What is Digital Possession and how to Study it: A conversation with Russell Belk, Rebecca Mardon, Giana M. Eckhardt, Varala Maraj, Will Odom, Massimo Airoldi, Alessandro Caliandro, Mike Molesworth and Alessandro Gandini

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The platformisation of digital consumption, means that increasingly many of the things that we call ours- our messages, photos, music, achievements- are entangled in complex socio-technical arrangements which require ongoing market mediation. In this context, refining our understanding of what digital possessions are and how to study them is vital. This requires refocusing research away from existing comparative analyses between digital and material possessions. To do so, we organised an interdisciplinary roundtable discussion with critical marketers and digital media scholars, consumer researchers, digital sociologists and researchers in Human Computer Interaction (HCI) at the 11th Interpretive Consumer Research Conference held in Lyon in May 2019. The result of that discussion is this curation of comments which deal with theoretical, methodological and critical issues and a bold agenda for future research.

Keywords: digital possession; platforms, digital affordances, digital consumption; digital methods; algorithmic culture

Introduction

Digital possessions- bits of code that exist within digital media that we call ours - our digital music, avatars, posts, texts, documents, and photographs - often find themselves as instrumental in narratives of transition from Fordist to post-Fordists economies (Slater 1997) material to liquid consumption (Bardhi and Eckardt 2017) or ownership-based to access-based economies (Rifkin 2017). In these accounts, digital objects are summoned to represent changes in the economy - from brute physical forms with relatively stable characteristics to ones which are products of the logics of markets and design, and thereby inherently unstable (Slater 2014). They are also emblematic of other processes of socio-economic transformations which saw the Internet change from a digital commons to a full market economy in the 2000s (Dyer-Witheford 2002; Lessig 1999) - most notably the introduction and legitimation of private property.

In the digital commons, there were no individual, legal possessions. A good illustration of this is Lawrence Lessig's (1999, p.2) oft-cited description of the internet as a commons: "The net is built on a commons — the code of the world wide web, html, is a computer language that lays itself open for anyone to see — to see, and to steal, and to use as one wants. If you like a web page, then all major browsers permit you to reveal its source, download it, and change it as you wish. It's out there for the taking; and what you take leaves as much for me as there was before".

Then, objectual characteristics, like the ones Lessig enumerates were used to differentiate the digital common or public goods from private, physical ones, and this was done with a political intent (see Denegri-Knott and Tadajewski 2017). Upon these characteristics, the very edifice of private property was challenged by legal analysts and computer scientists who collectively denounced the enclosure of the digital realm based on proprietary notions. To them, private property protections that applied to physical

possessions were unnecessary and detrimental to the collective production of content which they had observed had flourished in the early years of the Internet (e.g., Benkler 1999; Lessig 1999; Litman 1996; Stallman 2002). Ultimately this attempt to categorise digital goods as a common or public resource largely failed. Instead, digital libertarian ideals associated with private goods - their fostering of personality and individuality through acts of will and self-actualisation, and as morally righteous rewards for our self-investment in transforming them (Locke 1988/1689; Munzer 1990) - were used to legitimise start-ups' rights to profit from their investments (Denegri-Knott and Tadajewski 2017; Zwick and Denegri-Knott 2018). Yet, comparisons to material possessions have endured across various fields of knowledge that took up their study, including marketing, consumer research, digital media, sociology, design engineering and Human Computer Interaction (HCI). Largely, digital things have become knowable and actionable entities via comparisons made to material possessions.

Our intention in this introduction is to foreground the contributions that follow. This curation of theoretical, methodological and critical perspectives is the result of initial discussions held during an interdisciplinary roundtable discussion between critical marketing and digital media scholars, consumer researchers, digital sociologists and HCI researchers at the 11th Interpretive Consumer Research Conference held in Lyon on May 11th 2019. Based on these reflections, we want to energise the study of digital possession, to move the research beyond comparative analysis between physical and material possession and to encourage bolder theorising and methodological innovation. To this end, we find John Law's (2004) assemblage method and the distinctions he makes between the 'present', 'manifest absence' and 'othered' useful. Law (2004) explains how our chosen methods and theoretical proclivities privilege some things at the expense of others. As a result of this, some elements are made

'present'- the focus of our attention, while others recede into the background or are made 'absent'. Other aspects are 'othered' or buried because they represent a competing or alternative cosmology that is deemed problematic or irrelevant. These distinctions provide a productive frame through which to appraise the current state of research across a range of disciplines, and to provoke a set of initial questions to inform future research agendas with which we close.

Understandably, given that many objects we deem special or important are increasingly taking a digital form (Belk 2013; Watkins 2015), research first concentrated on capturing peoples' interactions with digital objects and the meanings they ascribed to them. Initial studies often were justified on perceived objectual differences between digital and material forms, noting a mismatch between necessary qualities for possession feelings to emerge and those observed in digital objects. Digital objects, it was generally agreed, lacked the stability and permanence needed to provide a solid anchor from which to affix the otherwise transient nature of mental processes and abstract, symbolic signs (e.g., Belk 2013; Denegri-Knott, Watkins and Wood 2012; Petrelli and Whittaker 2010; Siddiqui and Turley 2006). They were described as easily reproducible, and therefore lacking in singular or culturally idiosyncratic content to make them distinct from homogenous commodities (see Zwick and Denegri-Knott 2018).

They were also deemed to be too transient, abundant, difficult to know and control (e.g., Belk 2013; Denegri-Knott, Watkins and Wood 2012; Petrelli and Whittaker 2010; Siddiqui and Turley 2006). These observations were largely framed by the enabling theories that at the time were used to great effect in documenting peoples' interactions with digital objects and the values adjudicated to them. Concepts like extended self (e.g., Cushing 2013, Odom, Zimmerman and Forlizzi 2011; Siddiqui and

Turley 2006), psychological ownership (e.g., Atasoy and Morewedge 2018; Kirk and Swain 2018), and biographical approaches to possessions (e.g., Denegri-Knott et al. 2012; Watkins and Molesworth 2012), in particular were productively deployed to make sense of peoples' experiences. To elicit these, it proved useful too, to invite participants to draw direct comparisons between their material and physical possessions and to express preferences based on perceived differences (e.g., Denegri-Knott et al. 2012; Odom et al. 2011; Petrelli and Whittaker 2010; Siddiqui and Turley 2006). Collectively, these studies provide a crucial point of departure.

However, our continued reliance on comparisons and the enabling theories that produce them, may be impeding more original theory building (for a critique of enabling theories see Belk and Sobh 2018). A key problem being that, the price paid for focus furnished by existing theoretical lenses, is conceptual lacunae. Differently put, in the importation of extraneous standards from existing forms of knowledge to make digital possession 'knowable', we are producing derivative knowledge (Foucault 1972). That is, in subjecting emerging interactions with digital things to pre-existing rules for understanding material possession, we may be altering the character of self-digital object interactions themselves. We see this for instance in our expectation that objects need to be sufficiently durable, singular, knowable and open to manipulation so that possession processes can take place (McCracken 1987; Pierce, Kostova and Dirks 2003). Their durability and material consistency, we think, is also a required characteristic, that allows them to fulfil an indexical or evidentiary function for who we are or hoping to be, who we relate to and where we belong (Belk 1988; Csíkszentmihályi and Rochberg-Halton 1981; Grayson and Shulman 2000). Without them, objects are said to lack the necessary stability and solidity to provide a firm anchor for otherwise fleeing meanings (Csíkszentmihályi and Rochberg-Halton 1981;

McCracken 1987). The importation of predefining criteria is also visible in more recent psychological ownership studies, where a predetermined set of characteristics such as being manipulable, controllable, attractive and familiar, are seen as prerequisites to garner psychological ownership of digital objects (Atasoy and Morewedge 2018; Kirk and Swain 2019). To illustrate, Atasoy and Morewedge (2018) conclude that physical goods are more valuable compared to digital goods because their material characteristics make them easier to control.

