based on each individual's data, the 3D printer makes a customised chocolate in the shape of an emoticon or words providing encouraging messages (such as 'U Rock!'). The thickness of the sweet or the number of letters completed in each message varies according to the data (high levels of physical activity generate thicker chocolates, and a longer length of exercise produces a greater number of words fabricated). Different emoticons are printed out based on the intensity of exercise.

Another project by members of the Lab, SweatAtoms project, involved five different material manifestations of participants' physical activity fabricated on home 3D printers. These artefacts included a 3D graph of heart rate data, a flower shape where the length and width of the petals represent heart rate duration and intensity, a frog shape that changed in size according to the amount of physical activity carried out that day, a die representing the six zones of heart beat data and a ring displaying the number of hours the person was active (Khot *et al.*, 2013). The idea of such projects is to materialise personal bodily data in a way that people find more accessible than two-dimensional graphical representations or simple metrics. Some commentators have speculated that digital data could inform such practices as customised food fabrication, in which a person's physical activity or body weight data informs what type of food their personal kitchen-based 3D food printer makes for them (Lipson and Kurman, 2013).

Theorising the self-replica artefact

As sensor- and camera-embedded physical environments proliferate in both the domestic and public landscapes, the movements of human bodies in space and place are monitored, assessed and predicted by digital technologies. The mobile and wearable technologies that people carry around with them – their smartphones, smart-watches, tablet computers and digital self-tracking devices – constantly generate data about their movements and geolocation. People have become data-emitting nodes in the Internet of Things, exchanging data with other ‘smart objects’. This vitality of digital data is a key element of contemporary digital data practices. The digital data economy involves the continual circulation of digital data across and between sites, platforms and devices (Beer, 2013; Lyon and Bauman, 2013; Andrejevic, 2013). Indeed, as I have previously argued, the personal data that are generated by digital technologies are ‘lively’ in several ways. These data are mobile as they circulate and are repurposed by different actors and agencies; they are about ‘life itself’ (people’s activities, preferences, habits and bodies); they contribute to livelihoods (as the data-harvesting industry); and they are increasingly having effects on people’s social interactions, relationships and life chances (Lupton, 2016).

Cultural analyses of material culture emphasise the importance of objects in constructing self-identity. Such objects may be directly representational of the self, such as photographic or video images featuring the self, or more symbolic of selfhood, such as favourite things (e.g. old toys, books, clothes, household objects, mementoes and sporting equipment) (Miller, 2010; Nippert-Eng, 1996; Keightley and Pickering, 2014; Turkle, 2007). Writers on material culture and affect have noted the entangling of bodies/selves with physical objects and how artefacts act as extensions or prostheses of the body/self, becoming markers of personhood. The objects that represent selfhood may be understood to extend the territory of the self beyond the fleshy body (Nippert-Eng, 1996).

In recent times, digital objects and digital data have become invested with selfhood. Smartphones, smartwatches or wearable self-tracking devices are carried on or close to people’s bodies throughout the day, and have thus become part of their presentation of the self. The personal information stored in these devices is emblematic of the self (Lupton, 2015a, 2016; Hand, 2014). These include images of the self and of significant others, text messages and emails, calendar entries, geolocation information, details of physical activity and functions, and status updates on social media platforms. These digital data are a form of personal possession, unique to the individual, just as their photographs, home videos or diaries might be or commodities that they have customised as part of the appropriation of these objects into their everyday lives and life histories. As such, they are ‘evocative objects’ and ‘things that we think with’ (Turtle, 2007), repositories of emotion, memory and social relationships.

Visual representations of the body/self are an important element of the territories of the self. If the 3D printed self-replica is viewed as a type of selfie, it becomes not only a repository of emotion and intimate relations but also a prosthetic or technology of selfhood. Luvv (1997) has written about the ways in

which photographs act as a form of prostheses to the self, serving as a means of forming self-identity. She identifies the relationship between knowledge of the self and visual images that photography reinforces. Photographs of the self, she argues, are artefacts in which certain aspects of the self are fixed, framed or frozen. They contribute to the notion of the uniqueness of selfhood and embodiment. In the era of digital photography and the emergence of the selfie and other digitised personal photography practices, a far greater volume of photographic portrait images of the self and intimate others is now generated compared with previous generations and these images can more easily be shared with others. Using new digital media devices, self-portrait takers have more control over their images. They can employ devices such as cropping and filters and other photographic-editing technologies to manipulate easily the images and can decide with whom they want to share these images.

Some recent research has investigated the practices of using digital devices to take self-portraits and what people do with them. An academic literature on selfies and other forms of digital personal photography is beginning to emerge (Keightley and Pickering, 2014; Murray, 2008; Van House, 2011; Hess, 2015). It has been argued that through the practices of digital self-portrait taking and sharing, users engage in the performance of the body/self, configuring self-identity. While popular media coverage of the selfie phenomenon often focuses on the alleged narcissism and self-obsession that they promote, some scholars have theorised this practice as a Foucauldian technology of the self, involving self-reflection as well as self-expression and performativity. Personal photography, therefore, not only represents but enacts selfhood and self-identity (Tildenberg, 2014; Tildenberg and Cruz, 2015; Van House, 2011), including conveying information that represents the self in specific places and spaces (Hess, 2015).