Here objectual characteristics that support cultivation processes (understood as acts of control) are made 'present' and thus privileged, so that digital objects are deemed less meaningful than physical ones (Siddiqui and Turley 2006; Atasoy and Morewedge 2018; Petrelli and Whittaker 2010). Similarly, sources of meaning in adjudicating values and establishing hierarchies between physical and digital possession tend to rely on a narrow spectrum of meanings, where emotional value tends to equate higher attachment. For example, Petrelli and Whittaker (2010), in their comparative study of physical and digital family mementos conclude that digital objects are less evocative because they were not able to fully express the richness of memory. Similarly, when Siddiqui and Turley (2006) asked their participants if they would replace their physical possessions for digital ones, they observed a lack of emotional attachment as a key reason why the former were favoured.

We suspect that what is 'manifest absent' is the extent to which digital object-self interactions can establish more enduring attachment than present comparisons allow us to see. That is, digital object-self interactions may be overlooked (not made 'present') as a result of making 'present' only what comparisons to material object interactions allow. Thus values in use that could emerge from these interactions - such as connectivity, self-tracking, aiding cognitive capabilities - may be deemed too

mundane or instrumental, when compared to those attached to treasured family heirlooms. However, this doesn't necessarily mean that they are less meaningful. In an intergenerational study of digital possession with families living in the Didcot area of England we are finding for example, great attachment to banking, health and communication apps, because they are enabling consumers to reach identity and relational goals. Experiences, we are noting, seem to revolve less around digital objects as the focus of cultivating attention (a term we borrow from Rochberg-Halton 1984) but rather as highly meaningful valorised tools to achieve broader goals like providing for one's family or living sustainably. Before us, is a self, as Belk (2013) notes, that incorporates digital affordances - the characteristics of digital objects (code) that make possible certain actions but not others - in the pursuit of goals. Consumers, we are finding, come to know the affordances they perceive as defining qualities of digital things they call their own, in ways that challenge assumptions that all digital objects are the same (see Mardon and Belk 2018). So while they may not come to fully know the objectual characteristics of digital things, they can be well versed in what their digital possessions afford them.

But if we don't do comparisons, what should we do? There could be value in researching digital possession on its own merit. This means considering the 'whole' rather than reducing it to small or individual parts of the experience. As Airoldi and others (Airoldi 2018; Airoldi, Beraldo and Gandini 2016; Gandini and Caliandro 2017; Watkins 2015) have argued, when we conduct research that only consults the consumer, we do not gain an understanding of the other 'back end' data which tells us a larger story and extends from the individual experience to that of a broader, cultural level and the socio-technical structures that shape and govern them. In order to make 'present' the defining characteristics of digital objects and digital possession, we could focus

rather on their own affordances, and the way in which consumers interpret these. Depending on how they are inscribed by designers and how they are perceived by consumers themselves, digital objects may come to acquire a range of affordances, which in turn can imbue them with personal meanings (see Mardon and Belk 2018). Singularity, for instance can be achieved through the use of hashtags, geotags and timestamps and objects can enter the remit of possession via algorithms operating on digital platforms like YouTube and Spotify (Airoldi et al. 2016; Bonini and Gandini 2019). This in turn requires us to consider methodological interventions that make visible this agency in digital possession processes such as access, control, caring of, transferring, and divestment, but also recognise new ones. Such affordances may include, enhancing consumers' ability to demonstrate flexibility with regards to their work life and the accrual of social capital by concentrating others' attention and approval through follows and likes on social media platforms (Bardhi, Eckhardt and Samsioe 2020).

Beyond possession studies and consumer research, we note bold use of native digital methods which take full advantage of the affordances of digital methods themselves in using data collection instruments that are inbuilt into digital platforms and functions themselves like search engines and hashtags (Caliandro and Gandini 2017). Add to this the new breed of postphenomenological theory which attends to the agency of digital materiality and how human beings both interpret or imagine what digital technologies afford them (Verbeek 2016). Other disciplines like HCI in particular, have embarked on their own studies of digital possession, responding with pragmatism in designing and implementing innovative research techniques like producing mock-ups of meaningful objects based on people's life stories (e.g., Orth, Thurgood and van den Hoven 2018), speculative design and reflective design of working devices, like a

timecard to help people talk about digital heirlooms (e.g., Odom, Banks, Harper, Kirk, Lindley and Sellen 2012).

Counterintuitively, what may be possible is obtaining a more complete understanding of possession in general. By opening up the complex socio-technical configurations that make up digital objects and how they mediate object self-relations, we can bring to the fore processes and actors, which are often 'manifest absent'. To begin with, the types of governing mechanisms that establish normative arrangements through which possession processes can be undertaken like ownership arrangements, can gain visibility by examining such things like terms and conditions and end user agreements (Watkins, Denegri-Knott and Molesworth 2016). Similarly design decisions, which shape possession processes, or the characteristics that made them suitable targets of ownership, can be made 'present'. This can be done by accounting for how designers configure digital materiality to produce affordances that can support routes to possession processes and outcomes. As has been noted, particularly in HCI (e.g., Odom, Zimmerman and Forlizzi 2011) and design engineering (e.g., Baxter and Aurisicchio 2018) digital objects, like their material counterparts, can be designed in an attempt to encourage feelings of possession and support possession processes.

And lastly, we can approach digital objects as a means of problematising taken for granted assumptions around possession, and its configuration as a particular type of thing. This can be achieved by making 'present' other possibilities that have been actively buried (Foucault 1978/1994) or 'othered' (Law 2004). In light of the apparently innocuous platformisation of digital possessions - our photos shared on social media, our gaming achievements stored on STEAM - we should be suspicious of celebrating existing socio-technical structures configuring digital possessions as liberating. Doing this demands that we adopt a critical attitude when appraising the

merit of new modes of exchange, such as access based consumption or collaborative consumption, which rather than freeing consumers from the burdens of ownership, may bind them in ongoing commercial relationships (Molesworth, Watkins and Denegri-Knott 2016; Zwick and Denegri-Knott 2018). Thus, instead, we may appraise this as a new chapter in the ongoing enclosure of digital media (Molesworth et al. 2016; Zwick and Denegri-Knott 201). In these new enclosures consumers' own attempts to incorporate homogenous digital commodities into the domain of private possession end up facilitating their own entrapment (Molesworth et al. 2016). The more psychological and financial investment is sunk into the platform - posting photos, creating playlists, tracking our body's performance - the higher the cost to the individual. The very processes which were meant to sever links to the market end up generating valuable user data that platforms repackage and commodify (Molesworth et al. 2016; Zuboff 2019; Zwick and Denegri-Knott 2018). This creates dependencies where consumers are best described as renters or license users. As renters they only have transient rights to company owned resources. If a consumer wants continued access to a favourite playlist or digital photo they will have to either continue to pay a subscription fee or at the very least engage with the hosting firm. In this sense, it is the platforms themselves who are the ultimate owners and arbitrators of digital possessions.

This new reality means that our digital possessions may be conduits of more intimate forms of enclosure. These enclosures are not natural or inevitable. As was done during the first enclosure of the digital commons, 'othered' means of understanding and acting can be deployed in order to reveal the power inflected processes and historical contingencies that abetted their emergence and sedimentation (Foucault 1978/1994). This may entail an exercise in imagination where we consider other silenced possibilities. Imagine for example that the monetisation of consumers'

possessions was a transgressive act punishable by law, or that consumers would be rewarded financially for their contribution to the resources shared by a platform.

There is much to do, but we hope that the following collection of commentaries can provide valuable stepping stones in understanding what digital possession may be and how to study it.

Theoretical approaches and extensions

What are digital possessions? Russell Belk, York University

There is a certain truth to the assertion that a possession is a possession, whether tangible or intangible, analogue or digital, enduring or fleeting, virtual or physical. After all, our name, family lineage, academic degrees, jobs, hometown, diet, experiences, past loves, skills, beliefs, and pasts are largely invisible to someone we have just met and even more so to a stranger who sees us on the street. Yet many would insist that these things are our possessions as well as key parts of our identities (e.g., Abelson and Prentice 1989; Brillat-Savarin 1848/1970; Roth 2008). The digital revolution further disrupts our traditional assumption that possessions are things that we can see, touch, smell and hold in our hands. In this brief paper I consider first what is similar and what is different with digital versus non-digital possessions and I consider theoretical implications primarily from the perspective of the extended self.

If we accept that we have been defined in the pre-digital age by our possessions (Belk 1988), it must be acknowledged that our digital activity is every bit as much, if not more, a part of our identity (e.g., Belk 2013; Corneliussen and Rettberg 2008; Papacharissi 2011; Trent 2013). Our tweets, posts, papers, likes, online friends, avatars, and other digital creations and activities are all a part of who we are for others and for ourselves. Today social media like Facebook preserve our digital traces, put them on a

timeline, and periodically remind us of our previous digital selves. Our former analogue diary has become our digital blog. Our analogue photo album has become our digital photo archive. Our letters have become our instant messages, emails, and tweets. And our book and musical collections have been digitised. While online shopping is easier and faster than visiting brick and mortar stores, the outcomes are similar. We can also buy, treasure, trade, and sell digital possessions, much as we do physical possessions (e.g., Mardon and Belk 2018; Molesworth and Denegri-Knott 2012). In these and many other ways digital possessions resemble non-digital possessions. But perhaps more interesting are the differences between the two.

One of the differences between these two types of goods is the greater ephemerality of digital goods. They are only with us through the mediation of a digital device and in most cases we must also be online in order to perceive them. To the extent that we have switched preferences from analogue to digital possessions, we have lost the display potential (as well as the clutter and care responsibility) of shelves full of books, DVDs, or vinyl records. To the further extent that we rely on streaming and on-demand services for our music, movies, and 'encyclopaedic' as well as 'current' information, we are foregoing ownership entirely in favour of access (Belk 2014). This potentially marks a major shift toward a post-ownership society (Belk 2015). It is not so much the case that we are moving toward an unextended self (Roster 2014) as it is that we are coming to accept a self that has incorporated digital devices and affordances as parts of the digital self (Belk 2013). In the process we become not so much owners as entitled users. Much as members of a private club have access to the 'club goods' of the organization (Belk 2017; Buchannan 1965); with a subscription to a streaming service we have access to its affordances.

Another change with the advent of digital possessions is the increased possibility that these digital objects have agency to help shape our behaviour. One example is certain recommender systems for streaming movies and music. Karakayall, Kostem, and Galip (2018) studied the music recommender system of Last.fm. Rather than just giving subscribers more of the same based on their past musical listening habits, the recommender system attempts to broaden a listener's musical tastes by suggesting other genres of music that the person might try. Subscribers come to pride themselves on the growing breadth of their musical tastes and display, discuss, and amplify their diversity in online forums. Such responsiveness to algorithm-driven suggestions can be seen as a part of what Foucault (Martin, Gutman and Hutton 1988) called technologies of the self. But while Foucault ultimately celebrated the power of the individual to shape his or her own identity, we might see here the power of the algorithm to shape the musical identity of subscribers. More accurately, it is the combination of users and the recommender system that together shape tastes. But nevertheless, the algorithm is an active agent in shaping tastes in this network. Something similar has been found with the Netflix series *Chef's Table* (Ulver and Klasson 2018).

Laptop computers and the computers we call smartphones are currently our primary digital devices. They largely operate through software or algorithms that are basically long strings of if/then codes (Bucher 2018). They can do some amazing things. When algorithms discern our desires before we know them ourselves, we may be justified in calling those who create them alchemists (Bell 2015). This happens not only with recommendation systems like Amazon's book suggestions, but also with online advertising that seems to reach us at just the right time. Although, as Bucher (2018) emphasizes, algorithms are not unknowable, their complexity often makes it seem that our digital devices are unfathomable black boxes (Pasquale 2015). This

seeming mysticism together with the great power of these devices have led some to suggest that the algorithm is our new God:

> Our supposedly algorithmic culture is not a material phenomenon so much as a devotional one, a supplication made to the computers people have allowed to replace gods in their minds, even as they simultaneously claim that science has made us impervious to religion. (Bogost 2015).

Finn (2018) argues that the rapid advance of digital technology makes us feel increasingly primitive, despite and because of the sophistication of our devices. As Friedman mused in 2003:

> If I can operate Google I can find anything…anywhere, anytime. Which is why I say that Google, combined with Wi-F, is a little bit like God. God is wireless. God is everywhere and God sees and knows everything.

It is doubtful today that non-digital objects could inspire this kind of awe. The Great God Google reigns supreme!

The material configuration of digital possession. Rebecca Mardon, Cardiff Business School

Early consumer research on digital possessions explored consumers' emotional attachments to such items, focusing upon the ways in which consumers transform digital commodities into meaningful possessions via deliberate acts of customisation and other possession rituals, as well as habituated use, and practices of sharing and gifting (Denegri-Knott et al. 2012;Watkins and Molesworth 2012). This focus on consumers' intentional acts of possession reflects an existing tendency within consumer research to treat possession as something done by consumers to objects (e.g., Curasi, Price and Arnould 2004; Lastovicka and Fernandez 2005; McCracken 1986). However,

in focusing on acts of 'possessing' performed by agentic consumer subjects, we risk portraying the possessed objects themselves as inert and passive 'meaning receptacles' (Richins 1994), obscuring their agency in shaping how possession takes place.

Many consumer research scholars have acknowledged the risks of privileging human agency within consumer research (Bajde 2013; Bettany 2007; Borgerson 2013; Canniford and Bajde 2016). Borgerson, (2013, p.131), for instance, observes that "a focus on human subject agency has eclipsed the role of objects and the world around us, leaving most everything else to be perceived as unformed clay waiting to be shaped and animated by the intentional subject." To truly understand the role of digital materiality in shaping the phenomenon of possession, we must recognise the distributed nature of agency. To do so, we must adopt a view of agency that does not necessitate intentionality (a human subject's intentional effort to cause a desired outcome), but simply refers to the capacity to cause an effect (Borgerson 2013; Latour 2005). From this perspective, it is not only consumers that can impact possession. For instance, Epp and Price (2010) demonstrate that competing objects and space constraints may displace singularised objects from active use within a domestic network. However, beyond attending to the domestic networks in which objects are situated, there is value in attending to the material qualities of the possessed objects themselves. Objects' own material affordances may "authorize, allow, afford, encourage, permit, suggest, influence, block, render possible, forbid, and so on" (Latour 2005, p.72), shaping the way in which they are used and interacted with by the user. From this perspective, digital objects' material qualities may shape how possession takes place.

We must be wary of attempting to produce a universal theory of digital materiality that identifies universal characteristics of digital objects. Whilst Atasoy and Morewedge (2018) propose that consumers place less value on digital objects than

physical objects due to digital goods' limited capacity to generate feelings of possession or 'psychological ownership' (Atasoy and Morewedge 2018), not all digital objects are created equal (see Mardon and Belk, 2018)". Digital code - the strings of ones and zeroes at the heart of digital objects - has certain agreed-upon qualities such as non-rivalry in use. However, we must acknowledge the ways in which designers, marketers, lawyers and other commercial actors - as well as consumers themselves - shape the qualities that digital objects come to exhibit, the affordances they provide, and thus the way in which consumers interact with and experience them.

Research on non-digital objects has begun to explore the ways in which objects' materiality can influence how they are used and cared for by consumers (Ferreira and Scaraboto 2016; Gruen 2017), an approach that Russell Belk and I (2018) have brought into the digital realm. Focusing on object characteristics that impact consumers' digital collecting practices, we proposed that companies can materially configure the object elusiveness and the object authenticity that can be otherwise lacking in the digital realm, thus facilitating more pleasurable digital collecting experiences. Further insight into such digital material configuration can be found in the field of HCI, where researchers approach digital possessions from a design perspective, seeking to identify ways in which companies can design and create more meaningful digital possessions. For instance, Odom et al. (2011) suggest the incorporation of digital patina - metadata that narrates a digital object's biography - in order to support the development of indexical meanings and a broader sense of object uniqueness. Odom, Zimmermann and Forlizzi (2013) suggest creating life-story centred archival structures for digital collections and accumulations, using experience-oriented metadata to collect-together different types of digital objects related to a specific event or person, rather than collating digital objects based on object-type.