The ease of the production and circulation of digital photographic portraits means that people now often have possession of many more images of themselves and intimate others. This volume, however, can be challenging for some people regarding developing strategies for managing the plethora of images. Digital images, if not printed out, may be considered to be more ephemeral, transitory, immediate and less proximate compared with analogue self and family photographs (Keightley and Pickering, 2014; Murray, 2008). It is here that 3D self-replicas offer a solution. One of the most intriguing aspects of 3D printing is the way in which it materialises digital data into solid objects, enacting them as less ephemeral than other digital self-portraits. These portraits are not constantly circulated through networked spaces like social networks in the same way as digital images are, but rather tend to remain *in situ*.

McCosker and Wilken (2014) refer to the tendency in data visualisation circles towards the fetishising and sublimity of ‘beautiful data’ as part of exerting mastery over the seemingly unlimited and thus overwhelming amounts of large digital datasets. Extending this logic, the physical materialising of digital data in the form of 3D printing may offer a solution to the anxieties of the volume, velocity and circulation of personal digital data. The Exertion Games researchers and others experimenting with these technologies (Sussak *et al.*, 2014) claim that the opportunity for

people to handle – and even smell and taste materialisations of their personal bodily data – allows them to engage more readily and understand their data better. When it is one's personal data drawn from one's own flesh that is being manifested in a 3D digital data object, this may provoke a sense of mastery over what may be experienced as a continually data-emitting subjectivity.

Conclusion

The entry of 3D printing technologies into leisure cultures is still relatively new, and as yet there are few scholarly analyses of the ways in which these technologies have been dispersed and taken up in the kinds of domains that I have outlined in this chapter. How popular 3D printing or the other practices I have described may become is yet unknown, and remains the topic of no small degree of speculation. What I have attempted to do in this chapter, however, is to outline some of the leisure sites and cultures in which 3D printing is spreading, and, by using the 3D self-replica as a case study, begin to develop a critical sociocultural analysis of the phenomenon as a basis for further scholarly work.

Quite apart from the possible ways in which these artefacts may be taken up in leisure domains and how they may be used for marketing or promotional purposes in conjunction with leisure activities, broader questions remain concerning the ways in which people may enact themselves or intimate others via 3D self-replicas and the extent to which they are incorporated into practices of selfhood, embodiment, memory and social relations. As personal digital data 'made solid' or 'frozen', these artefacts offer new ways of thinking about the ways in which digital data may be employed to represent bodies/selves and become biographical objects, mementoes and signifiers of important or intimate events in people's lives. Their use is a form of data practice, a mode by which people interact with and make sense of personal digital data in an era in which such data are ceaselessly collected by and about them (Lupton, 2016). Not only can these artefacts serve to 'freeze' lively data, but they are also located in a physical space: on the mantelpiece at home, for example. The liquidity, flows and force of personal digital data become fixed in time and space in a material object.

The self-replica artefact is a tangible form of code/space that may be held, touched, displayed in various ways or placed next to other figurines of the self for comparison, just like analogue photographs that were printed on paper from negatives and enshrined in frames or photo albums. People may begin to use 3D self-replicas not only as a way of marking and measuring the growth and development of children, but also as material and tangible evidence of their own ageing processes, weight loss or physical fitness regimes, or even, in the case of 3D patient anatomical replicas, as memorabilia of how they or a loved one have overcome or succumbed to major surgery or disease (Lupton, 2015b). How evocative will these artefacts be for people and how will they interact with other objects in configuring personal memories? Will 3D self-replicas become incorporated into domestic spaces as mementoes of lives and bodies? In what ways will they represent the self

are meaningful in their lives (including their leisure pastimes)? How will people learn about their bodies and their selves from the artefacts? Alternatively, will 3D self-replicas be short-lived as novelty items and fail to achieve persistent value? All of these questions remain to be explored.

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4 'I'm selling the dream really aren't I?'

Sharing fit male bodies on social networking sites

Alison Winch and Jamie Hakim

Introduction

This chapter explores the convergence between work and leisure time in neoliberal digital cultures by focusing on masculinity, gym culture and social networking sites, specifically Instagram and Facebook. We argue that the practices of men, both going to the gym and then posting images of worked-out bodies on social networking sites, are forms of neoliberal labour despite being conventionally understood as leisure practices. Therefore, we are interested in how labouring for an ideal fit body participates in the entrepreneurial project of the self. In the precarious climate of neoliberal austerity where we are encouraged to be creatives and artists, Instagram and Facebook are sites where new articulations of masculinity are displayed for the purposes of self-branding with the objective of being seen as a success in the everyday experience of promotional culture. This success is indexed through the lean, muscular body which denotes confidence, self-discipline, erotic appeal and different forms of value; the sharing of which has the potential to attract sexual partners, professional clients and strategic interpersonal relationships. This chapter looks at how young, white, middle-class men have begun to deploy neoliberal labour practices in what historically would have been understood as the recreational arena. More specifically, we examine the ways in which new forms of masculinity are produced within the world of fitness. In order to make an argument about the collapse of labour into leisure time through acts of digital self-branding (Hearn, 2008; Baner-Weiser, 2012), we draw on a wide range of theories: neo-Foucauldian theory (Rose, 1996, 1999), post-Fordism (Boltanski and Chiapello, 2007) and critiques of neoliberalism (Gilbert, 2013). We are also interested in both the gendered (Gill and Scharff, 2011) as well as the affective (Deleuze and Guattari, 1980) aspects of these processes. To do this we have conducted six semi-structured, in-depth interviews with young, white, middle-class men who are engaged with the 'fitness assemblage' in different capacities.

Labouring the neoliberal body

Jeremy Gilbert defines neoliberalism as distinct from other modes of capitalism. Whereas capitalism has historically denoted an economic system focused on the