It is important to note that such material configuration includes not only design processes, but also companies' restriction of consumers' legal ownership of digital objects. Within studies of possession there is often an implicit assumption of full legal ownership. Belk's (1988) seminal paper on possessions and the extended self acknowledged that possession and legal ownership are not synonymous – that we can legally own an object and never feel that it is truly ours, and, conversely, can develop possessory feelings towards items that we do not legally own. Yet, empirically, researchers have tended to study the possession of items in the home that are fully owned – e.g. clothing, furniture, family heirlooms, collections of ornaments, collectible trading cards and other trinkets (Belk 1995; Curasi et al. 2004; Epp and Price 2010; Ture and Ger, 2016) – and, consequently, legal ownership does not arise as a consideration within these accounts of possession. Yet in the context of digital goods and digital devices, ownership becomes a more important consideration, since it is often partial, fragmented or temporary (Molesworth et al. 2016; Watkins et al. 2016). Prior work in this area has demonstrated that if we abandon our tendency to equate possession and legal ownership, it becomes apparent that possession may remain important even as ownership becomes more limited, and indeed that legal ownership may play an important role in shaping how possession takes place and is experienced (Watkins et al. 2016).

Whilst we have initial insights into the ways in which material configuration processes performed by designers, lawyers and marketers can shape digital objects' material and experiential qualities, we lack a systematic analysis of the impact of these variations in digital objects' resultant material affordances on consumers' experiences of possession.

Digital possessions and new sources of value. Giana M. Eckhardt, Royal Holloway University of London

When thinking about the characteristics of the digital, and whether past conceptualisations based on the material are applicable or not, an interesting way to approach this question is examining how social distinction is accrued in the digital space. In the past, distinction was typically accrued from 'solid' possessions such as expensive watches, large cars, trophy homes and other highly visible and conspicuous objects which displayed one's status. See Veblen (1899/1994) for a full description of conspicuous consumption in the solid age.

Yet now, when digital objects and interactions have risen in importance throughout society, is the theory of conspicuous consumption still the best way to understand how status and distinction are conveyed? Perhaps a new conceptualization reveals new dynamics that are important to take into account. Bardhi and Eckhardt (2017) introduce a theory of liquid consumption, which is a form of consumption that is ephemeral, access based (rather than ownership based), and dematerialised, which describes much of digital consumption. Thus, how can the insights from liquid consumption help us understand how status and distinction are conferred in the digital space?

Eckhardt and Bardhi (2020) explore this question, and suggest that flexibility and attention are two key resources for accruing status in the digital space. Flexibility is the ability to change quickly between identity projects, jobs, locations and consumption styles. The digital enhances the ability to do this. For example, entrepreneurs who have been involved in multiple start-ups, regardless of how successful they are, are able to demonstrate flexibility and ephemerality with regards to their work life, which is valued and conveys status. Also, attention is a form of social capital which is gained and

maintained via shares, followers and likes on social media (Marwick 2015). Status signalling in social media tends to be de-coupled from wealth and class; consumers of any background can create online personas. These two new markers of status are highly relevant in digital spaces (Bardhi and Eckhardt 2017).

Relatedly, the nature of what luxury is in the digital space has also shifted to what is termed liquid luxury (Bardhi et al. 2017). Liquid luxury is characterized by being access based (rather than owned), accessible (rather than exclusive), novel (rather than timelessness), and encoded in an inconspicuous style of consumption (Eckhardt, Belk and Wilson 2015). For example, in the digital age, attention capital can be accrued more easily if one is pictured in something new every time a social media post is made. Thus, timelessness ceases to be a desired attribute of luxury. This liquid luxury is anchored in the social transformations associated with the digital economy, where knowledge, speed, and openness/flexibility are highly valued.

In sum, we can see how new ways of conceptualizing how consumption takes place in a digital setting leads to new insights on how core marketing concepts may be changing, such as distinction, conspicuous consumption, and luxury.

Re-thinking dematerialisation in digital possession. Varala Maraj, Cass Business School

Digital objects are ubiquitous in everyday consumption (see Belk 2013; Han, Chung and Sohn 2009). Their ubiquity has fuelled a technological revolution that has altered the social landscape and the material basis of society from material stability to dematerial ephemerality (Castells 2010; Lash 2006; Lupton 2014). Dematerialisation refers to using less or no material to deliver the same level of functionality (Thackara 2006). Scholars typically identify dematerialisation as forms of consumption that are

more intangible (Laroche, Bergeron and Goutaland 2001) and immaterial (Lillermose 2006), resulting in smaller, lighter (Tomlinson 2007), more convenient objects that provide consumers with greater flexibility and mobility (Bardhi, Eckhardt and Arnould 2012). For example, ebooks are the dematerialised counterpart to paper books, and online subscriptions and access based platforms represent dematerialised facilitators of entertainment media, car-sharing, and many fast-moving consumer goods.

Digital possessions are said to be engaged with in a more detached way because they are ephemeral (less stable) and access based (less ownership based) (Bardhi and Eckhardt 2017). In light of these emergent modes of engagement, we may want to question and re-examine the relationships between consumers and objects. How does digitalisation affect consumers' relations with objects? More specifically, are we able to have the same types of relations to dematerialised digital objects, as we do with more physically material forms of consumption? How is dematerialisation re-shaping the ways in which consumers value products and engage in consumption practices?

Prior research provides divergent answers. First, and perhaps most fundamentally, there is significant variation in how the term digital is conceptualised and operationalised within consumer research. On the one hand, some scholars locate digital within a consumption dichotomy, i.e. digital versus physical (Atasoy and Morewedge 2018), or dematerialisation versus rematerialisation (Belk 2013). Yet, such dichotomies neglect the physical components that facilitate digital consumption (Allison, Currall, Moss and Stuart 2005; Denegri-Knott and Molesworth 2010; Ekbia 2009; Mardon and Belk 2018; Introna 2011; Orlikowski and Scott 2015). An important factor that perpetuates this problematic dichotomisation is the fact that scholars tend to use terms such as 'digital' and 'virtual' as equivalent to 'immaterial' and 'invisible', and often in contrast to that which is 'physical', 'material' or 'analogue'. However,

intangibility – the inability to touch or grasp an object – does not necessarily imply that digital objects are 'immaterial' and have no material composition whatsoever. Digital objects take shape within consumption as goods and services, both of which "have to be materialised in practice" (Orlikowski and Scott 2015, p. 204).

Bardhi and Eckhardt (2017) have attempted to overcome the digital/physical dichotomy by conceptualising consumption along a spectrum encompassing liquid (i.e. dematerialised, ephemeral and access based) and solid (i.e. enduring, stable and ownership based). We can use the notion of liquidity to appraise how digital consumption practices are fragmented across multiple segments. Two key fragments or components are digital devices and digital content. For instance, Spotify is a platform that provides access based digital music consumption that can be conceptualised as the dematerialised digital content that users engage with via liquid consumption practices. However, Spotify is accessed via a physically material device - a smartphone or laptop - which is typically more solid in nature. Thus, consumption practices on Spotify take shape in two different ways simultaneously across the liquid-solid consumption spectrum. While Spotify's digital content is highly liquid in nature, consumers require a more solid digital device to initiate and continue their consumption.

Further, we can see how the fragmented nature of digital consumption, in turn, may play a role in shaping how consumers experience materiality and how consumers perceive ownership of digital objects. To continue with the Spotify example, consumers own the solid digital device, but only access the liquid digital content. Therefore, what implications might fragmented ownership have for digital consumption? On the one hand, Atasoy and Morewedge's (2018) study suggests that solid objects provide a greater sense of psychological ownership than digital ones. In contrast, other consumer researchers suggest that despite the dematerialised nature of

digital goods, they are perceived as real and very meaningful (Belk 2013; Lehdonvirta 2012). In light of this, such variance is likely to happen across digital consumption practices, as well as within the respective categories of digital devices and digital content. For instance, would consumers feel the same sense of ownership towards different types of digital content, such as: Spotify songs that are downloaded onto their devices, images that they post on Instagram, and images that they are tagged in on Facebook? Similarly, would consumers feel the same sense of materiality from the digital device/possession/content configurations such as: owned solid device with accessed liquid content (e.g., television and Netflix subscription), versus owned solid devices with owned solid content (e.g., television, a DVD player and DVDs)? Although consumers gain values such as convenience through such multi-layered fragmentations during digital consumption, we can imagine there is potentially a fragmentation of this sense of value.

Methodological perspectives and extensions

Investigating digital possessions: A critical reflection. William Odom, School of Interactive Arts and Technology, Simon Fraser University

Over the past decade, research I have conducted with many colleagues on people's digital possessions and archives has been conceptually informed by research in consumer behaviour and, in particular, Belk's (1988) theory of the extended self. From a design perspective his theory offers a way of understanding how people construct value with their things as a part of their ongoing processes of self-development, self-reflection, and self-presentation to others. Belk's conceptual framing helped us better understand how people make sense of their digital possessions, perceptions of physical and digital possessions, and differences in how they are perceived and experienced.

Our fieldwork has spanned sites across North America, Europe, and Asia to explore how people construct value with digital possessions that qualitatively have different experiential qualities when compared to physical possessions. As designers interested in making new things, we have also specifically explored how the experiential qualities of digital possessions shape how people construct value with them. For example, digital possessions can be experienced as placeless in that they can be accessed nearly anywhere, allowing them to be present in multiple locations simultaneously. They can be spaceless in that they largely do not intrude into people's physical space, making it difficult to understand the size and scale of an archive. And, they can be experienced as formless in that they can be easily reproduced, making it difficult to differentiate a copy from 'the original', and they can be re-formed to fit many different kinds of devices and re-mixed with various kinds of digital content (Odom, Zimmerman and Forlizzi 2014).

Methodologically, we have adopted what can be considered a design ethnographic approach (see Salvador, Bell and Anderson 1999) by developing relationships with participants, iteratively conducting interviews over time and in-depth to understand their relationships and orientations first with their material possessions and things, and archives - where they kept them, in their home, or in between homes or other places. And then looking at where they were kept, how they interacted and constructed value with their digital possessions. In this, we also explored where technology seemed to not fully support participants' values and desires and how they developed workarounds to have more control over their digital possessions. Starting with the physical possessions was a way of getting to know the person and establishing a connection and also in terms of creating something that was familiar for them to talk about, then we had something to compare to, when talking about digital possessions.

We adopted this approach whether working with teenagers in their bedrooms, divorced families moving between homes, people dealing with bereavement, and young adults just starting out their professional lives. Key to this approach, was spending time with our participants outside of the specific interview protocol to establish a connection. Once you gain access to participants, being able to establish a sense of rapport and trust has been very important.

We also ran into unexpected findings when adopting this approach. For example, we conducted a study of young adults in South Korea, Spain and in the Midwestern US (Odom et al. 2013) to better understand their relationships and practices with physical and digital possessions. With physical possessions, we discovered a great diversity across these different sites. And perhaps this is not too surprising considering that these sub-populations occupied geographic sites that have different social and cultural values, histories, and influences. Yet, we were surprised to find that there were not large differences when it came to how young adults perceived and used their digital possessions. It was determining exactly why this was occurring - there could be a number of reasons. For example, one possibility is that the universal structuring that computational systems give digital possessions and the kind of devices used to store and interact with them are more uniform and similar across cultures, globally.

There are methodological and temporal challenges that researchers are faced with. Theorising how people relate to and perceive digital possessions is a moving target because the digital things themselves continue to evolve and expand in ways that can be complex to predict. The creation, dissemination, and eventual mass adoption of the Cloud Computing paradigm offers a salient example. It opens up new possibilities for supporting the social practices of sharing and safeguarding our cherished digital possessions - practices that are key in supporting value construction with the thing we

see as deeply meaningful. Yet, the Cloud can also complicate the value a person might assign to their digital possessions kept within it, if access is lost or the privacy (or sanctity) of it is compromised (Odom, Sellen, Harper and Thereska 2012).

This raises new questions around how we might design applications, systems and devices that enable people to engage with digital possessions over time that both help avoid such consequences while also opening them up me to be casually drawn on as resources in people's everyday lives over time. For example, consider a physical photo album. It represents a material possession that you may only go back to directly using a couple times a year. But there is real value in knowing where it is, seeing it, having it be a part of the infrastructure of our home life, and being able to engage with it when we want to. Currently, it can feel challenging to have this potential range of experiences with digital possessions. Our archives are too large and still growing, fragmented across different storage services and places, and continually changing. How do we design for longer-term interactions and experiences with digital possessions that we find very meaningful? In what ways can they continue to emerge or be made present in our lives like the many meaningful things that we have and that make us who we are?

Digital methods for understanding digital possession. Alessandro Caliandro, University of Pavia and University of Bath Management School

If we look at consumer culture and marketing literature so far, we see that most of the studies in the area of digital consumption rely on qualitative methods like interviews, participant/non participant observations and ethnography. These methods were absolutely critical for understanding how consumers interact with digital consumption objects and make sense of them, and thus, by no means, do they have to be discarded –

(later on I will explain why). Nevertheless, time is now ripe to embrace the challenge of Big Data (boyd and Crawford 2012) and start taking advantage of the millions of digital traces that both consumers and digital objects leave on the Internet every day (Thompson 2019).

A suitable approach to face this challenge is digital methods (Rogers 2013). As Richard Rogers explains, digital methods consist of a set of techniques that "make use of available digital objects such as the hyperlink, tag, time-stamp, like, share, and retweet, and seek to learn from how the objects are treated by the methods built into the dominant devices online, such as Google Web Search [or social media platforms]" (Rogers 2019, p.3). In this fashion, digital methods are particularly suitable to study digital media affordances and, especially, how they structure online communication, interactions and behaviours. Digital media affordances are central to the study of digital consumption objects too. In fact, not only do they impact on the very ontology of the objects themselves but also mediate the practices through which consumers consume, appropriate and make sense of digital objects of consumption (Watkins 2015; Watkins et al. 2016). Metadata like hashtags, geotags or timestamps allow consumers to singularise highly standardised and abundant digital objects (Mardon and Belk 2018). Or consider, for example, how algorithms operating on music streaming platforms, like YouTube or Spotify, shape consumers' tastes by recommending the 'right songs' to consume (Bonini and Gandini 2019).

Digital methods give us the opportunity to frame these phenomena from a macro perspective, allowing researchers to uncover the broader socio-technical structures that govern them – and therefore avoiding the risk of framing digital practices of consumption as inevitably isolated and subjective. In this sense, digital methods allow researchers to use Big Data to, paradoxically, keep an eye on culture – intended as a

broad system of shared meanings and practices. That is why it is important to make an effort to use digital methods for the study of digital consumption and, more generally, consumer culture. To do so, many strategies and techniques can be applied. For example, beyond observing how a consumer on Instagram composes hashtags around a photo of her favourite product/brand, we should try as well to detect general patterns of hashtags usage that aggregate around big collections of photos, by using ad hoc digital techniques such as hashtag extraction or co-hashtag analysis (Arvidsson and Caliandro 2016; Marres and Gerlitz 2015). Similarly, when we study YouTube for exploring music consumption, it is important to acknowledge that such experience is shaped by algorithms, but it is equally important to understand how this happens as well as which kind of actual cultural forms this algorithmic experience takes. In this regard, particularly enlightening is the work of Airoldi et al. (2016). Studying the patterns of co-viewing of music videos on YouTube (by taking advantage of an ad hoc piece of software and digital network analysis), Airoldi and colleagues were able to isolate specific music clusters that are directly responsible for shaping music tastes at a global level and discover emerging (and algorithmically driven) music genres that they called 'situational' (e.g., relaxing music, music for babies, etc.).

Although digital methods can be key in expanding our knowledge on how digital affordances shape digital consumption, they tell us only one side of the story (Venturini, Bounegru, Gray and Rogers 2018). In fact, as Costa (2018) clearly pointed out, affordance must be studied in practice, that is, by paying attention to how social actors practically use them within the everyday settings in which they are situated (Bucher and Helmond 2017). And the only way of studying affordances in practice is via qualitative approaches. There is also another important reason why we should keep using qualitative methods while studying digital environments and the impact they have

on digital consumption. Although well-equipped to explore digital environments, digital methods do not permit us to answer a pivotal question: why do we post? (Miller, Costa, Haapio-Kirk, Haynes, McDonald, Nicolescu, Spyer, Venkatraman and Wang 2016). Of course, knowing why, at a certain point of their life consumers decide, let's say, to post on Instagram the photo of a cup of coffee they are about to drink, buy an avatar on eBay, or share their last Amazon's purchases on Facebook, amounts to be crucial to have a complete cultural understanding of the practices and processes of digital consumption. There is no doubt that qualitative methods are the most suitable for the task. To recap, it can be said that qualitative methods can help us to understand the agency of digital consumers, while digital methods permit us to uncover the socio-technical structures that govern this agency. Therefore, I would like to stress the importance to always combine digital and qualitative methods (Caliandro and Gandini 2017) when exploring digital consumption. This should not be optional, but standard practice (Caliandro 2018; Ford 2014).

Methods for understanding possession in platformised and datafied contexts.

Massimo Airoldi, EMLyon

The study of digital possession in consumer research has made significant progress in recent years, for instance by addressing the disrupting shift from 'stable' forms of digital ownership to the 'liquidity' of access based, platformised consumption (Bardhi and Eckhardt 2017; Watkins et al. 2016). Still, most work in this area is conceptual. Empirical works are, for the most part, either based on qualitative interviews with small samples of consumers (e.g., Denegri-Knott et al. 2012) or on single-field ethnographic or netnographic observations (e.g., Kedzior 2014). These methodological approaches proved to be very good for capturing the lived technologically-mediated experiences of

digital consumers and communities, however, their specificities and constraints are likely to have contributed to the under-exploration of the platformised and datafied facets of digital consumption.

First, when confronted with the large, algorithmically-ordered, ephemeral communicative contexts of social media platforms, netnographic and ethnographic approaches, inevitably, struggle. Take, as an example, the hashtag #food on Instagram. Millions of photos and users are involved every day in a moving bundle of conflicting aesthetic narratives, brand publics, communicative exchanges, cultural meanings, which are objectified while – simultaneously – transformed by metrics and platform affordances. As Marwick noted, doing ethnography in sites like this makes it "difficult to bound, or even determine, exactly who or what one is studying" (Marwick 2013, p. 116). Even if prolonged and deep, a netnographic immersion into #food on Instagram risks to produce a very partial point of view on the investigated digital phenomenon – also because of the black-boxed ways algorithms filter the content ultimately visible to the researcher. In academic papers, one common solution to this problem is to elegantly mask the lack of empirical results with over-theorisations supported by a few cherry-picked examples. I rather suggest to stick to the data, combining the analytical depth of ethnographic immersions with large-scale mappings of consumers' 'digital traces' (Venturini et al. 2018). Other researchers have recently made similar recommendations (e.g., Airoldi 2018; Reid and Duffy 2018), but few empirical works have followed in consumer research, despite the availability of many user-friendly tools for extracting platform data (see Caliandro and Gandini 2017).

A digital mapping can be a stand-alone study, providing a 'distant reading' (Moretti 2013) of platformised consumption dynamics through methods such as automated content analysis and network analysis (Airoldi et al. 2016; Humphreys and

Wang 2017). More interestingly, digital mapping techniques can be also used in combination with qualitative research methods (see Airoldi 2018). For example, visual regularities in #food pictures detected using automated image recognition tools could be interpreted and theorised based on targeted, multi-sited observations of specific hashtags and communities of users. Such a methodological integration can potentially produce rich, multidimensional accounts of complex digital phenomena, allowing to improve the quality and diversity of qualitative samples and, as a result, better put to test the (mostly speculative) theories of platform-based consumption assemblages. Second, consider the other main method employed in digital possession research - qualitative interviews. Contrary to observational data, interviews are collections of self-reported responses. Hence, while they are extremely good for grasping the thick phenomenological nuances of consumers' experiences and affective linkages with digital objects, they are much less effective in the study of practical activities and everyday interactions, essentially for two reasons.

On the one hand, consumers are rarely aware of what they do, especially when it comes to digital devices. For instance, a study shows that we touch our smartphone's screen on average 2,617 times per day (Dscout 2016). However, we would never be able to provide the interviewer with a reliable estimate of this addictive and largely unconscious behaviour. The same considerations can be made for other comparable activities, which are nevertheless extremely informative of consumers' interactions with digital objects – such as liking Facebook or YouTube content, scrolling Instagram's feed, playing video games, or compulsively checking apps' notifications. On the other hand, even when perfectly aware of their doings, interviewees might lie for reasons of social desirability. This is generally known as a self-report bias (Donaldson and Grant-Vallone 2002), and it has consequences also in the study of consumption. For instance,

a teenager might intentionally underestimate the number of hours spent watching Twitch videos, and even adjust her self-reported preferences toward more legitimate genres.

Again, the digital traces and metadata generated by platforms, apps and connected devices can help us to deal with this issue in novel ways. Sociologist Gangneux (2019) shows that using Facebook activity logs and internal search histories for eliciting qualitative interviews helps to generate thick data, by encouraging participant reflection based on what the platform has captured. Similarly, studying Wikipedia, Geiger and Ribes have developed a method called trace ethnography (2011), which also exploits digitally-produced records of users' behaviour for enriching ethnographic fieldwork. Such trace-based approaches give qualitative researchers the possibility to document participants' technologically-mediated activities and interactions with unprecedented detail. In sum, triangulating digital and interview data can potentially serve to significantly reduce self-report and social desirability biases.

The proposed methodological strategies present several limitations. Data collection issues are common. For instance, in many cases consumers' digital traces are simply not available to third parties, due to private platforms' restrictions. Ethical issues are involved too. Even if the data are publicly accessible, it might not be ethical to analyse them (Boyd and Crawford 2012). When doing trace ethnography or individual log data analyses, participants' informed consent is, of course, needed. In addition, a general epistemological issue exists. That is, being digital traces empirical materials created for purposes other than academic research, they 'bear the imprint' of the specific goals and technical infrastructures involved in their production. Thus, as digital methods scholars remark (Venturini et al. 2018), extra care in dealing with platforms' varying affordances is always necessary.

Critical interventions

AI-enabled, dispossessing, behavioural modification capitalism. Mike Molesworth, Henley Business School

Before the approaches, and especially the language of digital possessions becomes too fixed, I want to suggest that we need more critical methodologies for studying digital possession. I am going to discuss ontology, epistemology and axiology, but I will use those terms in a very loose sense. What I'm really arguing for is the desirability of critical reflections on how markets related to digital consumption objects and/or digital possession are developing.

Starting with ontology I want to consider the objects of study themselves. As we name digital objects, or adopt names already given, we are part of a discursive construction of reality that supports a specific ideology. For example, we might talk about digital objects as 'owned possessions' and in doing so we both reproduce the idea that things can and should be owned, and perhaps more problematically we make absent that many of them are not owned at all (see Molesworth et al. 2016). We may unreflectively write about digital possessions when the first thing many digital platforms do is to dispossess their users. Recognising this and before we celebrate the benefits of access based consumption (see Bardhi and Eckhardt 2012), we might first consider the necessary acts of dispossession that precede the market offer of leased access, or access in exchange for personal data. For example, we must first be dispossessed of music before we can be persuaded to pay for access through commercial services such as Spotify. Access is often celebrated because it is better than ownership (see Rifkin 2000), but in its commercial form it doesn't actually challenge private ownership in quite the way we might expect (see Watkins et al. 2016). It is

possible to imagine access based consumption as some return to the commons that may have benefits over individual ownership, Spotify does not replace private ownership with collective ownership of music. It very much maintains the idea of ownership, but shifts it further to corporations and restricts access to consumers based on rent. This suggests another misuse of language in terms like the 'sharing economy'. If dispossession resulted in the creation of commons, the focus of any critique might change (for example to one that is about private versus collective property or goods). A problem is that although the language of commons seems to be deployed, new online business models actually continue the 'plunder of the commons' (for example see Standing, 2019 as a general thesis on the fate of the commons and Zuboff, 2019 on the specific capture of public data).

By reflecting on and deconstructing the language that presents a reality to us, we can better understand the market mechanisms that create digital consumption objects. Talking about 'my playlist' is not the same as talking about 'my CD collection', or indeed talking about 'my grandmother's old piano that I learnt to play on'. We have been dispossessed of the ability to play music, then to own a copy of music, prior to being offered the new reality of access via restricted lease. To make the point further we might note that although I can sell or pass on that piano, and I can even sell CDs, or lend them to friends, I can't sell my Spotify playlist, even though I may have invested several thousand pounds in it in a lifetime. There are other examples where we might consider the language we use to explore digital objects and their ownership. The term 'ebook' makes us think of a book, but with all the convenience of it being electronic. Yet an ebook turns out to be no more than a limited, leased text. Consumers are invited to 'buy' an ebook. They are not asked if they would like to lease a text, with specific restrictions (those are hidden in small print). Consumers might easily assume a reality

they are familiar with, misunderstanding that they have in fact entered a different world where power relations are less advantageous.

Even the idea of a consumer has become a problematic reality because they are rendered into the raw material for predictive products that are then sold to marketers whenever they use social media. So why continue to refer to social media accounts as something possessed by individuals and not 'personal information capture advertising platforms'? Users might think of 'their' social media profile, but their newsfeed is actually a production line for market intelligence (again see Zuboff 2019). So I am inviting all sorts of critical discourse analysis (see Fairclough 2013) and genealogies (for example see Denegri-Knott and Tadajewski's work on MP3s, 2017) that allow us to better understand how these terms came about and the power relations they create and maintain.

On to epistemology. We might ask whose knowledge is accepted as best when explaining the digital economy, and who gets to speak? A risk is that critical knowledge is made absent in work that celebrates the liberation of the consumer (and development of the economy) in all things digital. Much of the knowledge that is generated about digital objects comes from computer science. AI and algorithms are presented as knowledge that is neutral, necessary and of greater importance than critical marketing work. In our discipline the programmer is largely silent, despite their crucial role in the markets we want to understand. So how can we include their knowledge in more critical work? On the other side we might recognise that surveillance capitalism requires marketers with a particular understanding of their role. What knowledge do they apply when they give up on marketing as some creative act of brand storytelling and consumer identity project, and instead adopt the manipulative view of Behavioural Economics, facilitated by the new data products that are hidden behind our digital

possessions. Academics in the critical marketing and consumer culture fields may be familiar with a range of critical approaches to knowledge construction, but as Zuboff (2019) makes clear, this is not the knowledge that creates and justifies the big online platforms. That is based on a form of radical behaviourism of Skinner (1965). We might then ask how critical knowledge can be deployed against the logics of Behavioural Economics tools and techniques that may be seductive to business managers and enchanting in all its Big Data statistical forms. Methods, as Law (2004) notes, don't simply give access to understanding, but create different social understandings. Methods that focus on the best ways to get consumers to spend on virtual goods normalise that reality.

Finally axiology. We should ensure that research does not fall into the trap of producing only benign, managerial applications that align marketing theory, or consumer culture theory with the projects of dispossession and behavioural modification that are before us. We might therefore reflect on the values in the projects that we undertake and the language they contain. Indeed, must our studies remain stuck in capitalist realism (Fisher 2009), or could we possibly imagine research on an opposite such as 'fully automated luxury communism' (Bastani 2019)? Perhaps both and much in between would enrich our understanding of the current reconfiguration of markets and consumers.

Increasingly intellectual, academic talent is also employed by large corporations and deployed to present their values in academic research. Zuboff (2019) again notes the rise of 'corporate academics' publishing in top journals. Even if they don't work in a corporate innovation lab (which again might be renamed to reveal their propaganda role), then they may be working on one of many corporate grants that our own increasingly neoliberal higher education institutions invite relationships with in the

desire for impact that may seem more easy to achieve by such collaboration. Through such mechanisms, surveillance capitalists further their ambition to make their values dominant, their knowledge 'the' knowledge, and their view of the world an accepted reality.

The Political Economy of Digital Goods. Alessandro Gandini University of Milan, Department of Social and Political Sciences

One may suspect that as a result of the proliferation of digital platforms and apps that mediate and arbitrate access to, and the collection and archiving of digital content without the necessity of ownership, the term 'digital possession' has become something of a contradiction in terms. Yet, as research on this topic clearly shows 'possession' does not stop at the material level (e.g., Denegri-Knott and Molesworth, 2010; Molesworth and Denegri-Knott, 2012; Denegri-Knott et al. 2012). In fact, possessions of a digital nature represent a key aspect to consider in the study of the meaning of consumption in the digital society, as these are entangled with notions of self-presentation, social status and distinction in new and original ways. It is not a coincidence, that the platforms hosting digital possessions are organised as social networking sites (Boyd and Ellison 2007), thus giving users the possibility to produce and express a certain self through their digital possessions. What is more, the production of a self that is 'extended' onto digital means (Belk 2013) ties in with the logics of competition and display that are typical of the digital economy. Platform-based practices of digital possession are underpinned by forms of gamification that induce users to, implicitly or explicitly, produce rankings and cultural hierarchies. Digital possessions, in other words, as much as material ones, are conveyors of economic, social and cultural capital and represent a key dimension to consider in the context of

'liquid' forms of consumption through which users acquire status and distinction according to logics of flexibility and attention (Bardhi and Eckhardt 2020).

Secondly, a key question is also the political economy of digital possessions. Many of our digital possessions emerge and are sustained by broader processes of platformisation – of cultural production, of the meeting of supply and demand of goods and services – whereby algorithms and digital infrastructures contribute to the unfolding of consumption patterns in new and decisive ways (e.g. Airoldi et al. 2016). What is more, platformisation processes extend the cultural logics underpinning the workings of platforms, particularly issues of ownership, oversight and control of digital possessions. Contributions in media and social research, both at a micro (e.g. Bonini and Gandini 2019) and macro level (Nieborg and Poell 2018; Srnicek, 2017) are questioning the critical implications concerning the evolution of practices of access and collaborative consumption as typically described in consumer research, towards platformed logics. Platforms have established as popular 'points of consumption' for the access to a variety of goods and services according to marketplace logics (Bardhi and Eckhardt 2012) but also represent monopolistic bottlenecks in terms of datafication and monetization of these possessions, personal privacy and value. In such contexts, while possessions are technically at the disposal of the user, they ultimately represent raw matter for processes of capitalist accumulation undertaken by platforms. Elaborating from Rifkin (2017), the extent to which possessions continue to remain valuable for users in this scenario can be questioned, and instead consider under which conditions the value of a digital possession 'marginally' decreases as the access to possessions expands, while the control and oversight on their existence by their 'owners' – or, perhaps more appropriately, 'licensed users', diminishes.

Future directions and setting a research agenda

In this collection of commentaries we have addressed theories, critical inquiries and methodological issues and specifically the extent to which our understanding of material possession may help or hinder the advancement of our knowledge in relation to digital possession. We asked our contributors to reflect on what kind of research questions we should be asking and what kinds of methodological approaches we should be pursuing in order to advance our knowledge and understanding of digital possession. What follows is the outcome of a collective brainstorming that enables us to scope out future directions for setting a research agenda.

New questions

We know that digital possession highlights a range of issues and arrangements that are experienced differently or may not be relevant when it comes to material possession. These form the basis of a variety of new questions that we should be asking in order to conduct meaningful research in this area.

Epistemological issues sit at the heart of what and how future research is conducted. The framing of digital, the language used and the variety of actors that contribute to shaping how and what we research and indeed, knowledge that we produce, need to be carefully considered. In his contribution here Mike Molesworth stresses that as we seek to understand a vast array of digital matter and the related market systems that sustain it, we should reflect on what we call things, on the systems of knowledge we deploy, and perhaps most importantly the values inherent in the

research we undertake. Driven by the question 'are we researching technology or society' (Marres 2017), digital possession research should make an effort to locate future research in the hybrid 'new social' of the digital society (Gandini 2019) and avoid the (often intrinsic) bias of 'digital dualism' (Jurgenson 2011) that takes digital matters apart from the rest of society. We need to extend our research to include the voice of new human actors such as the programmer, the digital marketer, and the lawyer, in addition to the consumer, and also new non-human actors such as the algorithm, the server farm and of course, digital devices themselves (Adams and Thompson 2016).

Varala Maraj in her piece, draws attention to the matter of the material-digital entanglements that are necessary for interacting and experiencing digital possessions. Research acknowledges that mobile devices provide a bridge between physical and digital practices (Pantano and Gandini 2018), as such it may be worth asking the extent to which this bridge reconfigures the notion of digital possessions as immaterial and ephemeral or placeless, spaceless and formless (Odom, Zimmerman, and Forlizzi 2014) and how digital devices (material) rematerialise digital content in practice (Orlikowski and Scott 2015).

Affordances – the qualities or properties of devices, platforms and applications that define how something is used – have consequences for possession, and Rebecca Mardon raises a number of questions that stem from this. How do varying material affordances – created through different material configuration processes – alter consumers' experiences of possession? How do consumers react when digital objects contradict their expectations surrounding how objects should behave in possession? How might consumers' understandings of, and expectations surrounding, possession change as a result of their possession of various digital objects? Beyond possession,

affordances also have consequences for perception, use, experience, interaction and engagement with various digital matter and digital devices through which they are accessed. Beyond affordances – and hidden or entangled within them – are legal issues and restrictions for digital possession. Again, Mardon notes that we lack empirical insight into the consequences of these. How aware are consumers of such restrictions? How do consumers respond when restrictions on their ownership become apparent? Do consumers attempt to subvert ownership restrictions, and are their attempts successful? (e.g. sharing accounts and passwords to allow access to content). How does fragmented ownership impact their relationship with the object in question and with digital objects more broadly? Such questions remain unanswered, but are integral to understanding possession in the context of digital objects.

Such issues may be experienced in a similar way for many, due to the limitations in terms of the ways in which digital matter is produced, accessed and stored, but Will Odom reminds us that it is important to explore these experiences across cultures and over time. He notes that there is an opportunity for future research to explore and develop better ways of uncovering differences among how people use, perceive, and interact with their digital possessions over time. New knowledge and insights produced from such future research could help inform the design of digital possessions and archives that are more culturally contextualised, regionally localised, and idiosyncratically personal. Odom's work also recognises time and temporality as an avenue to pursue research in – understanding how people's relations to their digital possessions change over time. How might the vast growth of one's personal archive of digital possessions mediate and shape how they construct value with it over the course of their life? As our digital possessions become more and more distributed and

placeless within cloud computing, how might it affect the ways in which we perceive these things to be accessible and to be authentic?

This leads us to consider issues of surveillance and privacy, trust and control. Given that platforms are 'points of consumption' that make money and obtain data from users, concerns are raised regarding surveillance and privacy issues surrounding platforms as well as devices. Russell Belk asks whether it is OK if our insurance company can monitor how fast we drive, our heart condition and whether we work out? Increasingly, our digital devices provide such information remotely and the Internet of Things will enhance these monitoring capabilities. Just how much authority are we willing to give to digital objects? We seem comfortable following the instructions of GPS devices, indeed these are very much part of our 'extended mind' that we may struggle to live without (Clark and Chalmers 1998), but there is a question of whether we will trust our driverless car and whether we are comfortable flying in a pilotless plane. How much control are we willing to cede to digital possessions before it feels like they are possessing and controlling us?

Finally, when it comes to ownership and a move towards access, especially of digital objects, we may consider intergenerational differences as something significant to study. Much has been written about 'digital natives' versus 'digital immigrants' (e.g., Dutton and Reisdorf 2019; Tapscot 2009) - it is possible that digital natives see the world differently than those who have had to acculturate to these new affordances. Therefore, as Alessandro Gandini highlights, it will be most interesting to see the extent to which bridges between digital and physical consumption offered by digital technology might reconfigure the cultural notion of digital possessions from a generational perspective, as the youngest cohorts of consumers approach the market with the consolidated habit of using digital media as primary milieu of consumption.

We are at a unique point in time where different generations of a family have very different levels of digital literacy and consequently relate to and engage with digital possessions in very different ways (something Denegri-Knott and Jenkins' ongoing 'Digital Possessions in the Family' study seeks to explore). Within a family unit, children may only have known digital photos, music and books whereas their parents may have both digital and physical formats. Children may be content with access rather than ownership but the question as to whether the ownership fetish is really dying out remains an open one, especially when recent research exploring the analogue revival has identified that the ease of obtaining and maintaining digital objects can be a negative for consumers (Beverland, Fernandez and Eckhardt 2020). That is, consumption as a form of 'serious leisure' (Beverland et al. 2020) highlights that consumers value objects and experiences if they have had to work to achieve them – something that digital objects and ways of consuming don't always bring. Giana Eckhardt suggests that future research can explore whether and how digital objects and digital consumption practices can try to embed the principles of serious leisure in them, rather than focusing on making everything easier and more convenient to obtain, as that is not always what consumers want to get out of a meaningful consumption experience.

New methods

Our contributors acknowledged that although tried and tested methods still offer us opportunities to explore and better understand the intricacies and nuances of digital possession and consumption, future research should embrace a rigorous methodological eclecticism. Rather than limit ourselves to widely accepted approaches, we should mix analogue and digital, as well as qualitative and quantitative methods.

One such example of analogue-digital hybrid methodology, highlighted here by Massimo Airoldi, is the mixing of ethnography and digital methods, which is not taboo anymore in the social sciences (Airoldi 2018). He explains that qualitatively-driven research designs combining large-scale, unobtrusive, distant analysis of platform data and the context-sensitive, close analysis of consumers' lived experiences could prepare the ground for truly augmented research – data-driven and theory-oriented at the same time (Airoldi 2019). Of course, accessing data can be challenging. The private character of platform data, the accessibility of which, for research, largely depends on arbitrary and changeable rules set by companies for their own interests is one challenge (see Boyd and Crawford 2012). There are alternatives such as custom made apps or browser extensions to extract user generated data (Dscout 2016). Despite its relatively high cost, this strategy would offer brand new opportunities for investigating the technological mediation of possession and consumption.

The potential for new research questions arise as a result of engaging with the huge back-end databases ordinarily collected by apps and platforms. For instance, Belk and Airoldi explain how platform designs and affordances silently nudge and affect consumers' experiences and behaviour or the extent to which our everyday interactions with digital content tend to be the mere concretisation of algorithmic predictions. This is a merging of approaches that can work together to offer detailed insight from both a use and design perspective, that takes into consideration the role of different actors in an experience and therefore begins to address epistemological issues identified as problematic by privileging the consumer experience in the study of digital possession. Networked content analysis (Niederer 2016), developed to study social media content, is a particular method that can help us explore digital consumption objects as well as the cultures of consumption emerging around them in many ways. It draws on the tenet

that a social media content is not a standalone entity, rather an assemblage made by a network of metadata (Niederer 2018). Alessandro Caliandro uses the example of a picture of a cup of coffee on Instagram. The hashtags associated to the post can be used to code the content of the image (e.g. #coffee, #table, #selfie, etc.), infer the social and emotional context in which the coffee was consumed (e.g. #friends, #happy, etc.), or explore ad hoc brand publics to which the picture connects (#starbucks, #costa, etc.). At the same time, by taking advantage of mentions (@), we can detect local communities to which the poster (intentionally) connects as well as wants to circulate her picture. Finally, by analysing the micro-narrations articulated in the caption section (Van Laer, Escalas, Ludwig and Van Den Hende 2018), we can check if the poster attaches a particular emotion and/or identity to the coffee cup and, in so doing, tries to extend herself over/through it (Belk 2013).

Finally, but no less important, is the ethical dimension attached to these new research avenues and approaches. Several of our contributors noted the Cambridge Analytica scandal in relation to the ethics of future research. In his notes to us, Gandini reminds us that data about profiles of consumers have been (and to a large extent can still be) available to a variety of subjects, and are often improperly handled. In this sense, as researchers it is worth remembering the advice held by Boyd and Crawford (2012), who underline that even if something is accessible, it does not mean it can be automatically and obviously usable for research purposes.

We end with a note on the need for fostering a critical attitude. We have considered a variety of empirical questions and ethical or philosophical questions. Digital methods and the creation of analogue-digital hybrid methodologies provide us with an arsenal of empirical tools to explore and understand the realm of digital possession. But for the ethical and philosophical questions, Belk cautions us that we

must be willing to take a stand and argue for what we think is right. Playing the impartial academic will not work.

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